~~TREAT AS~~

~~SENSITIVE~~

~~INFORMATION~~

DIABLO CANYON POWER PLANT, UNITS 1 AND 2, EMERGENCY PLAN CHANGE SUMMARY

GENERAL CHANGE DESCRIPTION

SUBSTANTIVE CHANGES REQUIRING 50.54(q) EVALUATION

- Titles, references, and editorial corrections were made as a result of the annual Emergency Plan (E-Plan) review. These changes were minor in nature and were performed consistent with administrative procedure controls for corrections.
- Added a definition of Owner Controlled Area (OCA) for addressing NRC Information Notice 2002-14. A self-assessment performed by the Emergency Planning group recommended defining the OCA for clarification of the areas applicable to the E-Plan.
- Revised the notification process of the Emergency Response Organization (ERO). The ERO is grouped into teams for rotating "on call" duty assignments. All ERO personnel (on call and off duty) will be called out for an event at an Alert, or higher emergency classification level.
- Relocated the Onsite Support Center to the office area at the southern end of the Technical Support Center (TSC).
- Replaced the emergency alternating current fluorescent lighting fixtures with metal halide fixtures, within the Auxiliary Building, to improve plant lighting.
- The Health Physics communications equipment has been upgraded to satellite telephones; therefore, the Operations Simulator UHF system radio broadcast function console, and related references that are no longer needed, were removed.
- Revised Section 6.4.2 of the E-Plan, describing onsite personnel accountability, to clarify the process of badge issue and control and personnel assembly.

Enclosure 2
PG&E Letter DCL-04-033

DIABLO CANYON POWER PLANT, UNITS 1 AND 2,
EMERGENCY PLAN, REVISION 4
Section 5, Change 5; Sections 4 and 7, Change 4; Section 6, Change 3;
Sections 1, 2 and 8, Change 2; and Appendix A, Change 1

Location of Privacy/Proprietary Information

Location in Emergency Plan	Pages
Section 1 (revised in this submittal)	None
Section 2 (revised in this submittal)	None
Section 3 (NOT revised in this submittal)	None
Section 4 (revised in this submittal)	None
Section 5 (revised in this submittal) Section 5.11.2, "Letters of Agreement"	Page 25 of 32
Section 6 (revised in this submittal) Section 6.4.12, "Medical Treatment"	Page 32 of 33
Section 7 (revised in this submittal) Section 7.6.5, "Offsite Laboratories"	Page 56 of 64
Section 8 (revised in this submittal)	None
Section 9 (NOT revised in this submittal)	None
Section 10 (Not revised in this submittal)	None
Appendix A (revised in this submittal)	None
Appendix B (NOT revised in this submittal)	None
Appendix C (NOT revised in this submittal)	None

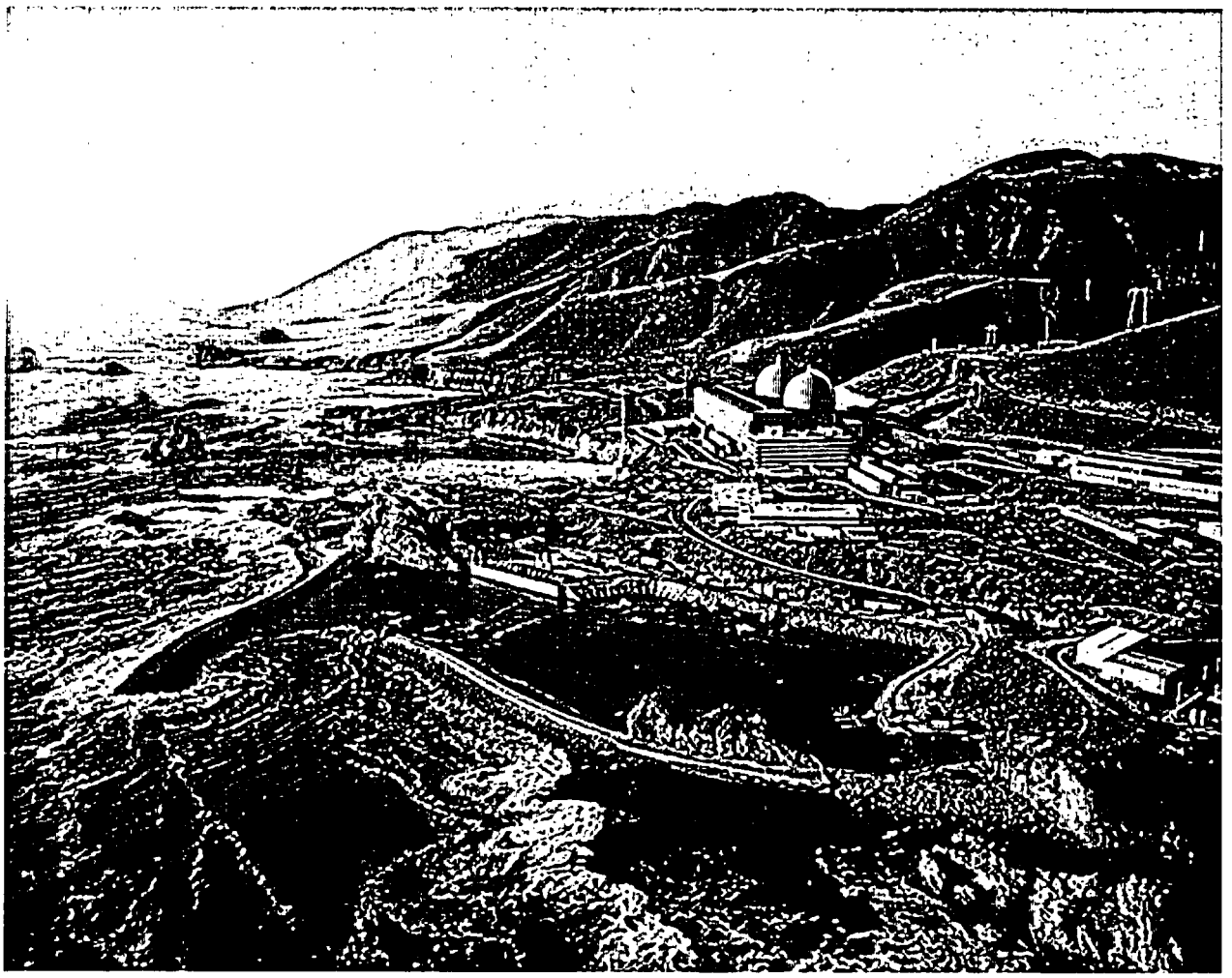
Pacific Gas & Electric Company
Nuclear Power Generation

Diablo Canyon Power Plant

Revision 4

Emergency Plan

10/03/01
Effective Date



D. H. Oatley
Vice President, Diablo Canyon Operations

09/26/01
Date

The Diablo Canyon Emergency Plan – filing Table of Contents by section number:

• Section 1 – Definitions & Acronyms	Rev. 4, Change 02
• Section 2 - Scope and Applicability	Rev. 4, Change 02
• Section 3 - Summary of Emergency Plan	Rev. 4, Change 00
• Section 4 - Emergency Conditions	Rev. 4, Change 04
• Section 5 - Organizational Control of Emergencies	Rev. 4, Change 05
• Section 6 - Emergency Measures	Rev. 4, Change 03
• Section 7 - Emergency Facilities and Equipment	Rev. 4, Change 04
• Section 8 - Maintaining Emergency Preparedness	Rev. 4, Change 02
• Section 9 – Recovery	Rev. 4, Change 00
• Section 10 – References	Rev. 4, Change 01
• Appendix A – Procedures	Rev. 4, Change 01
• Appendix B – Offsite Agency Support Documentation	Rev. 4, Change 00
• Appendix C – Non-Applicable NUREG-0654 Standards	Rev. 4, Change 00

1. DEFINITIONS AND ACRONYMS

1.1 DEFINITIONS

This section defines terms used in the Diablo Canyon Power Plant Emergency Plan.

Annual
A calendar year beginning January 1st and ending December 31st.

Assessment Actions
Those actions taken during or after an accident to obtain and process information necessary for decisions implementing specific emergency measures.

Basic Emergency Planning Zone
The Diablo Canyon Basic Emergency Planning Zone is the area surrounding Diablo Canyon Power Plant defined by the State of California that is divided into twelve smaller Protective Action Zones (PAZs).

Collective Dose
The sum of the individual doses received in a given period of time by a specified population from exposure to a specified source of ionizing radiation.

Committed Dose Equivalent ($H_{t,50}$)
The dose equivalent to organs or tissues of reference (T) that will be received from an intake of radioactive material by an individual during the 50-year period following the intake.

Committed Effective Dose Equivalent ($H_{e,50}$)
The sum of the products of the weighting factors applicable to each of the body organs or tissues that are irradiated and the committed dose equivalent to these organs or tissues ($H_{E,50} = \sum W_T H_{T,50}$).

Company
Refers to Pacific Gas and Electric Company.

Controlled Area
An area outside of a restricted area but inside the site boundary, access to which can be limited by the licensee for any reason.

Corrective Actions
Those emergency measures taken to ameliorate or terminate an emergency situation at or near the source of the problem in order to prevent an uncontrolled release of radioactive material or to reduce the magnitude of a release (e.g., shutting down equipment, fire fighting, repair, and damage control).

Declared Pregnant Woman
A woman who has voluntarily informed her employer, in writing, of her pregnancy and the estimated date of conception.

Deep Dose Equivalent (H_d)
Which applies to external whole-body exposure, is the dose equivalent at a tissue depth of 1 cm (1000 mg/cm^2).

Derived Air Concentration (DAC)
The concentration of a given radionuclide in air which, if breathed by the referenced man for a working year of 2,000 hours under conditions of light work (inhalation rate 1.2 cubic meters of air per hour), results in an intake of one ALI (Annual Limit of Intake). DAC values are given in Table 1, Column 3 of Appendix B to §§ 20.1001 - 20.2401.

Dose Conversion Factor
Any factor that is used to change an environmental measurement to dose in the units of concern.

Early Phase
The period at the beginning of a nuclear power plant incident when immediate decisions for effective use of protective actions are required, and must be based primarily on predictions of radiological conditions in the environment. This phase may last from hours to days. For the purpose of dose projection, it is assumed to last for four days.

Emergency Action Levels (EAL)
Specific radiation levels associated with airborne, waterborne, or surface-deposited concentrations of radioactive materials; or specific instrument indications (including their rates of change) that may be used as thresholds for initiating a particular emergency classification level which then requires initiating a notification procedure, or initiating a particular protective action.

Emergency Classification Levels (ECL)
The four levels of nuclear power plant emergencies: Notification of Unusual Event, Alert, Site Area Emergency, and General Emergency.

Emergency Planning Zone (EPZ)
A nominal ten-mile radius around the plant which potentially could be in the plume exposure pathway. (Established by federal criteria, 10 CFR 50.33.)

Emergency Worker Dose
The dose received by a DCPP employee under emergency conditions. Emergency worker dose does not include public or occupational dose.

Exclusion Area Boundary
An exclusion area of such size that an individual located at any point on its boundary for two hours immediately following onset of the postulated fission product release would not receive a total radiation dose to the whole body in excess of 25 rem or a total radiation dose in excess of 300 rem to the thyroid from iodine exposure.

Evacuation
The urgent removal of people from an area to avoid or reduce high-level, short-term exposure, usually from the plume or from deposited activity. Evacuation may be a preemptive action taken in response to a facility condition rather than an actual release.

Extended Emergency Planning Zone
The San Luis Obispo County Nuclear Power Plant Emergency Response Plan area which coincides with the Public Education Zone.

Intermediate Phase
The period beginning after the incident source and releases have been brought under control and reliable environmental measurements are available for use as a basis for decisions on additional protective actions and extending until these protective actions are terminated. This phase may overlap the early and late phases and may last from weeks to many months. For the purpose of dose projection, it is assumed to last for one year.

Late Phase
The period beginning when recovery action designed to reduce radiation levels in the environment to permanently acceptable levels are commenced, and ending when all recovery actions have been completed. This period may extend from months to years (also referred to as the recovery phase).

Low Population Zone (Lpz)
The area immediately surrounding the exclusion area which contains residents, the total number and density of which are such that there is a reasonable probability appropriate protective measures could be taken in their behalf in the event of a serious accident (10 CFR 100.3). For Diablo Canyon Power Plant this is an area encompassed by a radius of 10,000 meters (6.2 statute miles).

Member of the Public
An individual in a controlled or unrestricted area. However, an individual is not a member of the public during any period in which the individual receives an occupational dose.

Non-Essential Personnel
DCPP personnel that do not have assigned emergency response duties or are not required for maintaining the safe operation of the plant.

Owner Controlled Area (OCA)
The land area(s) adjacent to the site boundary that are owned and controlled by the licensee, whereby access can be limited by the licensee for any reason. Generally described, the DCPP OCA is the area between the Port San Luis gate and security gate A, bounded by the eastern hills directly adjacent to the site access road and the northern evacuation route, and bounded to the west by the Pacific Ocean.

PF_I
Protection factor for isotope is for the least effective respiratory equipment employed by persons in an area.

Population at Risk
Those persons for whom protective actions are being or would be taken. (Reference 5.)

Projected Dose
Future dose calculated for a specified time period on the basis of estimated or measured initial concentrations of radionuclides or exposure rates and in the absence of protective actions.

Protected Area
A security area encompassed by physical barriers and to which access is controlled (ANSI N 18.17-1973). At Diablo Canyon Power Plant, this is the secured areas inside the double fence.

Protective Action Recommendations (PARs)
Those recommended emergency measures taken before or after an uncontrolled release of radioactive material has occurred to prevent or minimize radiological exposures to persons likely to occur if the actions were not taken.

Protective Action Guide (PAG)
The projected dose to an individual, based on reference man, from an accidental release of radioactive material at which a specific protective action to reduce or avoid that dose is warranted.

Public Dose
The dose received by a member of the public from exposure to ionizing radiation and to radioactive material released by licensee, or to another source of radiation either within a licensee's controlled area or in unrestricted areas. It does not include occupational dose or doses received from background radiation, as a patient from medical practices, or from voluntary participation in medical research programs.

Public Education Zone
The State of California Nuclear Power Plant Emergency Response Plan area enclosed by a boundary beyond the Basic EPZ to include the area where public education is required, but planning for public protective actions is not required.

Radiologically Controlled Area (RCA)
An area which is established for the protection of personnel from radiological hazards.

Recovery
The process of reducing radiation exposure rates and concentrations of radioactive material in the environment to levels acceptable for unconditional occupancy or use.

Recovery Actions
Those actions taken after the emergency to restore the plant as nearly as possible to its pre-emergency condition.

Reentry
Temporary entry into a restricted zone under controlled conditions.

Restricted Area
Synonymous with DCPP Protected Area.

Restricted Zone
An area with controlled access from which the population has been relocated.

Return
The reoccupation of areas cleared for unrestricted residence or use.

Sheltering
The use of structure for radiation protection from an airborne plume and/or deposited radioactive materials.

Shallow-Dose Equivalent (H_s)
Which applies to the external exposure of the skin or an extremity, is taken as the dose equivalent at a tissue depth of 0.007 centimeter (7 mg/cm^2) averaged over an area of 1 square centimeter.

Site Boundary
The site boundary and the location of principal structures are shown in Figure 1. A portion of the site is bounded by the Pacific Ocean.

Total Effective Dose Equivalent (TEDE)
The sum of the deep dose equivalent (for external exposures) and the committed effective dose equivalent (for internal exposures).

Turnover
The exchange of the appropriate amount of information to allow another person or team to assume the responsibility for providing a function.

Unrestricted Area
An area, access to which is neither limited nor controlled by the licensee.

Whole Body
For purposes of external exposure, head, trunk (including male gonads), arms above the elbow, or legs above the knee.

Whole Body Dose
Dose resulting from uniform exposure of the entire body to either internal or external sources of radiation.

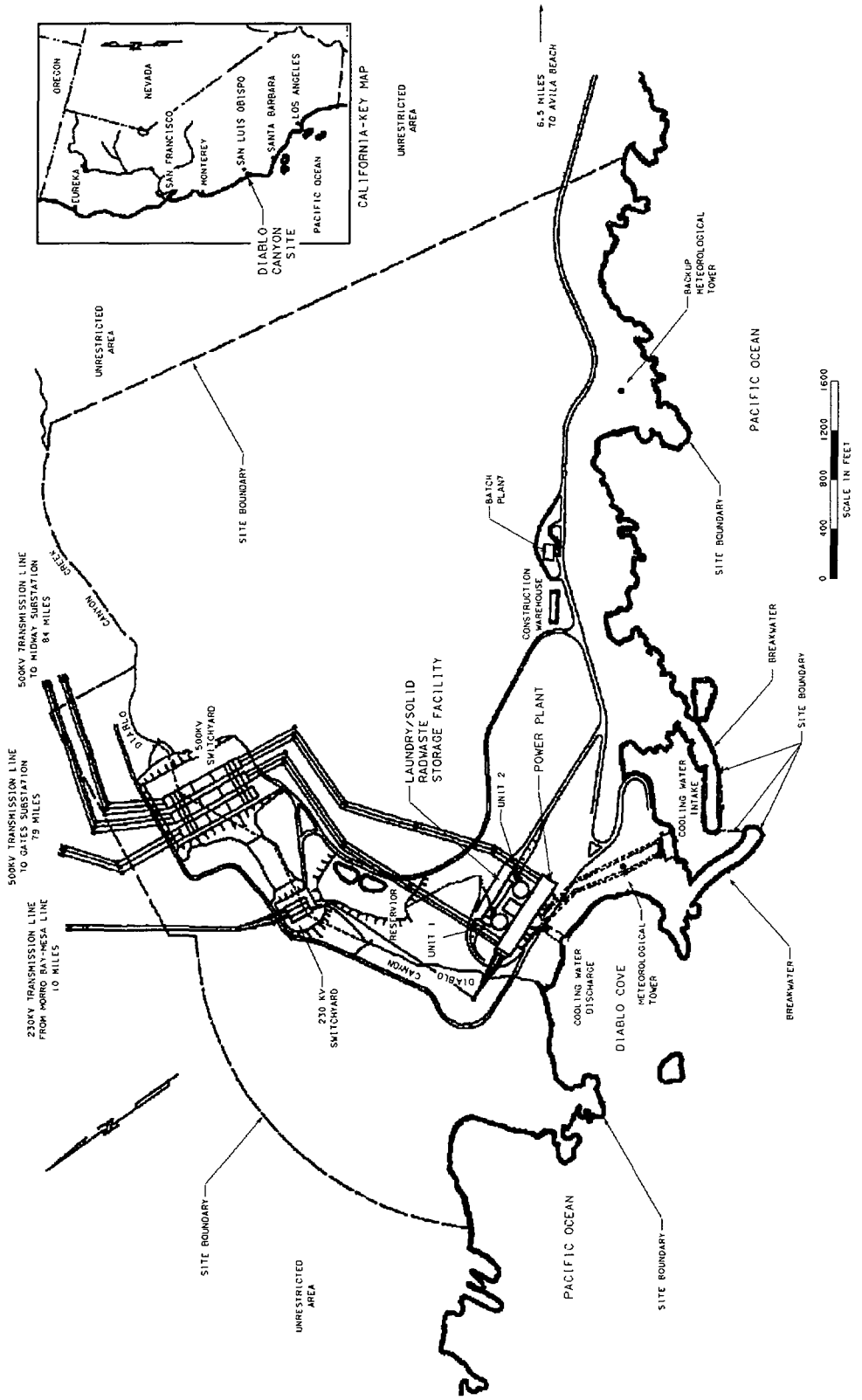
1.2 ACRONYMS

This section provides acronyms and symbols used in the Diablo Canyon Power Plant Emergency Plan.

ASW	Auxiliary Salt Water
BEPZ	Basic Emergency Planning Zone
CCW	Component Cooling Water
CFR	Code of Federal Regulations
Ci	Curie
CRT	Cathode Ray Tube
CVCS	Chemical and Volume Control System
DCPP	Diablo Canyon Power Plant
DHS	Department of Health Services (California State)
DNB	Departure from Nucleate Boiling
EAL	Emergency Action Level
EARS	Emergency Assessment and Response System
ECL	Emergency Classification Level
ECCS	Emergency Core Cooling System
EOC	Emergency Operations Center (County)
EOF	Emergency Operations Facility (Offsite)
EPZ	Emergency Planning Zone
ERDS	Emergency Response Data System
ERFDS	Emergency Response Facility Data System
ERP	Emergency Response Plan
ESF	Engineered Safety Features
FEMA	Federal Emergency Management Agency
FSAR	Final Safety Analysis Report
FTS	Federal Telecommunications System
GE	General Emergency
GM	Geiger Mueller Radiation Monitor
I	Iodine
IPZ	Ingestion Planning Zone
JMC	Joint Media Center
KI	Potassium Iodide
LOCA	Loss of Coolant Accident
LPZ	Low Population Zone
m	meter
NRC	U.S. Nuclear Regulatory Commission

NUE	Notification of Unusual Event
OCA	Owner Controlled Area
OEL	Offsite Emergency Laboratory
OES	Office of Emergency Services, SLO County or CA State
OSC	Operational Support Center (Onsite)
PAG	Protective Action Guideline
PAR	Protective Action Recommendation (Utility)
PAZ	Protective Action Zone
PAD	Protective Action Decision (Offsite Agency)
PEZ	Public Education Zone
PG&E EOC	Corporate Emergency Operations Center, Conference Rm. A & B, 245 Market Street, San Francisco
PIC	Pressurized Ion Chamber
RCA	Radiological Controlled Area
RCS	Reactor Coolant System
SAE	Site Area Emergency
SCADA	Supervisory Control and Data Acquisition (Siren Query)
SPDS	Safety Parameter Display System
SRO	Senior Reactor Operator
SSPS	Solid State Protection System
TLD	Thermo-luminescent Dosimeter
TSC	Technical Support Center
TSC-CC	Technical Support Center Computation Center
UDAC	Unified Dose Assessment Center
µCi/cc	microcuries per cubic centimeter

MAP DEFINING SITE BOUNDARY
FIGURE 1



2. SCOPE AND APPLICABILITY

There are several documents which, when taken together, describe the manner in which government agencies and Pacific Gas and Electric Company will respond to an emergency at Diablo Canyon Power Plant. These documents include the State of California and San Luis Obispo County / Cities Nuclear Power Plant Emergency Response Plans and the Pacific Gas and Electric Diablo Canyon Emergency Plan.

The Emergency Plan for Diablo Canyon Power Plant is an integral part of the licensing documentation developed to meet the requirements for an operating license. The Emergency Plan is included in Volume 11 of the Plant Manual. The Diablo Canyon Power Plant Emergency Plan, per se, is a summary document which describes the general manner in which Pacific Gas and Electric Company corporate and plant staff personnel will respond to an emergency situation at the site. Their responses are detailed in the Emergency Plan implementing procedures.

Revision 1 was issued in September 1977. Revision 2 was promulgated in February 1980 as a result of major changes in content and format to meet the requirements of NRC Regulatory Guide 1.101, "Emergency Planning for Nuclear Power Plants."

New emergency planning regulations went into effect in late 1980 which were codified in Appendix E of Title 10, Part 50 of the Code of the Federal Regulation (10 CFR 50), effective November 3, 1980. These changes were implemented by the issuance of NUREG-0654, Revision 1 (Reference 2). Consequently, it was necessary to again revise the Emergency Plan to incorporate the requirements of NUREG-0654.

All nuclear power plant emergency response plans are written to carry out the provisions and intent of 10 CFR 50, Appendix E. This statute requires nuclear power plant licensees to prepare and submit their emergency plans together with state and local (county) emergency response plans, to the Nuclear Regulatory Commission (NRC). The Federal Emergency Management Agency (FEMA) is charged to review the state and county plans for adequacy, measured according to the standards listed in joint NRC-FEMA documentation (Reference 2). In this capacity, FEMA required state and county nuclear power plant emergency response to be revised to meet the new federal standards. The NRC is charged to assess the Diablo Canyon Power Plant Emergency Plan and it's implementation and to review the FEMA findings to determine the adequacy of the overall state of emergency preparedness as a condition for an operating license.

The provisions of this document and its implementing procedures carry out the policy for an emergency organization as stipulated by the chief nuclear officer, the Program Directive, "Emergency Preparedness," OM10. The Emergency Plan is intended to serve several purposes, including:

1) Establish the emergency duties and responsibilities of the various members of the plant and corporate support staff.

2) Inform all affected agencies and organizations of the interfaces which have been established between the plant staff and participating company and noncompany support groups.

3) Provide a convenient means for gathering together, by way of appendices to the Plan, the plans of the various participating offsite agencies such that plant staff personnel are made aware of the basic responsibilities and capabilities of these agencies.

4) Provide an overview of the facilities, equipment, and procedures utilized in an emergency to inform and assist those offsite agencies who must coordinate their planning and response activities with those of the plant and corporate staff.

5) Fulfill licensing requirements of the Nuclear Regulatory Commission.

This plan, in conjunction with the San Luis Obispo County / Cities Nuclear Power Plant Emergency Response Plan, provides for planning in the geographical area bounded by possible plume exposure pathways. According to federal guidelines, this is, as a minimum, an area covered by a radius of approximately 10 miles from the power plant. With this federally defined radius as minimum, the federal government has delegated to the states the responsibility to define the Emergency Planning Zone unique to each nuclear power plant site within their individual state boundaries. As a result, in the State of California for the San Luis Obispo area, the State Basic Emergency Planning Zone is used for emergency response planning.

3. SUMMARY OF EMERGENCY PLAN

There are several documents which, when taken together, describe the manner in which The Diablo Canyon Power Plant Emergency Plan provides guidance to company personnel in emergency classification, appropriate response actions, and outside agency relationship and response. Pacific Gas and Electric Company will be referred to in this text as "The Company".

The Plan and its Appendices are included as one volume of the Diablo Canyon Plant Manual. Other volumes of the Plant Manual contain the implementing procedures which provide detailed instructions to plant staff personnel for responding to various postulated emergency situations and for performing the various analytical assessments which are required to support the response.

The identification and classification of an emergency situation is described in Section 4, EMERGENCY CONDITIONS. Standard NRC emergency classifications are used to facilitate identification and non-technical assessment of emergency conditions. The use of emergency classifications assist various affected parties in understanding the potential severity and in initiating a pre-planned response during the early stages of an emergency situation.

The normal plant operating and emergency organizations are described in Section 5, ORGANIZATIONAL CONTROL OF EMERGENCIES. This Section also summarizes the relationship between the plant, corporate staff, and participating offsite emergency authorities, and defines responsibilities of individuals and organizations involved in emergency response organizations.

In Section 6, EMERGENCY MEASURES, specific emergency response measures are outlined. Also addressed are the activation and actions of the emergency organization and procedures for handling onsite evacuation as well as personnel injury.

Emergency response facilities, communication systems, radiological dose assessment, protective measures and medical facilities are described in Section 7, EMERGENCY FACILITIES AND EQUIPMENT.

The means to ensure emergency plans continue to be effective are identified in Section 8, MAINTAINING EMERGENCY PREPAREDNESS.

Section 9, RECOVERY, describes general, long term arrangements for restoring the plant to a safe status.

Section 10, REFERENCES, provides a listing of material referred to in other sections.

Table of Contents

4. EMERGENCY CONDITIONS

4.1 EMERGENCY CLASSIFICATIONS

Events having actual or potential emergency implications are placed into one of four emergency classifications in accordance with established criteria. The classifications are:

1. Notification of Unusual Event (NUE)
2. Alert
3. Site Area Emergency (SAE)
4. General Emergency (GE)

The principal purposes of the standardized classification system are threefold:

1. To assure timely notification of particular events which could lead to significant consequences given subsequent operator error or equipment failure, or which might be indicative of more serious conditions not at the time fully appreciated.
2. To provide a non-technical description of the actual or likely implications of the event which can be easily communicated to and understood by various affected parties during the early stages of the event.
3. To provide a vehicle for setting in motion prearranged emergency response activities by all affected parties.

All the initiating conditions of Appendix 1 to NUREG-0654 and the postulated accidents in the Diablo Canyon Final Safety Analysis Report (FSAR) have been classified in accordance with the criteria discussed in Sections 4.1.1, 4.1.2, 4.1.3, and 4.1.4 and are listed in Section 4.3, Table 4.1-1 and Section 4.4, Table 4.1-2. The Emergency Plan Implementing Procedures (EPIPs) are listed in Appendix A.

Table 4.1-1 provides specific instruments, parameters, or equipment status used at Diablo Canyon Power Plant to classify events specified in Appendix 1 to NUREG-0654. Many of the "Notification of Unusual Events" included in NUREG-0654 also are reportable under the reporting requirements of 10 CFR 50.72. Diablo Canyon Administrative Procedures contain the detailed criteria and instructions necessary to evaluate and report operating events not classified as emergencies to the NRC.

Table 4.1-2 lists the postulated transients in the FSAR (Reference 3) and classifies them in accordance with the emergency classification criteria discussed in Sections 4.1.1, 4.1.2, 4.1.3, and 4.1.4. Many of the transients analyzed in Chapter 15 of the FSAR do not result in degraded plant safety and therefore need not be included in the emergency classification. Those transients, which do indicate a potential degradation in the level of plant safety, are either included in the emergency classification or the effect of the transient (e.g., fuel failure, abnormal primary system temperature and/or pressure, abnormal primary system leakage, unusual radiation levels) which causes it to degrade plant safety is included in the Table 4.1-1 listing.

The bases for notifying offsite response organizations are established by the identification of Emergency Action Levels. These in turn determine which one of the classifications is an appropriate assessment of the severity of the accident. The classification is then the non-technical assessment transmitted to offsite government agencies which provides the vehicle mentioned above for setting emergency response activities in motion.

4.1.1 Notification of Unusual Event (NUE)

1) Description

NUE, as used in the context of the Emergency Plan, generally characterizes off-normal plant conditions that may not in themselves be particularly significant from an emergency preparedness standpoint, but could reasonably indicate a potential degradation of the level of safety of the plant if proper action is not taken or if circumstances beyond the control of the operating staff render the situation more serious from a safety standpoint.

2) Release Potential and Significance

No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occur.

3) Purpose

The purpose of an offsite NUE is to:

a) Assure the first step in any response later found necessary has been carried out.

b) Bring the operating staff to a state of readiness.

c) Provide systematic handling of NUE information and decision making.

4) General Actions of Plant Staff

a) Promptly inform local, state, and offsite company support agencies of the nature of the Notification of Unusual Event.

b) Augment on-shift resources as required.

c) Assess and respond.

d) Close out with verbal summary to offsite support agencies; followed by a written summary within 24 hours (or the next working day).

OR

e) Escalate to a more severe class.

5) General Actions of Local and State Offsite Authorities

a) Provide medical, fire or security assistance if requested.

b) Standby until verbal close-out.

OR

c) Take appropriate actions for event.

4.1.2 Alert

1) Description

Events are in progress, or have occurred, which involve an actual or potentially substantial degradation of the level of safety of the plant. At the ALERT action level, small releases of radioactivity may occur (greater than Technical Specification limits for normal operation, but only a small fraction of the EPA Protective Action Guideline (PAG) exposure levels at the site boundary). It is the lowest level where emergency offsite response may be anticipated. However, for most of the ALERT events, the plant would be quickly brought to a safe condition and releases, if any, would be minimal.

2) Release Potential and Significance

Such a release would ordinarily not require near-term protective measures, (such as evacuation) beyond the site boundary, although some action within the LPZ might be taken as a precautionary measure if a release near the Technical Specification maximum was actually expected and the potential existed for a release of extended duration or for escalation to a more severe class. The need for near-term protective action beyond the boundary of the LPZ would be unnecessary.

Events in which projected dose rates of $\geq$0.57 mRem/hr TEDE or $\geq$1.7 mRem/hr Thyroid CDE at the site boundary were indicated, for actual or expected releases, would lead to an ALERT classification.

3) Purpose

The purpose of the ALERT classification is to:

a) Assure emergency personnel are readily available to respond if the situation becomes more serious, or to perform confirmatory radiation monitoring if required.

b) Provide offsite authorities with current status information.

4) General Actions of Plant Staff

a) Promptly inform local, state, and offsite company support agencies of the nature and status of the alert condition.

b) Augment on shift resources by activating the Technical Support Center (TSC), Operational Support Center (OSC), the Emergency Operations Facility (EOF) and Joint Media Center (JMC). Provide a dedicated individual (Advisor to County) for plant status up-dates to offsite authorities. The EOF may be initially staffed without a Recovery Manager. The Recovery Manager may be responding and in route to the EOF. While in route to the EOF, the Recovery Manager should be in contact with the Site Emergency Coordinator.

c) PG&E News Department will provide periodic media briefings (joint with offsite authorities).

d) Dispatch onsite and offsite monitoring teams and associated communications as required.

e) Provide periodic plant status updates to offsite authorities (approximately every 30 minutes).

f) Provide periodic meteorological assessments to offsite authorities and, if any releases are occurring, dose estimates for actual releases.

g) Close out or recommend reduction in emergency classification by verbal summary to offsite authorities, followed by written summary within 8 hours.

OR

h) Escalate to a more severe class.

5) General Actions of Local and State Offsite Authorities

a) Provide fire or security assistance if requested.

b) Augment resources by activating the County Emergency Operations Center (EOC).

c) Alert to standby status key emergency personnel including monitoring teams and associated communications.

d) Provide confirmatory offsite radiation monitoring and ingestion pathway dose projections if actual releases substantially exceed Technical Specification limits.

e) Maintain ALERT status until verbal close-out or reduction in emergency classification.

OR

f) Take appropriate actions for event.

4.1.3 Site Area Emergency (SAE)

1) Description

The Site Area Emergency classification reflects events which are in progress or have occurred involving actual or likely major failures of plant functions needed for protection of the public, but a core meltdown situation is not indicated based on current information. Any releases are not expected to exceed EPA Protective Action Guides except near the site boundary. However, because the possible release associated with a Site Area Emergency is significant, care must be taken in alerting offsite authorities to distinguish whether the release is merely potential, likely, or actually occurring. Response of offsite authorities will be guided initially by this determination.

2) Release Potential and Significance

Events in which projected dose rates of ≥100 mRem/hr TEDE or ≥500 mRem/hr Thyroid CDE at the site boundary were indicated, for actual or expected releases, would lead to a SITE AREA EMERGENCY classification.

Such a release would almost certainly require that protective measures be taken in the vicinity of the site and may require some precautionary measures to be taken in the downwind LPZ sectors. The appropriate near-term response for such an occurrence is to make an assessment of conditions as they actually exist and take action based on this assessment, as discussed below.

3) Purpose

The purpose of the SITE AREA EMERGENCY classification is to:

(1) Assure that all response centers are activated.

(2) Assure that monitoring teams are dispatched.

(3) Assure that personnel required for evacuation of near-site areas are at duty stations if the situation becomes more serious.

(4) Provide current information for offsite authorities and the public.

4) General Actions of Plant Staff

a) Promptly inform local, state, and offsite company support agencies of the nature of the SITE AREA EMERGENCY condition and its status.

b) Augment resources by activating the TSC, OSC, EOF, and JMC if not activated earlier. The EOF may be initially staffed without a Recovery Manager. The Recovery Manager may be responding and in route to the EOF. While in route to the EOF, the Recovery Manager should be in contact with the Site Emergency Coordinator. Resources may be provided to corporate emergency response facilities, if needed.

c) Provide a dedicated individual (Advisor to the County) for plant status updates to offsite authorities.

d) PG&E News Department will provide periodic media briefings (joint with offsite authorities).

e) Dispatch onsite and offsite monitoring teams and associated communications.

f) Evacuate non-essential people from the Site.

g) Make senior technical and management staff onsite available for consultation with NRC and state authorities on a periodic basis.

h) Provide meteorological and dose estimates to offsite authorities for actual releases.

i) Provide release and dose projections based on available plant condition information and foreseeable contingencies.

j) Close-out or recommend reduction in emergency class by briefing offsite authorities at County Emergency Operations Center (EOC) by phone, followed by written summary within 8 hours.

OR

k) Escalate to GENERAL EMERGENCY class.

5) General Actions of Local and State Offsite Authorities

a) Provide assistance if possible.

b) Activate immediate public notification of emergency status and provide public periodic updates.

c) Augment resources by activating the County EOC if not activated earlier.

d) Dispatch key emergency personnel including monitoring teams and associated communications.

e) Alert to standby status other emergency personnel (e.g., those needed for evacuation) and dispatch personnel to near-site duty stations.

f) Provide offsite monitoring results to the Company and others. Jointly assess monitoring results with the Company.

g) Continuously assess information from the Company and offsite monitoring regarding changes to protective actions already initiated for public and mobilizing evacuation resources.

h) Assess need for action to prevent or mitigate ingestion pathway exposure.

i) Provide joint media briefings with the Company.

j) Maintain site emergency status until close-out or reduction of emergency class.

OR

k) Take appropriate actions for event.

4.1.4 General Emergency

1) Description

The General Emergency classification reflects accident situations involving actual or imminent substantial core degradation or melting with potential loss of containment integrity. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.

2) Release Potential and Significance

The GENERAL EMERGENCY classification includes any releases which exceed 1 Rem TEDE and/or 5 Rem thyroid CEDE at the site boundary.

A condition where an actual release exceeds the levels for a GENERAL EMERGENCY would almost certainly require some protective action onsite and in the downwind areas of the LPZ. Lack of available shelter for many of the persons in this area (agricultural workers, visitors to Montana de Oro State Park) makes precautionary evacuation of the LPZ the appropriate response following a declaration of GENERAL EMERGENCY. For areas beyond the LPZ, directing transients to return to their homes outside the BEPZ, sheltering of permanent residents, and deployment of law enforcement agencies in preparation for possible evacuation are the appropriate responses while actual conditions are assessed.

3) Purpose

The purpose of the GENERAL EMERGENCY classification is to:

a) Initiate predetermined protective actions for the public.

b) Provide continuous assessment of information from the Company and offsite measurements.

c) Initiate additional measures as indicated by event releases or potential releases.

d) Provide current information for offsite authorities and the public.

4) General Actions of Plant Staff

a) Promptly inform local, state, and offsite company support agencies of the nature of the General Emergency condition and status.

b) Augment resources by activating the TSC, OSC, EOF, and JMC if not activated earlier. The EOF may be initially staffed without a Recovery Manager. The Recovery Manager may be responding and in route to the EOF. While in route to the EOF, the Recovery Manager should be in contact with the Site Emergency Coordinator. Resources may be provided to corporate emergency response facilities, if needed.

c) Assess and respond.

d) Evacuate nonessential people from the site.

e) Dispatch onsite and offsite monitoring teams and associated communications.

f) Provide a dedicated individual (Advisor to County) for plant status up-dates to offsite authorities.

g) The JMC is activated to provide periodic media briefings (joint with offsite authorities).

h) Make senior technical and management staff onsite available for consultation with NRC and the State on a periodic basis.

i) Provide meteorological and dose estimates to offsite authorities for actual releases.

j) Provide release and dose projections based on available plant condition information and foreseeable contingencies.

k) Close out or recommend reduction of emergency class by briefing of offsite authorities at County EOC by phone; followed by written summary within 8 hours.

5) General Actions of Local and State Offsite Authorities

a) Provide assistance if possible.

b) Activate immediate public notification of emergency status and provide public periodic updates.

c) Evacuate the LPZ. Place other areas of the Basic Emergency Planning Zone on alert status and assess need to extend evacuation distance beyond the LPZ.

d) Augment resources by activating the County EOC if not activated earlier.

e) Dispatch key emergency personnel including monitoring teams and associated communications.

f) Dispatch other emergency personnel to duty stations within Basic Emergency Planning Zone and alert all others to standby status.

g) Provide offsite monitoring results to the Company and others. Jointly assess monitoring results.

h) Continuously assess information from the Company and offsite monitoring regarding changes to protective actions already initiated for the public and mobilizing evacuation resources.

i) Assess need for action to prevent or mitigate ingestion pathway exposure.

j) Provide media briefings jointly with the Company.

k) Maintain GENERAL EMERGENCY status until close-out or reduction of emergency class.

4.2 SPECTRUM OF POSTULATED ACCIDENTS

The parameter values, equipment status and initiating conditions for each of the four classifications are identified in Table 4.1-1. For those accidents where the diagnosis is not obvious from the nature of the occurrence, a brief discussion is included of the indications that lead to their prompt detection. A more comprehensive discussion of various accident assessment equipment and capabilities is given in Chapters 6 and 7.

4.3 TABLE 4.1-1 - EMERGENCY ACTION LEVEL CLASSIFICATIONS

	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
I. FIRE (All Modes)	1. Fire not under control within 15 minutes of initiating fire fighting efforts AND affecting plant equipment or power supplies in or near the Protected Area(s). {NUREG-0654 App.1 NUE Condition 10}	1. Fire not under control within 15 minutes of initiating fire-fighting efforts AND threatening the loss of function of any of the following Safety Related systems required for safe shutdown: - Vital Power Supplies: D/Gs, DFOT, Vital 4kV, 480V, 120VAC, or 125VDC - Primary Systems and Auxiliaries: RCS, CCW, RHR, or Charging and Boration - Heat Sinks: AFW, ASW, 10% Dumps, S/G Safeties, or MSIVs - Control Room, Cable Spreading Rooms, or HSDP. {NUREG-0654 App.1 Alert Condition 13}	1. Fire causing the complete loss of function of any one of the following safety related systems required for safe shutdown: - Vital Power Supplies: D/Gs, DFOT, Vital 4kV, 480V, 120VAC, or 125VDC - Primary Systems and Auxiliaries: RCS, CCW, RHR, or Charging and Boration - Heat Sinks: AFW, ASW, 10% Dumps, S/G Safeties, or MSIVs - Control Room, Cable Spreading Rooms, or HSDP. {NUREG-0654 App.1 SAE Condition 11}	1. Site Emergency Coordinator judges that a fire could cause common damage to plant systems which is determined to have the potential to release radioactive material in quantities sufficient to cause exposures comparable to General Emergency #4. {NUREG-0654 App.1 GE Condition 7}
II. FUEL DAMAGE OR VESSEL DAMAGE (Modes 1-4)	2. Indication of Fuel Damage as shown by: Confirmed RCS sample shows $> 100/\bar{E}$ µCi/gm specific activity (Tech Spec 3.4.16) OR Confirmed RCS sample shows dose equivalent I-131 activity > Tech Spec limit for Iodine Spike (Tech Spec Fig. 3.4-1). {NUREG-0654 App.1 NUE Condition 3} Category II Continued on next page.	2. Indication of Fuel Damage as shown by: Confirmed RCS sample >300 µCi/cc of equivalent I-131 specific activity OR equivalent fuel failure is measured by exposure rate from systems carrying reactor coolant per EP RB-14 {NUREG-0654 App.1 Alert Condition 1.b} Category II Continued on next page.	See SAE #14 for Steam Line Break Category II Continued on next page.	2. Degraded core with possible loss of coolable geometry as indicated by: 5 or more thermocouple readings > 1200 deg. F. OR LOCA with no indication of ECCS flow AND indication of fuel damage (See Alert #2) OR LOCA with containment rad levels > values for 100% gap release in EP RB-14. {NUREG-0654 App.1 GE Condition 2 and NUREG-0654 App.1 GE Condition 5.a} Category II Continued on next page.

NOTE: SIMULTANEOUS EALS THAT INCREASE THE PROBABILITY OF RELEASE REQUIRE ESCALATION OF THE CLASSIFICATION TO ONE LEVEL ABOVE THE HIGHER EAL.

	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
II. FUEL DAMAGE OR VESSEL DAMAGE (Modes 1-4) (Continued)	3. Pressurized Thermal Shock is verified by entry into EOP FR-P.1 AND Left of Limit A curve (EOP F-0). {NUREG-0654 App.1 NUE Condition 15}			3. Loss of 2 of 3 Fission Product Barriers: A) Indication of fuel damage (See Alert #2) AND Determination of a Steam Generator Tube Rupture (SGTR) which requires entry into EOP E-3 AND Steam release from ruptured S/G, either used for plant cooldown purposes or due to a steamline break. B) Indication of Fuel Damage (See Alert #2) AND Determination of a SGTR requiring entry into EOP E-3 AND Indication of a steam line break inside containment AND High potential for loss of containment integrity (e.g., loss of function of both Containment Spray trains OR loss of function of one Containment Spray train and four CFCUs).

NOTE: SIMULTANEOUS EALS THAT INCREASE THE PROBABILITY OF RELEASE REQUIRE ESCALATION OF THE CLASSIFICATION TO ONE LEVEL ABOVE THE HIGHER EAL.

	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
II. FUEL DAMAGE OR VESSEL DAMAGE (Modes 1-4) (Continued)	3. Pressurized Thermal Shock is verified by entry into EOP FR-P.1 AND Left of Limit A curve (EOP FR-P.1). (Continued) {NUREG-0654 App.1 NUE Condition 15}			C) Indication of Fuel Damage (See Alert #2) AND Determination of a SGTR which requires entry into EOP E-3 AND Indication of a steam line break outside containment with inability to isolate the break. D) Potential fuel damage indicated by 5 or more thermocouple readings > 700 deg. F or RVLIS < 32% AND LOCA as indicated by RCS leakage and SI AND Loss of containment integrity. {NUREG-0654 App.1 GE Condition 2 and NUREG-0654 App.1 GE Condition 5e}
III. FUEL HANDLING ACCIDENT (All Modes)		3. *Fuel Handling Accident causing a release in Containment or the Fuel Handling Building* WITH *The potential to exceed the criteria listed in Alert #4 or #5.* {NUREG-0654 App.1 Alert Condition 12}	2. *Fuel Handling Accident causing a release in Containment or the Fuel Handling Building* WITH *The potential to exceed the criteria listed in SAE #3.* {NUREG-0654 App.1 SAE Condition 10}	
IV. LOSS OF CONTROL OR RELEASE OF RADIOACTIVE MATERIAL (All Modes)	4. Projected dose rate at the Site Boundary (800 meters) is ≥ 0.057 mRem/hr TEDE OR ≥ 0.170 mRem/hr Thyroid CDE for *actual or expected release.* {NUREG-0654 App.1 NUE Condition 2} Category IV Continued on next page.	4. Projected dose rate at the Site Boundary (800 meters) is ≥ 0.57 mRem/hr TEDE OR ≥ 1.7 mRem/hr Thyroid CDE for actual *or expected release.* {NUREG-0654 App.1 Alert Condition 15} Category IV Continued on next page.	3. Projected dose at the Site Boundary (800 meters) is ≥ 100 mRem TEDE OR ≥ 500 mRem Thyroid CDE for actual *or expected release.* {NUREG-0654 App.1 SAE Condition 13.a, b, and c and NUMARC / NESP-007} Category IV Continued on next page.	4. Projected dose at the Site Boundary (800 meters) is ≥ 1,000 mRem TEDE OR ≥ 5,000 mRem Thyroid CDE for actual *or expected release.* {NUREG-0654 App.1 GE Condition 1.a and b and NUMARC / NESP-007} Category IV Continued on next page.

NOTE: SIMULTANEOUS EALS THAT INCREASE THE PROBABILITY OF RELEASE REQUIRE ESCALATION OF THE CLASSIFICATION TO ONE LEVEL ABOVE THE HIGHER EAL.

	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
IV. LOSS OF CONTROL OR RELEASE OF RADIOACTIVE MATERIAL (All Modes) (Continued)	5. A valid reading in excess of the isolation setpoint, which fails to isolate the release on any of the Radiological Process Effluent Monitors: RE-18 OR RE-23 During discharge only. {NUREG-0654 App.1 NUE Condition 2}	5. Valid alarm on plant vent high range noble gas monitor RE-29. **NOTE:** ALARMS AT STATE OES SACRAMENTO. {NUREG-0654 App.1 Alert Condition 15}		
	6. An actual liquid release which exceeds the limits of 10 CFR 20, Appendix B, Table 2, Col. 2 per CY2.ID1. {NUREG-0654 App.1 NUE Condition 2}	6. An actual liquid release which exceeds 10x the limits of 10 CFR 20, Appendix B, Table 2, Col. 2 per CY2.ID1. {NUREG-0654 App.1 Alert Condition 15}		
	7. Radiological Effluent Process Monitor High Radiation Alarm with valid reading in excess of alarm setpoint on any of the following monitors: RE-14/14R RE-24/24R RE-28/28R. {NUREG-0654 App.1 NUE Condition 2}	7. Unplanned or unanticipated increase of 1 R/hr or greater in any of the following areas: Passageways, OR Normally occupied areas, OR Accessible areas normally < 100 mR/hr, OR Outside boundaries of Radiologically Controlled Areas AND, for any area above, a potential exists for EITHER an uncontrolled release to the environment OR a loss of ability to maintain plant safety functions. {NUREG-0654 App.1 Alert Condition 6}		
	8. Unplanned or uncontrolled release to the environment exceeding alarm setpoints on RE-3. {NUREG-0654 App.1 NUE Condition 2}	8. Unexplained increase of 50 X DAC in airborne radioactivity outside the boundary of the Radiologically Controlled Areas, but within the Plant Protected Area. {NUREG-0654 App.1 Alert Condition 6}		

NOTE: SIMULTANEOUS EALS THAT INCREASE THE PROBABILITY OF RELEASE REQUIRE ESCALATION OF THE CLASSIFICATION TO ONE LEVEL ABOVE THE HIGHER EAL.

	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
V. LOSS OF CONTROL ROOM (All Modes)		9. Entry into OP AP-8A, "Control Room Accessibility," AND controls established within 15 minutes. {NUREG-0654 App.1 Alert Condition 20}	4. Entry into OP AP-8A, "Control Room Accessibility," AND controls not established within 15 minutes. {NUREG-0654 App.1 SAE Condition 18}	
VI. LOSS OF ENGINEERED SAFETY FEATURE	9. Plant is not brought to required operating Mode within any applicable Tech Spec Action Statement time limit (Modes 1-4). {NUREG-0654 App.1 NUE Condition 4, 8, and 9}		5. Complete loss for greater than 15 minutes of any of the following functions needed to reach or maintain Hot Shutdown (while in Modes 1-4):	5. Loss of Heat Sink indicated by: Entry into EOP FR H.1 AND Loss of water inventory in 3 S/Gs (< 23% [34%] Wide Range). {NUREG-0654 App.1 GE Condition 5.b and d}
	10. Loss of function of both RHR trains for greater than 15 minutes while in Mode 5 or 6. {NUREG-0654 App.1 NUE Condition 9}	10. Loss of function of both RHR trains for greater than 15 minutes in Modes 1-4. {NUREG-0654 App.1 Alert Condition 10}	AFW capability Steam Dump System and S/G Safety Valves	
	11. A loss of function of all charging pumps for greater than 15 minutes when normally used for RCS inventory control (Modes 1-4). {NUREG-0654 App.1 NUE Condition 9}	11. An unplanned shutdown of the RHR System (while in Mode 5 or 6) for > 1 hour with no other normal means of decay heat removal available (e.g., flooded reactor cavity or steam generators with loops filled). {NUREG-0654 App.1 Alert Condition 10}	Loss of the capability to maintain RCS inventory as evidenced by a loss of all charging pumps coincident with the inability to depressurize and inject with the Safety Injection pumps	
		12. An unplanned loss of function of the RHR System (Mode 5 or 6) for greater than 15 minutes AND RCS thermocouple temperature is projected to exceed 200 deg.F within 1 hour of RHR loss (see Appendix B of OP AP SD series) OR RCS thermocouple temperature exceeds 200 deg.F. {NUREG-0654 App.1 Alert Condition 10}	Loss of capability to increase the Boric Acid concentration sufficient to maintain Keff less than .99 in Mode 4 with a loss of capability to trip control rods ASW or CCW Systems Loss of electrical power or I&C for any of the above listed systems, causing a complete loss of function. {NUREG-0654 App.1 SAE Condition 8}	

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	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
VII. LOSS OF POWER OR ALARMS OR ASSESSMENT OR COMMUNICATIONS	12. Loss of all off-site power for greater than 15 minutes AND at least 2 D/Gs are supplying their vital busses (Modes 1-4). {NUREG-0654 App.1 NUE Condition 7}	13. Loss of all off-site power for greater than 15 minutes AND only 1 D/G is supplying its vital bus (Modes 1-4). {NUREG-0654 App.1 Alert Condition 7}	6. Loss of all on-site AND off-site AC power for > 15 minutes (Modes 1-4). {NUREG-0654 App.1 SAE Condition 6}	See General Emergency Condition #5 under LOSS OF ENGINEERED SAFETY FEATURE.
	13. Loss of all off-site power for greater than 15 minutes AND at least 1 D/G is supplying its vital bus (Modes 5 and 6). {NUREG-0654 App.1 NUE Condition 7}	14. Loss of all off-site and on-site AC power for greater than 15 minutes in Modes 5 or 6. {NUREG-0654 App.1 Alert Condition 7}		
	14. Loss of all vital DC power as indicated by DC Bus 11(21), 12(22), and 13(23) undervoltage for > 15 minutes (Modes 5-and 6) {NUREG-0654 App.1 NUE Condition 7}	15. Loss of all vital DC power as indicated by DC Bus 11(21), 12 (22) and 13 (23) undervoltage for < 15 minutes (Modes 1-4). {NUREG-0654 App.1 Alert Condition 8}	7. Loss of all vital DC power as indicated by DC Bus 11 (21), 12 (22) and 13 (23) undervoltage for > 15 minutes (Modes 1-4). {NUREG-0654 App.1 SAE Condition 7}	
	15. Loss of assessment capabilities as indicated by a total loss of SPDS in the Control Room AND simultaneous loss of all displays for any "Post Accident Monitoring Instrumentation" variable in Tech Spec Table 3.3.3-1 for > 1 hour while in Modes 1, 2 or 3. {NUREG-0654 App.1 NUE Condition11}			
	16. Main Control Room Annunciators PKs 1 through 5 AND display capabilities AND the seismically qualified annunciator display all do not respond to an alarm condition in Modes 1-4 for over 15 minutes. {NUREG-0654 App.1 NUE Condition11}	16. Main Control Room Annunciators PKs 1 through 5 AND display capabilities AND the seismically qualified annunciator display all do not respond to an alarm condition in MODES 1-4 for over 15 minutes AND the plant is in a significant transient (plant trip, SI, or generator runback >25 Mw/min), nonannunciating systems available. {NUREG-0654 App.1 Alert Condition 14}	8. Main Control Room Annunciators PKs 1 through 5 AND display capabilities AND the seismically qualified annunciator display all do not respond to an alarm condition in MODES 1-4 for over 15 minutes AND the plant is in a significant transient AND backup, nonannunciating systems are not available (PPC, SPDS). {NUREG-0654 App.1 SAE Condition 12}	
	Category VII Continued on next page.	Category VII Continued on next page.	Category VII Continued on next page.	Category VII Continued on next page.

NOTE: SIMULTANEOUS EALS THAT INCREASE THE PROBABILITY OF RELEASE REQUIRE ESCALATION OF THE CLASSIFICATION TO ONE LEVEL ABOVE THE HIGHER EAL.

	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
VII. LOSS OF POWER OR ALARMS OR ASSESSMENT OR COMMUNICATIONS (Continued)	17. Total loss of communication capability with off-site agencies (all Modes) as indicated by the inability to communicate with SLO County (by telephone and radio) OR the NRC Operations Center. {NUREG-0654 App.1 NUE Condition11}			
VIII. NATURAL PHENOMENA (All Modes)	18. Gro und motion felt and recognized as an earthquake by a consensus of Control Room operators on duty AND measuring greater than 0.01g on the Earthquake Force Monitor. {NUREG-0654 App.1 NUE Condition13.a}	17. Earthquake > 0.2 g verified by Seismic Monitors. {NUREG-0654 App.1 Alert Condition 17.a}	9. Earthquake > 0.4 g verified by Seismic Monitors. {NUREG-0654 App.1 SAE Condition 15.a and 17}	6. Site Emergency Coordinator's judgment that major internal or external events (e.g., earthquakes, wind damage, explosions, etc.) which could cause massive common damage to plant systems which is determined to have the potential to release radioactive material in quantities sufficient to cause exposures comparable to General Emergency #4. {NUREG-0654 App.1 GE Condition 7}
	19. Flooding of any p lant structure that causes initiation of entry to Mode 3 due to a Tech Spec action statement. {NUREG-0654 App.1 NUE Condition13.b}	18. High water exceeding Intake Structure main deck elevation or low water causing cavitation and shutdown of both ASW pumps for < 15 minutes. {NUREG-0654 App.1 Alert Condition 17.b}	10. High water causing flooding of ASW pump compartments or low water causing the shutdown of both ASW pumps for > 15 minutes. {NUREG-0654 App.1 SAE Condition 15.b}	
	20. Tsuna mi or Hurricane Warning from the State, NOAA, NWS, Coast Guard or System Dispatcher OR Observation of low or high water levels at the Intake Structure indicative of a Tsunami or Hurricane. {NUREG-0654 App.1 NUE Condition13.b and d}	19. Sustained wind of 85 mph (38 m/sec) at any elevation on the Met. Tower. {NUREG-0654 App.1 Alert Condition 17.d}	11. Sustained wind of >100 mph (45 m/sec) at any elevation on the Met. Tower. {NUREG-0654 App.1 SAE Condition 15.c}	
	21. A tornado sighted w ithin Site Boundary. {NUREG-0654 App.1 NUE Condition13.c}	20. Tornado strikes the plant-protected area. {NUREG-0654 App.1 Alert Condition 17.c}		

NOTE: SIMULTANEOUS EALS THAT INCREASE THE PROBABILITY OF RELEASE REQUIRE ESCALATION OF THE CLASSIFICATION TO ONE LEVEL ABOVE THE HIGHER EAL.

	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
IX. OTHER HAZARDS (All Modes)	22. Report of airplane crash within the Site Boundary or unusual airplane activity threatening the plant. {NUREG-0654 App.1 NUE Condition14.a}	21. Confirmed missile, airplane crash or explosion involving a plant structure in the protected area. {NUREG-0654 App.1 Alert Condition 18.a, b, and c}	12. Missile, airplane crash or explosion causing complete loss of a safety system function that causes entry into a Tech Spec Action Statement. {NUREG-0654 App.1 SAE Condition 16.a and b}	See General Emergency #6 above.
	23. Confirmed explosion on-site. {NUREG-0654 App.1 NUE Condition14.c}			
	24. Turbine failure causing casing penetration OR damage to turbine or generator seals {NUREG-0654 App.1 NUE Condition14.e}	22. Turbine failure generating missiles that cause visual damage to other safety related structures, equipment, controls OR power supplies. {NUREG-0654 App.1 Alert Condition 18.e}		
	25. *Significant release of flammable* OR toxic gas OR liquid that prevents, even with SCBAs, operations inside the power block OR intake structure (ref. CP M-9a). NUREG-0654 App.1 NUE Condition14.d}	23. *Release of flammable* OR *toxic gas* OR liquid that jeopardizes operation of safety related systems by either preventing required access OR by threatening imminent damage. {NUREG-0654 App.1 Alert Condition 18.d and NUREG-0654 App.1 SAE Condition 15.a}		

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	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
X. PRIMARY OR PRI/SEC OR SECONDARY LEAK) (Modes 1-4	26. RCS unidentified OR pressure boundary leakage that exceeds 10 gpm OR identified leakage that exceeds 25 gpm. {NUREG-0654 App.1 NUE Condition 5}	24. Primary leak rate > 50 gpm. {NUREG-0654 App.1 Alert Condition 5}	13. Known primary system LOCA during which RCS subcooling cannot be maintained >20°F OR PZR level cannot be maintained >4% (28% with adverse containment). {NUREG-0654 App.1 SAE Condition 1}	See General Emergency #3 under Fuel or Vessel Damage.
	27. SI Actuation with ECCS injection into the RCS resulting from a valid signal based on actual plant conditions. NOTE: SI ACTUATION ALSO ALARMS AT OES IN SACRAMENTO. {NUREG-0654 App.1 NUE Condition 1}	25. Determination of a SGTR, which results in entry into EOP E-3. {NUREG-0654 App.1 Alert Condition 3}	14. Determination of a SGTR coincident with steam release from ruptured S/G, either used for plant cooldown purposes or due to a steamline break. {NUREG-0654 App.1 SAE Condition 3}	
	28. Steam line break which results in SI actuation. {NUREG-0654 App.1 NUE Condition17}	26. Determination of a steam line break with > 10 gpm Primary to Secondary leakage. {NUREG-0654 App.1 Alert Condition 4}		
	29. Failure of a PZR PORV AND Block Valve OR Safety Valve fails to reseat, excluding allowable leakage, following a pressure reduction below the reset point. {NUREG-0654 App.1 NUE Condition 6}			

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	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
XI. REACTOR PROTECTION SYSTEM FAILURE (Modes 1-4)		27. Anticipated Transient Without Scram (ATWS) as indicated by: Failure of an automatic reactor trip to trip the reactor. {NUREG-0654 App.1 Alert Condition 11}	15. An ATWS condition with no fuel damage evident AND An additional failure of a system required for Hot Shutdown (See SAE #5) to actuate. {NUREG-0654 App.1 SAE Condition 8}	7. ATWS with Fuel Damage indications (see Alert Condition #2 under FUEL DAMAGE) OR ATWS with potential Core Melt indicated by 5 or more thermocouple readings > 700 deg. F AND RVLIS < 32%. {NUREG-0654 App.1 GE Condition 5.c}
XII. SECURITY THREAT (All Modes)	30. Security reports the notification of a credible site-specific security threat or attempted entry or attempted sabotage. {NUREG-0654 App.1 NUE Condition12} {NUREG-0654 App.1 NUE Condition18}	28. Security reports ongoing security threat involving physical attack on the facility or a sabotage device has been detected that threatens the operability of safety related equipment (see Alert #1). {NUREG-0654 App.1 Alert Condition 16}	16. Security reports ongoing physical attack on the facility or a sabotage device causing a confirmed loss of function of any one of the following safety related systems required for safe shutdown: - Vital Power Supplies: D/Gs, DFOT, Vital 4kV, 480V, 120VAC, or 125VDC - Primary Systems and Auxiliaries: RCS, CCW, RHR, or Charging and Boration - Heat Sinks: AFW, ASW, 10% Dumps, S/G Safeties, or MSIVs - Control Room, Cable Spreading Rooms, or HSDP. {NUREG-0654 App.1 SAE Condition 14}	8. Security reports ongoing security threat which causes loss of control of the operations of the plant to hostile forces. {NUREG-0654 App.1 GE Condition 3}

NOTE: SIMULTANEOUS EALS THAT INCREASE THE PROBABILITY OF RELEASE REQUIRE ESCALATION OF THE CLASSIFICATION TO ONE LEVEL ABOVE THE HIGHER EAL.

	UNUSUAL EVENT	ALERT	SITE AREA EMERGENCY	GENERAL EMERGENCY
XIII. SITE EMERGENCY COORDINATOR'S JUDGMENT (All Modes)	31. Site Emergency Coordinator determines conditions warrant increased awareness on the part of off-site authorities of initiation of a plant shutdown per Tech Spec LCOs or involve other than normal controlled shutdown. {NUREG-0654 App.1 NUE Condition 15}	29. Site Emergency Coordinator judges plant conditions exist that warrant precautionary activation of the TSC and placing the EOF and other key emergency personnel on stand-by. {NUREG-0654 App.1 Alert Condition 19}	17. Site Emergency Coordinator judges that conditions exist that warrant activation of the emergency centers and monitoring teams or a precautionary notification to the public near the site. {NUREG-0654 App.1 Alert Condition 2}	9. Site Emergency Coordinator judges conditions exist which have a potential to release radioactive material in quantities sufficient to cause exposures comparable to General Emergency #4. {NUREG-0654 App.1 GE Condition 4}

NOTE: SIMULTANEOUS EALS THAT INCREASE THE PROBABILITY OF RELEASE REQUIRE ESCALATION OF THE CLASSIFICATION TO ONE LEVEL ABOVE THE HIGHER EAL.

NOTES:

1. NUREG-0654 App.1 NUE Condition 14.b, "Train derailment onsite" is not applicable.
2. NUREG-0654 App.1 NUE Condition 16, "Transportation of contaminated injured individual from site to offsite hospital" is not addressed.
3. NUREG-0654 App.1 Alert Condition 1.a, "High offgas at BWR air ejector monitor (greater than 5 ci/sec; corresponding to 16 isotopes decayed 30 minutes) is not applicable.
4. NUREG-0654 App.1 SAE Condition 4, "BWR steam line break outside containment without isolation" is not applicable.
5. NUREG-0654 App.1 SAE Condition 16.c "Entry of uncontrolled flammable gases into vital areas. Entry of uncontrolled toxic gases into vital areas where lack of access to the area constitutes a safety problem" is addressed by Alert #23. Any escalation in severity is addressed by other SAEs dealing with plant effects.
6. NUREG-0654 App.1 GE Condition 6, "Example BWR Sequences" is not applicable.

4.4 FSAR Analyzed Accidents Correlated to Emergency Classifications

Table 4.1-2

FSAR Accidents	Classification
Condition II Accidents	
1. Uncontrolled rod cluster control assembly bank withdrawal from a sub-critical condition.	None
2. Uncontrolled rod cluster control assembly bank withdrawal at power.	None
3. Rod cluster control assembly mis-operation.	None
4. Uncontrolled boron dilution.	None
5. Partial loss of forced reactor coolant flow.	None
6. Startup of an inactive reactor coolant loop.	None
7. Loss of external electrical and/or turbine trip.	None
8. Loss of normal feedwater.	None
9. Loss of offsite power to the station auxiliaries (station blackout).	None
10. Excessive heat removal due to feedwater system malfunctions.	None
11. Excessive load increase incident.	None
12. Accidental depressurization of the Reactor Coolant system.	Unusual Event
13. Accidental depressurization of the main steam system.	Unusual Event
14. Spurious operation of the Safety Injection system.	Unusual Event
Condition III Accidents	
1. Loss of reactor coolant from small ruptured pipes or for cracks in large pipes which actuates emergency core cooling system.	Alert/Site Area Emergency
2. Major secondary system pipe breaks.	Unusual Event
3. Inadvertent loading of a fuel assembly into an improper position.	None
4. Complete loss of forced reactor coolant flow.	None
5. Underfrequency accident.	None
6. Single rod cluster control assembly withdrawal at full power.	None
Condition IV Accidents	
1. Major reactor coolant system pipe ruptures (Loss of coolant accident).	Site Area Emergency
2. Major secondary system pipe rupture.	Unusual Event
3. Steam generator tube rupture.	Alert/Site Area Emergency
4. Single reactor coolant pump locked rotor.	Alert (If Fuel Failure Evident)
5. Fuel handling accident.	Alert/Site Area Emergency
6. Rupture of control rod drive mechanism housing (Rod cluster control assembly ejection).	Alert/Site Area Emergency
7. Rupture of a Waste Gas Decay Tank.	Unusual Event (if a radiological release occurs)
8. Rupture of a Liquid Holdup Tank.	Unusual Event (if a radiological release occurs)
9. Rupture of Volume Control Tank.	Unusual Event (if a radiological release occurs)

4.5 CROSS REFERENCE TO NUREG-0654

NUREG 0654	DCPP Emergency Plan
D.1 & D2	4.2, 4.3, 4.4
E.1	4.1.1, 4.1.2, 4.1.3, 4.1.4
H.5	4.3, 4.4
I.1	4.2, 4.3, 4.4
J.7	4.1
J.10.m	4.1, 4.2

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5. ORGANIZATIONAL CONTROL OF EMERGENCIES

In the event of an emergency, the DCPP normal plant operational organization is supplemented with an organization specifically designed to control emergency conditions. The emergency response organization may, depending upon the severity of the incident, consist of shift operating staff or a comprehensive emergency force composed of plant, corporate, and contract personnel. This section describes the normal plant organization, the onsite emergency organization and governmental agencies responsible for directing offsite emergency response activities.

5.1 NORMAL PLANT ORGANIZATION

The chief nuclear officer, has executive responsibility for Diablo Canyon Power Plant (DCPP). The vice president and general manager reports to the chief nuclear officer and has overall responsibility for in-plant functions and plant-corporate interfaces. The organizational structure for the power plant is shown in the FSAR.

5.1.1 Emergency Planning

The vice president and general manager has responsibility for overall emergency preparedness at DCPP. The organizational structure is described in FSAR Chapter 13. The emergency planning manager is assigned responsibility for preparation and maintenance of the DCPP Emergency Plan and its implementing procedures.

The emergency planning manager is responsibility for onsite coordination of drills and exercises, maintenance of emergency facilities, review and revision of the DCPP emergency plan and implementing procedures, maintenance of the emergency response organization and overall emergency preparedness. This position coordinates onsite emergency preparedness issues with the Nuclear Regulatory Commission as required.

The emergency planning manager also provides the corporate interface with offsite emergency response organizations including San Luis Obispo County, the State of California, the Nuclear Regulatory Commission, the Federal Emergency Management Agency, the U.S. Coast Guard, the Environmental Protection Agency and other Federal, State and local agencies involved in DCPP emergency response, and also coordinates maintenance of the Early Warning System (EWS).

The emergency planning department provides training to the site emergency response organization, the company emergency response organization and assists, as required, with training of local emergency response organizations.

5.1.2 Balance of Normal Station Organization

See FSAR Chapter 13 for further organization details.

5.1.3 Minimum On-Shift Staffing Requirements

At DCPP, a minimum staff of nineteen personnel are required to be on shift during operation of both units. This implements the criteria of NUREG 0654, Table B-1 and NUREG 0737 Supplement 1, Table 2. The normal shift complement provides staffing for the initial on-shift emergency response organization. Positions in this organization are filled as required by the emergency.

The minimum on-shift staffing requirements and position responsibilities are provided in Table 1.

Table 1

Position Responsibilities	Required On Shift	Typical DCPP Position
Plant operation and assessment of operational aspects.	1	Shift Manager
Emergency Direction and Control.	*	Shift Manager
Plant operation and assessment of operational aspects.	1	Shift Foreman
Emergency liaison coordinator (may fill Appendix R and fire brigade requirements).	1	Shift Foreman
Notify and maintain communication with plant personnel and local, state and federal agencies.	1	Licensed Operator
Plant operation and assessment of operational aspects.	1	Licensed Operator
Plant operation and assessment of operational aspects.	1	Licensed Operator
Plant operation and assessment of operational aspects.	1	Licensed Operator
Operating plant equipment and controls of the unaffected unit from the Control Room.	1	Licensed Operator
Plant operation and assessment of operational aspects - operating plant equipment outside control room on affected unit.	1	Nuclear Operator
Plant operation and assessment of operational aspects - operating plant equipment outside control room on affected unit.	1	Nuclear Operator
Operating plant equipment outside the control room on affected unit. Fulfills requirement for "plant system engineering, repair and corrective actions" as the "Rad Waste Operator."	1	Nuclear Operator
Operating plant equipment outside the control room on affected unit.	1	Nuclear Operator
Plant operation and assessment of operational aspects - operating equipment outside the control room on unaffected unit.	1	Nuclear Operator
Plant system engineering, repair and corrective actions technical support. Shift engineer emergency evaluation and recovery coordinator.	1	Shift Technical Advisor
Plant systems engineering, repair and corrective actions - Electrical Maintenance/Instrumentation and Control Technician.	1	Shift Control Technician
Shift Control Technician.	1	Shift Control Technician

C&RP – Chemistry & Radiation Protection IFO - Industrial Fire Officer

* - Position may be filled by someone filling another position.

(continued next page)

Table 1 (continued)

Position Responsibilities	Quantity	Typical DCPP Position
Plant system engineering, repair and corrective actions - Mechanical Maintenance/Radwaste Operator	*	Nuclear Operator
Radiological accident assessment (chemistry and radio-chemistry).	1	C&RP Technician
Protective actions (in-plant): • HP coverage for repair, corrective actions, search and rescue and first aid and fire fighting. • Personnel monitoring • Dosimetry • Access control	*	C&RP Technician
Radiological accident and assessment - in plant surveys	1	C&RP Technician
Protective actions (in-plant): • HP coverage for repair, corrective actions, search and rescue and first aid and fire fighting. • Personnel monitoring • Dosimetry • Access control	*	C&RP Technician
Rescue and First Aid	*	IFO
Rescue and First Aid	*	IFO
Watch Commander	1	Watch Commander
Security Personnel	*	Per Security Plan
Fire Fighting	*	Per FSAR (Fire Department)
TOTAL	**19**	

C&RP – Chemistry & Radiation Protection IFO - Industrial Fire Officer

* - Position may be filled by someone filling another position.

5.2 NORMAL CORPORATE ORGANIZATION

5.2.1 Nuclear Power Generation Business Unit

The chief nuclear officer has executive responsibility for the safe operation of DCPP. An important part of this responsibility focuses on the coordination and development of both company and DCPP emergency plans and preparedness as an essential element in assuring the public health and safety.

5.2.2 Other Supporting Departments

Other company departments provide support services along normal departmental areas of responsibility. Some examples are governmental relations, news department, law and insurance.

5.3 DIABLO CANYON INTERIM EMERGENCY RESPONSE ORGANIZATION

5.3.1 Control Room

The fundamental Control Room responsibilities during an emergency are to operate the plant systems, monitor unit conditions and take corrective actions to regain control, minimize accident consequences, and terminate the incident.

5.3.2 Shift Manager

The Shift Manager is responsible for activating the DCPP emergency plan and assumes the position of Interim Site Emergency Coordinator until relieved by the Site Emergency Coordinator. Once the TSC is activated, the Shift Manager can fill the role of Emergency Operations Coordinator.

1) Prior to being relieved, the Interim Site Emergency Coordinator is responsible for implementing the following **non-delegable** activities and authorizations:
   a) Perform the initial evaluation and classification of the event.
   b) Assign plant personnel to positions in the Site Emergency Organization.
   c) Provide Protective Action Recommendations regarding evacuation, sheltering, or other emergency measures to local government agencies.
   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) Authorize any extraordinary emergency measures, such as the use of company emergency personnel exposure limits.
   i) Authorize release of Public Information notices.

2) The Interim Site Emergency Coordinator is responsible for ensuring the performance of the following delegable activities:

   a) Notification of:

      (1) Plant personnel

      (2) Company offsite emergency organizations

      (3) Local non-company emergency support groups

      (4) San Luis Obispo County, California Office of Emergency Services and the Nuclear Regulatory Commission

   b) Maintain liaison with offsite emergency support groups.

5.3.3 Shift Foreman

One Shift Foreman per unit is on-shift at all times. This is a position in the normal operating organization.

During an emergency, one shift foreman is responsible for emergency communications.

The other shift foreman assumes the role of the interim Emergency Operations Coordinator. This position provides plant management representation in the Control Room:

1) Manages operational activities.

2) Supervises the control room management in the operational control of the plant.

3) Advise the Site Emergency Coordinator on operational matters.

4) This position may be assigned other operational duties such as radwaste management as required by the situation.

5.3.4 Operators

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

5.3.5 Shift Technical Advisor

This is a position in the normal operating organization that remains filled throughout the emergency and recovery periods. The initial function of this individual is to assume a position of emergency evaluation and assist the interim Site Emergency Coordinator 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 event.

5.3.6 Security Watch Commander

This is a normal plant organization position located in the Security Building and which is responsible for onsite emergency assembly and accountability, the results of which are reported to the Site Emergency Coordinator.

5.3.7 Evacuation Coordinator

This is a temporary position that coordinates evacuation of nonessential 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 Advisor, as per EP G-5.

5.3.8 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:

1) Assure evacuees stay together and take the correct route.

2) Assist in personnel accountability at the evacuation offsite assembly area.

3) Secure radiation survey equipment and survey personnel and vehicles at the collection area and arrange for decontamination as required.

5.3.9 First-Aid and Medical

The importance of providing prompt first-aid is well recognized. First aid training is provided for plant personnel and includes voluntary certification for Cardio-pulmonary resuscitation. An onsite medical facility is available to provide basic life support capabilities at all times. During off hours, staffing is limited to an EMT qualified Fire Fighter.

5.3.10 Fire Department

This department is responsible for onsite fire fighting, rescue operations, and first-aid.

5.4 DIABLO CANYON EMERGENCY RESPONSE ORGANIZATION

5.4.1 Emergency Response Staffing

1) The Emergency Response Organization (ERO) is grouped into assigned teams for rotating on call duties and to ensure that continuous 24-hour operation can be sustained. The ERO is fully activated and staffed for emergencies classified as Alert, Site Area Emergency, or General Emergency.

2) The Emergency Response Organization minimum staffing requirements and functional responsibilities are provided below in Table 2.

Table 2 – Emergency Response Organization Minimum Staffing

Technical Support Center (TSC)

NUREG 0654 Table B-1 Responsibilities	Quantity	DCPP Position
On-site emergency facility Director	1	Site Emergency Coordinator
Notifications and communications coordinator	1	Communicator
Plant systems engineering; repair and corrective actions; Technical Support; Core/Thermal Hydraulics; Emergency evaluation and recovery coordinator	1	Reactor Engineer
Plant systems engineering; repair and corrective actions; Technical Support; Electrical Data Processor	1	Electrical Engineer
Plant systems engineering; Repair and Corrective actions; Technical Support; Mechanical Data Processor	1	Mechanical Engineer
Provide operational input for priorities and assessment	1	Operations Advisor
Coordinate maintenance activities	1	Maintenance Logistics Advisor
Radiological accident and assessment - on-site out of plant surveys	2	Field Monitor Team personnel

Operational Support Center (OSC)

NUREG 0654 Table B-1 Responsibilities	Quantity	DCPP Position
Communicate information between Control Room and TSC	1	Emergency Maintenance Coordinator
Plant systems engineering, repair and corrective actions - Mechanical Maintenance, Radwaste Operator	*	Filled by on-shift personnel Nuclear Operator #6
Plant systems engineering, repair and corrective actions - Mechanical Maintenance Organization	1	Mechanical Coordinator (OSC)
Plant systems engineering, repair and corrective actions - Electrical Maintenance Organization	1	Electrical Maintenance Coordinator (OSC)
Plant systems engineering, repair and corrective actions - Electrical/I&C	1	Technical Maintenance Coordinator (OSC)
Plant systems engineering, repair and corrective actions - Electrical/I&C	*	Filled by on-shift personnel Shift Control Tech #1
Radiological accident and assessment - radiological briefs for OSC teams	1	Site Radiation Protection Coordinator (OSC)
Radiological accident and assessment - in plant surveys	2	C&RP Technician (plant) - OSC
Protective actions (in-plant): • HP coverage for repair, corrective actions, search and rescue, and first aid and fire fighting • Personnel monitoring • Dosimetry • Access control	4	C&RP Technician (plant) - OSC
Rescue and First Aid	N/A	Local Support
Security Personnel	N/A	Watch Commander per the Security Plan
Fire Fighting	N/A	Fire Department

* - Position may be filled by someone filling another position.

(continued)

(Table 2 continued)

Emergency Operations Facility (EOF)

NUREG 0654 Table B-1 Responsibilities	Quantity	DCPP Position
Emergency Operations Facility Director	1	Advisor to County (Interim Recovery Manager)
Director for radiological accident assessment	1	Radiological Manager
Notifications and communications	1	Communicator
Notifications and communications assistant	1	Communicator
Radiological accident and assessment off-site dose assessment	1	Health Physicist (EARS Operator)
Technical advisor to public information Recovery Manager	1	Technical Advisor for EPIM
Rumor control, news releases, media presentations	1	Emergency Public Information Manager
Radiological accident and assessment - off-site surveys	4	Field Monitor Team personnel
TOTAL	31	

5.5 EMERGENCY RESPONSE FACILITIES AND ORGANIZATIONS

The Diablo Canyon Power Plant emergency organization operates from onsite emergency centers -- the Control Room (CR), the Technical Support Center (TSC), and the Operational Support Center (OSC). The organization is supported by offsite emergency response facilities -- the Emergency Operations Facility (EOF) and the Joint Media Center (JMC).

5.6 TECHNICAL SUPPORT CENTER (TSC)

The primary function of the TSC is to provide an onsite location, independent of the Control Room, where the overall coordination of the onsite emergency response effort takes place. The TSC staff augments the Control Room in the diagnosis of plant conditions, recommends corrective actions, and coordinates plant and unit emergency activities. More specifically, functional assignments at the TSC include (primary Emergency Response Organization assignments are indicated in parenthesis):

1) Engineering and Technical Analysis (Engineering Advisor)

   Perform systems analysis, resolve core/thermal hydraulics, electrical, instrumentation, and mechanical engineering problems, and diagnose plant conditions. Maintain liaison with offsite technical support. Provide coordination and supervision of all company support teams operating at or in the vicinity of the site.

2) Radiological Protection (Radiological Advisor)

   Assess onsite radiological conditions, recommend radiation protection measures, direct radiological surveys and decontamination actions, assist in assessment of offsite consequences as requested by the response organization at the EOF.

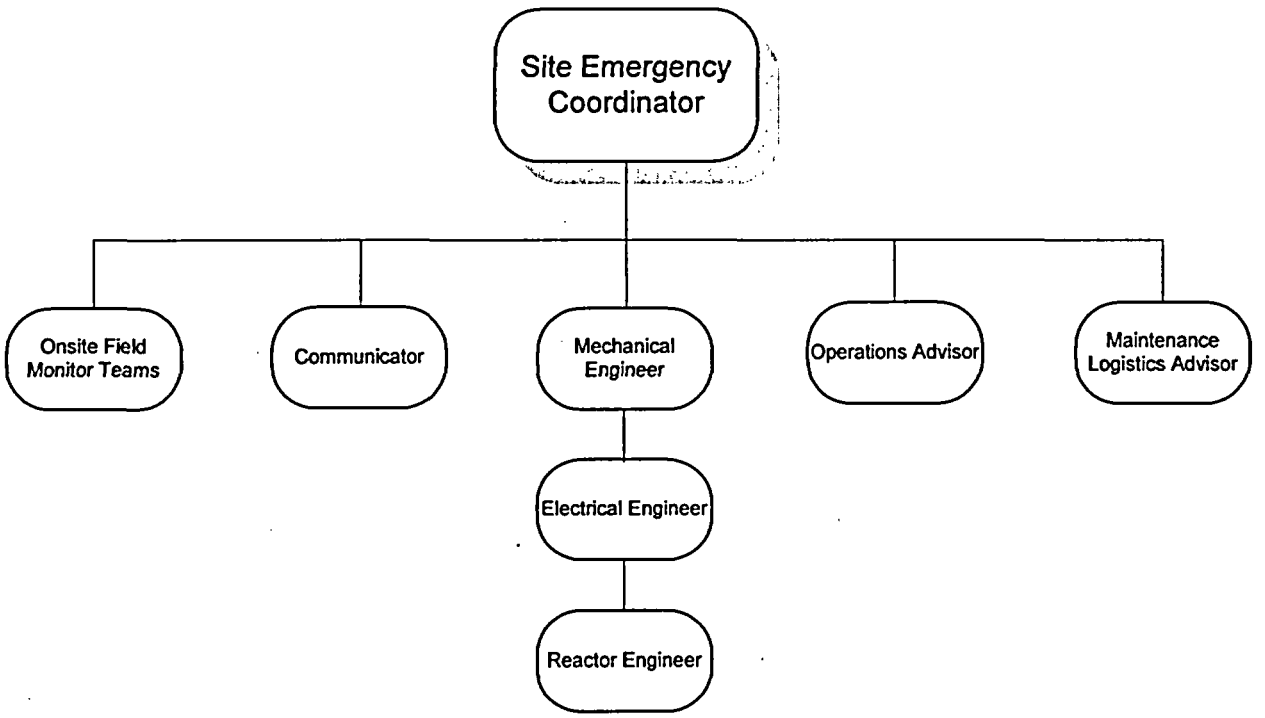
   Coordinate and supervise all onsite radiological surveys and investigations and provide management of the onsite radiation protection program.

3) Communicator

Notify affected individuals and agencies of the emergency, establish initial contact and maintain communications with offsite groups, transmit instructions and information to and from the Site Emergency Coordinator.

4) TSC Minimum Staff Emergency Response Organization is shown below in Figure 1.

FIGURE 1



5.6.2 Site Emergency Coordinator

The Site Emergency Coordinator is responsible, under the general direction of the Recovery Manager, for directing onsite emergency actions from his position at the Technical Support Center.

At DCPP the line of succession for the Site Emergency Coordinator position is the Shift Manager, department directors, and plant manager. Only higher-level utility officials may relieve the plant manager or the alternates listed above in the Site Emergency Coordinator position when the chief nuclear officer specifically orders it. In making personnel assignments in the emergency response organization, the Site Emergency Coordinator has the authority to make assignments according to availability and qualification as appropriate to carry out response activities.

1) The Site Emergency Coordinator will establish the emergency response organization in the TSC.

2) After the TSC is activated, the Site Emergency Coordinator will relieve the Interim Site Emergency Coordinator.

3) Prior to the Recovery Manager assuming his position at the Emergency Operation Facility, the Site Emergency Coordinator is responsible for implementing the following **non-delegable** activities and authorizations:

   a) Provide direction for all emergency response operations performed by Company personnel in the San Luis Obispo County area.

   b) Request assistance as necessary for onsite or offsite radiation monitoring from federal agencies, either through the county / state emergency response organization once established, or directly.

   c) Authorize any Protective Action Recommendations (PARs).

   d) Authorize changes in the Emergency Classification and notification of offsite authorities.

   e) Authorize any extraordinary emergency measures, such as the use of company emergency personnel exposure limits.

   f) Authorize the administration of KI to onsite personnel.

   g) Authorize the administration of KI to offsite monitoring personnel.

   h) Authorize the release of Public Information notices.

   i) Authorize overtime and other expenses associated with maintaining an appropriate Onsite Emergency Organization throughout the emergency response period.

   j) Authorize the evacuation of the plant site and specify the appropriate evacuation route.

4) The Site Emergency Coordinator is responsible for ensuring the performance of the following delegable activities:

   a) Coordinate and direct all onsite activities.

   b) Maintain liaison with offsite emergency support groups providing onsite assistance and support the Recovery Manager in the development of a coordinated recovery action plan for onsite.

   c) Recommend changes in Emergency Classification to the Recovery Manager.

   d) Manage TSC Operations. This includes:

      - Collecting and analyzing technical information to assess plant operations.
      - Providing technical counsel in support of the Control Room (CR).
      - Assessing radiological release potential.
      - Determining actual or potential release rates.
      - On-site exposure monitoring and contamination control.
      - Repairing plant components or systems as required by the emergency and / or consequences.

   e) Provide management direction to the Control Room (CR) through the Operations Advisor (TSC) or Emergency Operations Coordinator (CR).

   f) Provide management direction to the Operational Support Center (OSC) through the Emergency Maintenance Coordinator.

g) Assign plant staff personnel to positions in the Onsite Emergency Organization as appropriate.

h) Establish and maintain onsite personnel accountability.

5.6.3 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.

5.6.4 Maintenance Logistics Advisor

1) Coordinates maintenance activities with the OSC Emergency Maintenance Coordinator.

2) Advises the OSC of maintenance priorities.

5.6.5 Security Advisor

This is a position in the TSC, which coordinates security activities in support of the emergency response and advises the Site Emergency Coordinator on security matters.

5.6.6 Communicator

This position provides control of verbal and written communications to and from the site with the following duties and responsibilities:

1) Maintain open line communications with the NRC.

2) Handle communications to and from the site and between site emergency response groups.

3) As directed by the Site Emergency Coordinator, notify plant staff and other affected individuals and organizations of the emergency and their assignments.

4) Maintain contact with onsite and offsite emergency support groups, regulatory agencies, and transmit instructions and information to and from the Site Emergency Coordinator.

5) Maintain records of incoming and outgoing messages. Operate communications equipment and develop message content as required to support the above.

6) Provide general assistance to the Site Emergency Coordinator.

7) Provide backup notification to County and State for EOF.

5.6.7 Engineering Advisor

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

1) Evaluate the safety consequences of the occurrence and advise the Site Emergency Coordinator of appropriate response actions and onsite and offsite recommended protective measures.

2) Advise the Site Emergency Coordinator on technical matters relating to nuclear and radiological safety.

3) Coordination and supervision of all company support teams operating at or in the vicinity of the site.

4) Coordination and supervision of technical support work as part of the recovery program developed by the Site Emergency Coordinator and Recovery Manager.

5) Advise the Site Emergency Coordinator of actions and findings of support groups.

6) Assist the Site Emergency Coordinator in determining personnel deployment for emergency support assignments.

7) Provide operation and control of emergency data transmission systems, and review and evaluate plant data.

5.6.8 Mechanical, Reactor, and Electrical Engineers

These positions provide engineering assistance to the Engineering Advisor. Duties include evaluation of plant core/thermal hydraulics, electrical and mechanical data; coordination of technical support work; and operation of computer systems and other onsite emergency response activities.

5.6.9 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 on matters relating to radiological safety.

2) Coordinate and supervise radiological surveys and investigations, both in plant and near site. Work with the EOF Radiological Manager in assessment of overall radiological conditions.

3) Coordinate and supervise all onsite radiological surveys and investigations, and manage the onsite radiation protection program.

4) Coordinate and supervise 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 offsite.

5) Prior to UDAC activation, assist with PAR development based on Control Room dose assessment.

5.6.10 Radiological Data Processor

This position assist the Radiological Advisor with processing and evaluating radiological data using available automated systems documenting results of such evaluations and communicating results to TSC and EOF personnel.

5.6.11 Plant Process Computer (PPC) Operator

This position assists the Reactor Engineer in reading the PPC and preparing release path information for dose assessment purposes.

5.6.12 Radio Operator

Radio Operator maintains communications with onsite field monitoring teams.

5.6.13 Onsite Field Monitoring Teams

Two person Field Monitoring Teams will be established for onsite and near site monitoring in the event of a radiological release emergency. They have the following duties and responsibilities:

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 temporary radiologically controlled areas to control 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 Radiological Advisor informed of their actions and findings.

5.7 OPERATIONS SUPPORT CENTER (OSC)

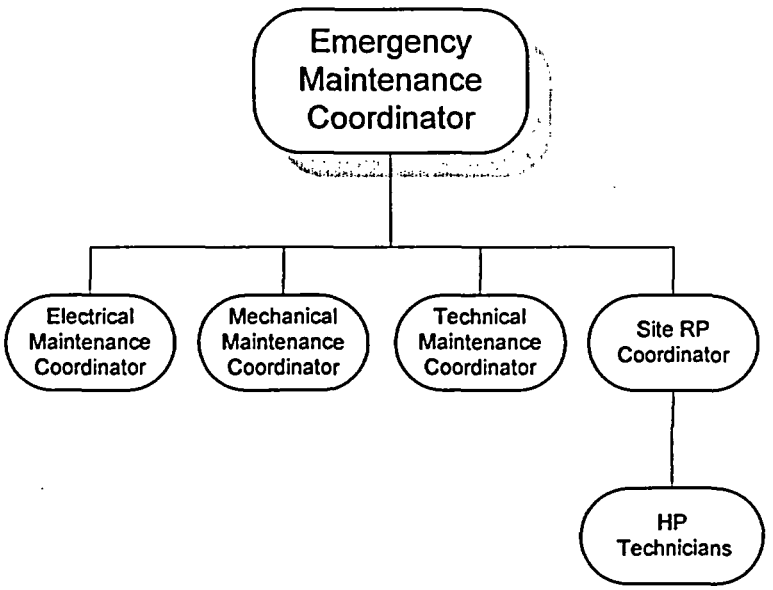
The functions of the OSC include:

1) Provides a location for staging trained personnel for assignment to relieve personnel and staff special emergency positions on an as-needed basis for:
   - emergency maintenance, repair and damage control
   - fire fighting, search and rescue and first aid
   - emergency sampling of plant fluids
   - a location for storage of selected emergency response equipment
   - personnel decontamination

2) Provides an office for the Emergency Maintenance Coordinator who determines and recommends repair/damage control and corrective actions for plant mechanical, instrumentation, and electrical systems.

3) OSC Minimum Staff Emergency Response Organization is shown below in Figure 2.

FIGURE 2



5.7.2 Emergency Maintenance Coordinator

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

1) At the direction of the Site Emergency Coordinator, ensure the fabrication and set up of any special equipment necessary for recovery operations.

2) Provide management direction to the OSC Access Supervisor and maintenance organizations.

3) Coordinate the movement and accountability of maintenance support personnel brought to the site.

4) Provide general advice and assistance in these matters to the Site Emergency Coordinator and other evaluations personnel.

5.7.3 Maintenance Organizations

Mechanical, Electrical, and Technical Maintenance 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.

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

5.7.4 Operational Support Center Access Supervisor

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

1) Determines 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.

5.7.5 Site Radiation Protection Coordinator

This position assists the Radiological Advisor in coordinating onsite radiological protection and radiological surveys and investigations. These duties include the following:

1) Personnel exposure monitoring and record keeping.

2) In-plant surveys and establishment of radiation and/or contamination control area boundaries.

3) Determine radiation protection access requirements for entry to radiologically controlled areas.

4) Maintain proper records and logs.

5) Keep the Radiological Advisor informed of actions and findings.

6) Coordinate briefing and dispatch of personnel into affected plant areas with the OSC Access Supervisor.

5.7.6 Site Chemistry Coordinator

This position assists the Radiological Advisor in coordinating sampling of plant fluids and performing chemical and radio chemical analysis. These duties include:

1) Radiological and chemical analysis of in plant samples.

2) Maintain proper records and logs.

3) Keep the Radiological Advisor informed of actions and findings.

4) Coordinate briefing and dispatch of personnel into the plant for sampling or analysis with the Site Radiation Protection Coordinator and OSC Access Supervisor.

5.7.7 Radiological Protection Technicians

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

5.8 EMERGENCY OPERATIONS FACILITY (EOF)

1) The principal functions of the EOF are to provide for strategic planning and control. The principal functions of the utility staff are:

   a) Control and Coordination

      The EOF utility staff, under the direction of the Recovery Manager, manages and coordinates all PG&E technical direction and control of the integrated emergency response effort.

   b) Liaison/Interface

      The EOF provides management level interfaces with San Luis Obispo County through the Advisor to the County and subordinate managers who report to the Recovery Manager.

      When activated, the EOF determines status notifications, provides Protective Action Recommendations (PARs) based on plant conditions, and Public Information releases under the RM's authority. The TSC may communicate the Notifications and PARs to the State and NRC.

   c) Assessment

      The EOF provides a centralized location, immediately available to county decision makers in the County EOC for unified dose assessments.

   d) Decision-Maker Staff Support

      The EOF provides a center for response organizations to make staff specialists available to provide data and recommendations to County decision makers for their use in taking protective actions relating to either dose assessment evaluations or predictions of degraded conditions.

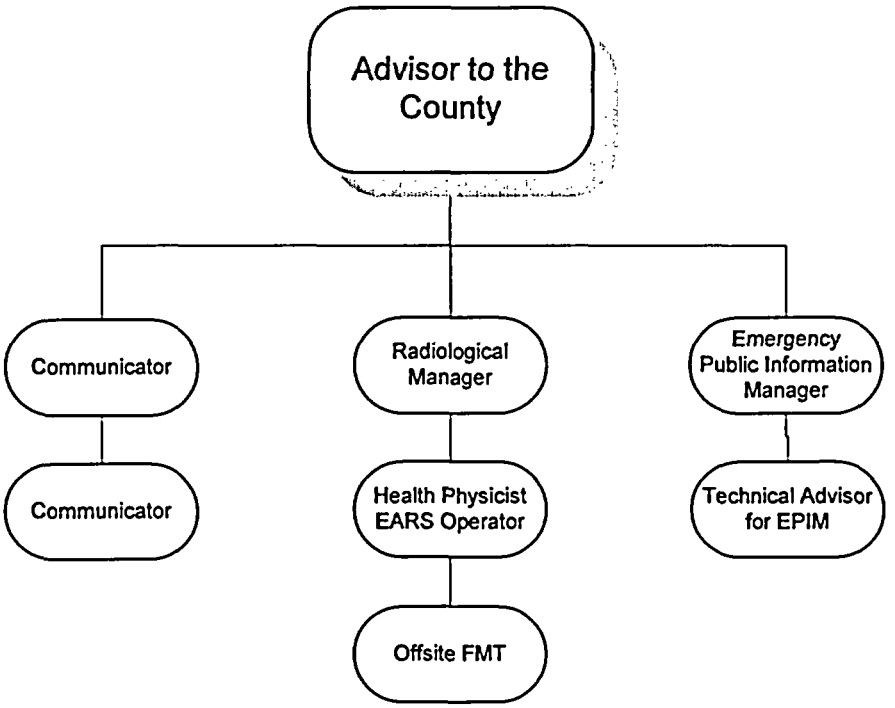
   e) Company Interface

      Company emergency response activities are communicated by the Nuclear Logistics Coordinator located at the EOF.

      The Nuclear Logistics Coordinator is provided with communications via the Company telephone system and data links through the local area network (LAN)/wide area network (WAN).

2) EOF Minimum Staff Emergency Response Organization is shown below in Figure 3.

FIGURE 3



5.8.1 Recovery Manager

After arrival at the Emergency Operations Facility, the Recovery Manager maintains overall command of PG&E emergency response operations during the Alert, Site Area Emergency, and General Emergency classifications. The Recovery Manager reporting from San Francisco area will have up to 2.5 hours to assume responsibility of the EOF. Until the Recovery Manager arrives, the Advisor to the County will act as the interim Recovery Manager. The Recovery Manager provides direction and support for onsite emergency response actions to the Site Emergency Coordinator, and ensures coordination of DCPP emergency actions with those of government, and General Office support through the PG&E Emergency Operations Center (PG&E EOC). The Recovery Manager also approves plant status updates and information for media release.

Recovery Manager responsibilities and authorities are separated into two categories. The first category involves decision making for overall emergency response direction and protective action recommendations that may impact the general public. The second category relates to the administration and management of the utility response organization. Duties in the latter category include:

- Interface between DCPP/PG&E and federal/state/local emergency response agencies.
- Communicate plant status updates and radiological release data to NRC/FEMA, county/state EOC, PG&E EOC, and Joint Media Center (JMC) personnel.

- Provide administrative, technical, and logistical support to station emergency operations.
- Ensure continuity of emergency organization resources.
- Determine when to deactivate the Corporate Emergency Response Organization.

Recovery Manager responsibility and authority for overall response direction and for recommending protective actions to offsite authorities is initially assumed by the Site Emergency Coordinator until the Recovery Manager position is assumed at the EOF by the assigned corporate staff member.

EOF administrative and management functions are assumed initially by the Advisor to the County who has responsibility for the EOF until relieved by the Recovery Manager. The Advisor to the County's primary responsibility is to place the EOF in an operational status capable of early field monitoring team direction and control, Emergency Assessment and Response System (EARS) operation, and plant data analysis.

1) The Recovery Manager is responsible for implementing the following **non-delegable** activities and authorizations:
   a) Provide direction for all emergency response operations performed by Company personnel.
   b) Authorize any recommendations of the Company regarding evacuation, or other emergency measures including PARs, to non company emergency support groups.
   c) Authorize changes in the Emergency Classification and notification of offsite authorities.
   d) Authorize any extraordinary emergency measures, such as the use of company emergency personnel exposure limits.
   e) Authorize the administration of KI to offsite monitoring personnel.

2) The Recovery Manager is responsible for ensuring the performance of the following delegable activities:
   a) Authorize the release of Public Information notices (or designated alternate).
   b) Request assistance as necessary for onsite or offsite radiation monitoring from federal agencies, either through the county/state emergency response organization once established, or directly.
   c) Maintain liaison with offsite emergency support groups providing onsite assistance and of a coordinated recovery action plan for onsite.
   d) Modify or re-organize the Emergency Response Organization based upon the type of accident and specific accident emergency response needs.
   e) De-escalate the emergency classification and/or establish a recovery organization.

5.8.2 Advisor to the County

The function of this position is to activate and provide interim management of the 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 (possibly up to 2.5 hours after ERO activation) and until relieved, act as the EOF Director and 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 and appropriately establishing communications.
   b) Provide administrative and management direction of the EOF staff in carrying out their duties until relieved or the arrival of the 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 access control of the EOF and UDAC portion of the building as well as the JMC with the Sheriff's Watch Commander.

5.8.3 Radiological Manager

This position coordinates direction of offsite radiological assessment activities and development of radiological status information. Basic duties and responsibilities include coordination of:

1) Develop radiological data and status information for evaluation by UDAC personnel and distribution to EOF and EOC personnel.
2) Direct the activities of offsite monitoring teams and Offsite Emergency Laboratory (OEL) 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. Advise the TSC of PARs (RM not in EOF command), or formulate PARs for RM approval.

5.8.4 Health Physicist (EARS Operator) - EOF

This position assists the Radiological Manager in the performance of his duties, including activation and operation of the EARS computer system, automated computer program or manual dose calculations, maintenance of logs and records and preparation of status reports as directed.

5.8.5 Engineering Liaison

This position assists the Advisor to the County in providing plant status information and coordination of local offsite emergency response activities, as directed. Basic duties and responsibilities include:

1) Activation and operation of plant data computer systems for obtaining plant data.

2) Provide an engineering interface with the Recovery Manager and the Technical Advisor to the EOF Public Information Manager.

3) Disseminate plant status updates if automated systems fail.

5.8.6 Emergency Public Information Manager

This position formulates news releases concerning the emergency condition, obtains approval of the releases, and coordinates news releases with county and corporate public information personnel.

5.8.7 Technical Advisor to the Emergency Public Information Manager

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

5.8.8 Emergency Supervising Engineer

This position assists the Radiological Manager in developing and evaluating radiological data.

5.8.9 Radiological Monitoring Director

This position assists the Radiological Manager in communications with monitoring teams, Off-Site Emergency Laboratory (OEL) and other emergency response locations when offsite monitoring activities are required.

5.8.10 Off-Site Field Monitoring Teams

Two person Field Monitoring Teams will be established for offsite site monitoring in the event of a radiological release emergency. They have the following duties:

1) Perform radiation surveys at offsite locations as directed.

2) Obtain appropriate samples for analysis.

3) Maintain communications with the Emergency Operations Facility and Off-Site Emergency Monitoring Laboratory (OEL) for reporting results and maintaining cognizance of the emergency situation.

4) Off-site Emergency Laboratory Operator / Field Monitor - provides isotopic analysis of samples obtained by monitoring teams using the mobile lab or other laboratory facilities. The results of analysis are communicated to the EOF and appropriate records are kept.

5) Coordinate monitoring activities and reporting of results with the county personnel assigned to the monitoring team.

6) Provide recommendations regarding establishing controlled access areas and determining the boundaries of such areas in cooperation with county personnel assigned to the monitoring team.

7) Assist in monitoring personnel and evaluating their exposure as required.

8) Maintain proper logs and records.

9) Keep the Radiological Monitoring Director informed of their actions and findings.

5.8.11 Communicator

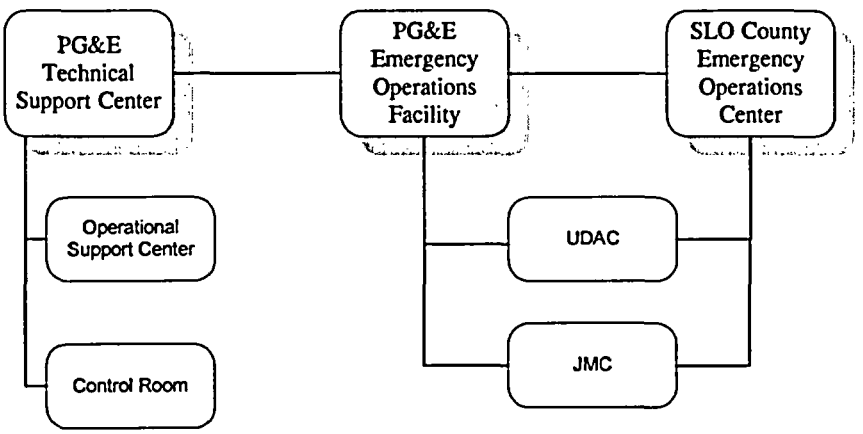
This position assists the Advisor to the County or TSC/CR Communicators performing emergency notifications by facilitating the flow of information between the emergency response facilities and agencies for performing emergency notifications.

5.9 FACILITY FUNCTIONAL RELATIONSHIPS

The representation of the integrated relationships between government response organizations and the licensee is shown in Figure 4 below.

The individual in charge at each center is responsible for center communications, recording important events, decisions, and actions, and assuring resource continuity (technical, administrative, and material).

FIGURE 4



5.10 COMPANY HEADQUARTERS SUPPORT

Company emergency response capabilities are identified in several areas both within and outside the nuclear generation department. Capabilities as diverse as public information, procurement of materials, contract services, construction services and meteorology have been identified. These capabilities, for the most part, are concentrated at the company headquarters. Due to the physical distance between the company headquarters and Diablo Canyon Power Plant, an extensive communications system is used to enable rapid initial corporate response as well as adequate coordination once all emergency response centers are operational and appropriately staffed. To permit the plant staff to devote the majority of its personnel and resources to mitigating and recovering from the emergency condition, the primary company role will be to assist the overall recovery effort, particularly those activities which are conducted offsite.

The company emergency response organization is structured along existing organizational lines so that the emergency organization can function in a manner similar to the normal routine company operation. To the maximum extent possible, the functional responsibilities and management functions have not changed.

To maintain the emergency preparedness of the company emergency response organization, the company emergency plan makes provisions for conducting periodic drills and exercises of simulated emergency conditions.

In an emergency action level of Alert or higher the Recovery Manager will establish headquarters at the EOF and will direct all company emergency response activities. The Recovery Manager will work with the Site Emergency Coordinator, as well as local, state, and federal officials, to develop a comprehensive response for the specific emergency situation. The Recovery Manager will interface with the other key members of the company emergency response organization to arrange for the necessary company resources to support the short-and/or long-term emergency response effort.

5.10.1 Company Emergency Response Organization

The company emergency response organization is comprised of all company personnel outside of the plant operations staff who could provide management, technical, logistical, or liaison support services during a nuclear plant emergency. Due to demands that a particular emergency may place on the company emergency response organization, it has been developed on a functional basis along the lines of normal company duties.

5.10.2 Notification of Company Departments

It is company policy that selected departments be routinely informed of plant activities and/or notified of unusual events. Nuclear generation is routinely informed of overall plant operations and promptly notified of all emergencies.

The chief nuclear officer is the primary Recovery Manager designee. If the Recovery Manager cannot be contacted directly by the plant staff via company or commercial telephone systems, notification will be through the use of a paging system. The company emergency planning organization is also immediately notified of any occurrence that influences the plant's load carrying capability.

Company emergency response activities are directed by the Nuclear Logistics Coordinator located at the EOF.

The Nuclear Logistics Coordinator is provided with communications via the Company telephone system and data links through the local area network (LAN)/wide area network (WAN).

5.11 NON-COMPANY ORGANIZATIONS SUPPORT

Other organizations involved in emergency responses include government agencies, organizations at the Federal, State and Local levels and commercial enterprises. The various non-company groups have written agreements outlining their emergency response commitments. When an exchange of information, response action or concept of operation is governed by a regulation, law or executive order, the commitments are documented by either signature papers within the body of the planning documents or by written agreements. This commitment will outline specific work to be performed or be an agreement to respond to an emergency. These agreements are maintained and verified yearly.

5.11.1 Local Services Support

Additional support from regional and local services has been contracted to further enhance PG&E's capability to handle all types of onsite emergencies. These services include medical, hospital, ambulance and fire fighting support. These services provide immediate 24-hour-a-day, on-call support.

5.11.2 Letters of Agreement

Letters of Agreement for services are maintained and reviewed annually with the organizations listed below.

CDF / San Luis Obispo County Fire Dept.
635 N. Santa Rosa
San Luis Obispo, CA 93405
(805) 543-4244

Cambria Community Healthcare District
2535 Main Street
Cambria, CA 93428-3407
(805) 927-8304

Department of California Highway Patrol
1551 Benicia Rd.
Vallejo, CA 94591
(707) 648-4180

DOE Oak Ridge Operations Office
P.O. Box 2001
Oak Ridge, Tennessee 37831-6269

French Hospital Medical Center
1911 Johnson Avenue
P.O. Box 8127
San Luis Obispo, CA 93403-8127
(805) 543-5353

INPO Nuclear Power Plant Agreement
700 Galleria Parkway, NW
Atlanta, Georgia 30339-5957
(770) 644-8000
(770) 644-8549

Marian Medical Center
1400 East Church Street
P.O. Box 1238
Santa Maria, CA 93456
(805) 739-3533
(805) 739-3067

Rogers Helicopters, Inc. (WBE)
PO Box 4
Clovis, CA 93613
(209) 299-4903
(209) 292-5248

San Luis Ambulance Service, Inc
569 Higuera St # A
San Luis Obispo, CA 93406
(805) 543-2626

United States Coast Guard
Marine Safety Office / Group
Los Angeles – Long Beach
165 N. Pico Avenue
Long Beach, CA 90802-1096
(562) 980-4424

C01

5.11.3 Medical Consultants

A number of physicians are retained on a PG&E medical panel. Panel physicians in the San Luis Obispo area and their specialties are discussed in Section 6.

5.11.4 Hospitals

French Hospital in San Luis Obispo will handle cases of both radiological and non-radiological injuries occurring at Diablo Canyon Power Plant.

The company also has an agreement with Marian Medical Center in Santa Maria to handle injured persons who may be contaminated with radioactive materials.

5.11.5 Ambulance Service

Arrangements have been made with ambulance services in San Luis Obispo County to handle cases of personnel injury at Diablo Canyon, including those involving radioactive contamination.

5.11.6 Fire Fighting Support

The San Luis Obispo County Fire Department will be called to assist in case of fire in the plant, or the California Department of Forestry and Fire Protection (CDF) will be called upon to assist in case of fire in the surrounding grasslands, which cannot be controlled by personnel onsite. Designated members of the County Fire Department are trained in radiation protection practices. DCPP provides trained personnel to monitor potential radiation exposures to offsite fire agency personnel. The SLO County Fire Department is a participating agency in the San Luis Obispo County / Cities "Nuclear Power Plant Emergency Response Plan."

5.11.7 Air Transportation

Various air transportation services are available to the Company under emergency response conditions. Arrangements with commercial enterprises are discussed in Section 7.

5.12 NON-COMPANY INDUSTRIAL SUPPORT ORGANIZATION

5.12.1 Notification

Plant implementing procedures make provisions for early notification and information transfer to these various support organizations. The list of designated persons and emergency phone numbers are used by the plant emergency response staff to make early contact to place these organizations on alert status. This listing would include primary manufacturing suppliers, other regional nuclear utilities, and specialty nuclear utility response organizations.

The principal response organizations in the non-company-industrial organization category include:

1) Westinghouse Electric Corporation, Pittsburgh, Pa.

   The DCPP Nuclear Steam Supply Systems were supplied by Westinghouse. In its capacity as a supplier, Westinghouse can lend emergency assistance to the company on an around-the-clock basis.

"Westinghouse Electric Company Emergency Response Plan"

a) Defines the Westinghouse emergency response organization, role, scope, functions and responsibilities, and how it is activated.

b) Identifies key Westinghouse personnel available in the early phases of an emergency response.

c) Defines the primary Westinghouse interfaces with involved parties.

d) Defines the Westinghouse role in emergency news communications and their interrelationship with the company and news media.

2) Institute of Nuclear Plant Operations (INPO), Atlanta, GA.

INPO operates and maintains an Emergency Response Center with 24-hour day coverage. Through this center, INPO offers:

Assistance in locating sources of emergency personnel and equipment, analysis of the operational aspects of the incident, dissemination of information concerning the incident to other utilities and organization of industry experts who can advise on technical matters. INPO's role is detailed in, "Institute of Nuclear Power Operation INPO's Role in an Emergency."

5.13 COORDINATION WITH PARTICIPATING SAN LUIS OBISPO COUNTY AGENCIES

San Luis Obispo County authorities are assigned the lead role in coordinating offsite emergency activities. The county has prepared a plan specifically applicable to DCPP: "San Luis Obispo County/Cities Nuclear Power Plant Emergency Response Plan."

The San Luis Obispo County/Cities Plan will be activated upon notification by PG&E of an event at the Alert or higher Emergency Classification level, or by an independent remote alarm indication located in the State Warning Center in Sacramento staffed 24 hours a day by the California Office of Emergency Services. Initial PG&E notification will be received by the County Sheriff's Office Watch Commander from the plant Control Room via dedicated phone line, commercial phone, or radio.

Upon notice of a potential accident, PG&E will immediately transmit to the County all of the information required for initial assessment including protective measures recommended at that time. The response taken will be in accordance with the joint County/PG&E Emergency Classification system ensuring there are no misunderstandings of event severity.

The County Emergency Organization has overall responsibility for authorization and coordination of offsite emergency response activities, including:

1) Coordination with State Office of Emergency Services (OES) and other participating State and Local agencies.

2) Determining the appropriate response and implementing appropriate protective actions for the general public.

3) Monitoring offsite locations and controlling access to problem areas. The Company will assist with offsite environmental monitoring as well as provide monitoring for evacuated populations and offsite emergency workers.

4) Arranging for medical treatment, health, and sanitation services for the general public. Procuring and distributing stable iodine thyroid blocking tablets for institutional populations as well as emergency workers. Initial stocks of KI for Emergency Workers are provided by PG&E.

5) Public information releases regarding offsite response and protective measures to be taken. (The Company is responsible for news releases concerning onsite events and protective measures. News releases pertaining to onsite conditions will be coordinated with County public information personnel.)

Since the Sheriff's Office Watch Commander is staffed 24-hours-a-day the Site Emergency Coordinator will make initial notification to the Sheriff's Office. The Sheriff's Office, in turn, will notify selected members of the County Emergency Organization. Since both the County EOC and the PG&E EOF are co-located, communication channels will remain open from plant site to this offsite location during County participation.

Initially, the Site Emergency Coordinator, or, once he arrives at the EOF, the Recovery Manager will:

- Keep the County informed of meteorological conditions, results from pertinent surveys by company personnel, and conditions at the plant. An Advisor to the County, a Company representative, will be assigned to the County Emergency Organization to assist in interpretation of technical information received from DCPP.
- Recommend appropriate protective actions to the County.

The Site Emergency Coordinator and the Recovery Manager will be in communication with the technical personnel from the various Federal and State agencies to formulate a coordinated plan of action.

County facilities are used for centralized public information dissemination. A local Company public information specialist will serve as a spokesperson for the onsite and offsite activities of the Company.

Initial news releases and statements will be coordinated by the County Public Information Manager (PIM) in the EOC and the PG&E Emergency Public Information Manager. The Emergency Public Information Manager (EPIM) will assume responsibility once activated. Contact and briefings with media personnel will be held at the Emergency Response Joint Media Center off Highway 1 (near the EOF). Media briefings may be held at the JMC at the ALERT or higher level classification. Media briefings will also take place at the company headquarters.

The Recovery Manager, through the EPIM and the Technical Advisor to the EPIM, will establish a schedule and format for updates to the PG&E spokesmen, San Luis Obispo County and other agencies at the County EOC. The County will promulgate jointly agreed upon position statements.

Rumor control is under the jurisdiction of the County organization. Centralized and authentic information provides the County information center with consistent, reliable source information.

5.14 COORDINATION WITH PARTICIPATING STATE OF CALIFORNIA AGENCIES

The Governor's Office of Emergency Services (OES) will be notified under the same circumstances as the County. The OES provides assistance as outlined in the State of California "Nuclear Power Plant Emergency Response Plan." The OES and the State Department of Health Services(CA DHS) are the primary state response agencies for nuclear power plant accidents. Summaries of their responsibilities under terms of the State Plan are given below.

5.14.1 Office of Emergency Services (OES)

OES has executive authority for the coordination of state resources and the responsibility of general planning. OES will:

- Alert State agencies, Federal organizations (other than NRC), volunteer organizations and adjacent Counties and States.
- Coordinate State radiological monitoring of areas, personnel, and equipment to support local County authority.
- Assess radiological situations.
- Operate the California State Warning Center (SWC), the State 24-hour communication network.
- Establish liaison with utility representatives.
- Coordinate all requests for Federal assistance.
- Prepare and coordinate public information and media releases with Local, State, and Federal agencies and the Company.
- Coordinate State mutual aid.
- Update and maintain the State of California Nuclear Power Plant Emergency Response Plan.
- Coordinate, review, and approve emergency plans by other State agencies and some local jurisdictions.
- Assist the utility, local and State response agencies in development, conduct and coordination of offsite training programs. Evaluate offsite training programs developed by other agencies.
- Assist in the development, conduct and coordination of offsite drills and periodic exercises. Evaluate and critique the drills and exercises. Recommend improvements in plans, procedures and training programs.

5.14.2 California Department of Health Services (CA DHS)

CA DHS assists OES in maintaining an adequate state of emergency preparedness and provides technical and advisory support. As specified in the State Plan, CA DHS will:

- Assist in monitoring the environment, personnel, and equipment in support of Local authority.
- Establish and direct measures to mitigate radiological impact on public health. Coordinate with Department of Agriculture and local Agricultural Commission to prevent consumption of unacceptably contaminated food and fodder.
- Establish human exposure criteria; assess public impact of radiation levels. Maintain data on population dosimetry.

- Establish maximum contamination levels for controlled areas. Direct and assist Local jurisdictions in defining contaminated areas. Establish measures to limit the spread of contamination.
- Identify laboratories capable of providing radiological support, including assay of ingestion pathway samples.
- Establish levels and guidance for protective action for the ingestion pathway.
- Direct and assist in collection of, and provide for laboratory analysis of, food and fodder samples taken by state and local authority.
- Establish policies and procedures for potential use of prophylactic substances to prevent or reduce the biological effects of radiation.
- Establish radiological safety criteria for recovery and re-occupancy of controlled areas.

5.15 COORDINATION WITH PARTICIPATING FEDERAL GOVERNMENT AGENCIES

Federal emergency response will consist of technical and non-technical components. The NRC and FEMA will jointly coordinate Federal emergency response action. The NRC coordinates technical while FEMA coordinates non-technical aspects of the Federal response. This coordinated Federal response is described in the Federal Radiological Emergency Response Plan (FRERP).

5.15.1 Nuclear Regulatory Commission (NRC)

The NRC maintains readiness to function in a variety of roles. The NRC will alert FEMA to a potential or an actual radiological emergency. The NRC will coordinate and acquire data from multiple sources. They will assure the information is relayed to offsite agencies for appropriate protective measures. The NRC will provide technical assessment, information, onsite radiological conditions and plant status to government officials. They will advise FEMA of any NRC or licensee recommendations for offsite protective actions. They will also coordinate technical aspects of the Federal response with Federal agencies involved in radiation monitoring and protective measures.

The NRC has an Incident Response Supplement, in place for the Region IV staff. Certain identified resources are intended for use in carrying out the NRC licensee oversight role in responding to an accident. They include a staff of health physics specialists, reactor safety specialists, public affairs officer, a radiological analysis mobile laboratory and miscellaneous portable monitoring equipment. The NRC statutory responsibilities are delineated in the Federal Radiological Emergency Response Plan dated May 1996.

5.15.2 Federal Emergency Management Agency (FEMA)

FEMA is assigned lead responsibility for Federal offsite nuclear emergency planning and response. FEMA is responsible for development and promulgation of criteria for implementation of the "Federal Radiological Emergency Response Plan." Specifically, FEMA serves as the primary point of contact for requests of Federal assistance. They provide a lead official to coordinate and ensure the provision of appropriate non-technical assistance (including telecommunications support), and act as the primary point of contact and coordination between the NRC and other Federal agencies for non-technical response.

Additionally, FEMA will coordinate the dissemination of public information concerning Federal non-technical emergency response and offsite support activities. They ensure public information releases are coordinated with State/County authorities and the NRC.

5.15.3 Department of Energy (DOE)

The Federal Emergency Management Agency (FEMA) has prepared a Federal Radiological Emergency Response Plan (FRERP), under which DOE will dispatch radiological assistance teams to aid in monitoring and provide technical guidance. The Region 7 DOE office is utilizing the FRERP formatted plan. Under the plan, these teams are advisory and will not assume control from local authorities. Teams can be dispatched from Oakland, Livermore, Los Angeles, San Diego, and Las Vegas. Normally the State OES will be the primary contact for requesting DOE assistance.

Response resources available from the DOE regional offices include:

- Federal Radiological Monitoring & Assessment Center (FRMAC)
- Radiological Assistance Program Teams (RAP)
- Atmospheric Release Advisory Capability (ARAC)
- Joint Nuclear Accident Coordination Center
- Nuclear Emergency Search Team (NEST)

Although these resources could originate from Lawrence Livermore Laboratory (LLL) near Livermore, California, the DOE aircraft and helicopters providing transportation support would originate from the DOE Las Vegas, Nevada facilities. Transit time for team response, once alerted, would be approximately six hours.

5.15.4 Coast Guard

The U.S. Coast Guard may be requested to assist in emergency actions involving vessels and persons, off-shore and adjacent to the plant. The Coast Guard has one or more vessels based at Morro Bay, approximately eight miles north of the plant. Upon notification, the Coast Guard will notify and attempt to remove persons and vessels from affected coastal waters. They will prevent vessels from entering affected areas and vessels suspected of being radioactively contaminated until they can be surveyed. The Coast Guard maintains " U.S. Coast Guard Procedures to be followed upon Notification of an Emergency at Diablo Canyon Power Plant."

The San Luis Obispo County Emergency Plan provides that the Sheriff will make notifications to the United States Coast Guard (USCG). If the situation at the plant requires immediate protective actions on the part of the general public and the County Emergency Organization has not had time to be activated, the plant will notify the USCG to place them on standby or make recommendations for protective actions as appropriate.

5.15.5 Environmental Protection Agency (EPA)

EPA, through its Nuclear Radiation Assessment Division and its Office of Radiation Programs in Las Vegas, can provide trained health physics personnel, field sampling equipment and laboratory facilities for assessment and monitoring during an emergency. EPA provides radiological monitoring support for DOE in initial stages of an emergency and assumes the lead responsibility in the intermediate to long-term recovery period.

5.16 CROSS REFERENCE TO NUREG-0654

NUREG 0654	DCPP Emergency Plan	NUREG 0654	DCPP Emergency Plan
A.1.a	5.10.1, 5.10.2, 5.10, 5.10.1, 5.12, 5.13, 5.14, 5.15	E.4.a to n	5.13
A.1.b	5.10.1, 5.10.2, 5.10, 5.10.1, 5.12, 5.13, 5.14, 5.15	F.1.a	5.13
A.1.c	5.9	F.1.b	5.13, 5.14
A.1.d	5.4.1, 5.3.2, 5.3.3, 5.6.2, 5.8.1	F.1.c	5.15
A.1.e	5.1, 5.4.1, 5.5	F.1.e	5.12
A.3	5.10.1, 5.14, 5.15, 5.11.2	G.3.a	5.13
A.4	5.4.1, 5.5, 5.10, 5.6.2	G.3.b	5.13
B.1	5.1, 5.6.2, 5.6, 5.7	G.4.a	5.10, 5.13, 5.14.1
B.2	5.4.1, 5.3.2, 5.3.3, 5.6.2, 5.8.1	G.4.b	5.13, 5.14.1
B.3	5.1, 5.4.1	G.4.c	5.13
B.4	5.4.1, 5.3.2, 5.3.3, 5.6.2, 5.8.1, 5.1	H.1	5.6
B.5	5.1, 5.4.1, 5.1.3, 5.6, 5.7, 5.8	H.2	5.8
B.6	5.9, 5.10, 5.11.1, 5.12, 5.13, 5.5, 5.6, 5.7, 5.8, 5.9	I.8	5.5, 5.6, 5.7, 5.8
B.7.a-d	5.10, 5.4.1, 5.13, 5.14, 5.15	K.2	5.6, 5.7, 5.8
B.8	5.10.1, 5.12	L.1	5.11.2, 5.11.4, 5.11.5
B.9	5.10.1, 5.11.2, 5.12, 5.13, 5.14, 5.15	L.4	5.11.2, 5.11.5
C.1.a - c	5.4.1, 5.15	P.3	5.1.1
C.2.b	5.13, 5.8	P.6	5.10, 5.10.1, 5.12, 5.13, 5.14, 5.15
C.4	5.10.1, 5.12, 5.13, 5.14, 5.15	P.7	5.16

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6. EMERGENCY MEASURES

6.1 ACTIVATION OF EMERGENCY RESPONSE ORGANIZATION

The four emergency classification levels require a varying degree and scope of emergency response. The Interim Site Emergency Coordinator will immediately initiate actions to limit the consequences of the event and to return the plant to a safe and stable condition. The emergency organization for a Notification of Unusual Event consists of the normal shift personnel. Normally, no further site emergency staff augmentation is required, although several members of the plant management are notified and may choose to come to the plant, depending on the circumstances. The Shift Manager may activate or partially activate an Emergency Response Facility to limit the consequences of an event prior to meeting the requirements of a declared emergency and to return the plant to a safe and stable condition.

For Alert, Site Area Emergency, or General Emergency, the Technical Support Center (TSC), Operational Support Center (OSC), and Emergency Operations Facility (EOF) will be staffed and activated by the emergency response organization (ERO).

6.1.1 ERO Notification

When a plant emergency has been declared at the Alert, Site Area Emergency, or General Emergency level, the emergency response organization (ERO) will be notified to activate.

The ERO notification process will be initiated within approximately 10 minutes of the emergency declaration.

6.1.2 Emergency Response Facility Activation

The on shift staff will be augmented by the minimum staff ERO within approximately 60 minutes of the initiation of ERO notification.

The emergency response facilities will be activated when the augmentation by the ERO minimum staff is complete.

Following emergency response facility activation, the transition of emergency responsibilities from the normal operating organization to the emergency response organization will progress as described later in this section, with the ERO assuming responsibilities as described in Section 5.

Minimum staff ERO is defined as DCPP management, administrative, and technical support personnel who will augment the on-shift minimum plant staff in emergency situations as specified in Section 5 and NUREG-0654, Table B-1.

Minimum staff position vacancies may be filled by other qualified individuals not already filling a minimum staff position.

The phrase "approximately 60 minutes" reflects a goal and an expectation, rather than a nominal 60-minute limit. ERO augmentation within 70 minutes, will be considered acceptable towards meeting the goal of approximately one hour.

NOTE: The Recovery Manager reporting from San Francisco area may require 2.5 hours to reach the EOF and is exempted from the 60 minute augmentation requirement. Until the Recovery Manager arrives, the Advisor to the County will act as the interim Recovery Manager.

Other members of the plant staff may be requested to respond by a secondary call out once the initial responders identify the personnel resources and expertise required to mitigate the event in progress. The Atomic Safety and Licensing Board ruled in 1982, that DCPP is not required to augment the on-site staff within 30 minutes. The requirement for 30-minute responders was obviated by increased on-shift staffing as well as increasing the number of 60-minute responders.

6.1.3 Transition from Normal to Emergency On-Shift Staff

The normal and emergency onsite operating organizations are discussed in Section 5. The transition from the normal operating organization to the Onsite Emergency Organization involves three basic steps: 1) filling appropriate positions on an interim basis with personnel who are immediately available at the time of the emergency; 2) notifying plant personnel who are offsite, or are onsite but who may not be aware of the emergency, that their assistance is required; and 3) filling positions in the emergency organization with appropriate plant personnel as they arrive at the TSC or OSC.

1) Notification of Shift Manager/Shift Foreman

   The first step in the event of an emergency is to notify the Shift Manager/Shift Foreman. To accomplish this the individual discovering the emergency shall immediately report it to the Control Room and the Shift Foreman/Shift Manager would be informed.

2) Notification of Onsite Personnel by Site Emergency Signal or Fire Signal

   The Shift Manager (Interim Site Emergency Coordinator) shall make an initial evaluation of the situation and, if warranted, shall authorize the sounding of the emergency signal (described in Section 7).

   If the emergency involves a fire, the person who discovers the fire will dial 779, which rings in the Control Room. The SM will sound the fire alarm and make a PA announcement stating the nature and location of the emergency and the response being requested. The fire alarm is a separate and distinct signal.

6.1.4 Initial Deployment of On-Shift Personnel

The initial deployment of on-shift personnel is strongly dependent upon the extent of the emergency and the time it occurs. To illustrate this, a possible sequence of events is considered below for a major radiological release incident that occurs when a minimum crew is available onsite.

1) The person discovering the incident would communicate it to the Control Room and the Shift Manager would be informed.

2) The Shift Manager would classify the emergency and assume the position of Interim Site Emergency Coordinator (ISEC). The Interim Site Emergency Coordinator would have the Control Operator sound the Emergency Signal. The operators would then report to the Control Room unless they were engaged in a critical operation.

3) The Interim Site Emergency Coordinator would instruct the Shift Foreman to supervise the operators in making appropriate plant control manipulations to respond to the event.

4) Licensed Operators would form the operations group and operate plant equipment and controls from the Control Room.

5) The Shift Technical Advisor (STA) would provide assessment of the incident including initial classification and development of a Protective Action Recommendation. If the emergency involves loss of heat sink (core cooling source), or some other occurrence for which reactor core damage is a possibility, the STA is primarily responsible for evaluation of this aspect of the emergency.

6) The Interim SEC would assign personnel to perform emergency notifications to San Luis Obispo County, California State OES and the Nuclear Regulatory Commission, until the TSC has been activated.

7) The Interim SEC would assign personnel to perform emergency response organization personnel call-out, PG&E management notifications and notification of the NRC Resident Inspectors until activation of the TSC.

8) The Nuclear Operators and Health Physics Technicians would be available as required for operating equipment, radiological monitoring, notification, or other tasks as they are identified. The Diablo Canyon Security Watch Commander would ordinarily continue normal duties.

9) As other individuals begin to arrive at the site, they will respond to their assigned emergency facility.

6.1.5 Notification of Offsite Plant Personnel

The Emergency Response Organization (ERO) is grouped in to teams for rotating ERO "on call" duty assignments. On call ERO personnel maintain their availability for callout to ensure that staffing emergency response facilities are available. All ERO personnel (on call and off duty) will be called out for an event at an Alert, or higher emergency classification level. If a minimum staffing position cannot be filled by the person on call, qualified personnel available will be assigned. The "on-call" positions ensure minimum required staffing for emergency response facilities is available. These key positions have been selected to be compatible with the staff augmentation goals recommended by NUREG-0654, Table B-1. The minimum staff requirements are provided in Section 5 per the criteria of NUREG-0654, Table B-1.

Call-out of personnel is accomplished by pagers or telephone. Typical driving time for personnel living in the nearby communities to arrive onsite between 30 to 60 minutes, depending on where they live. On-shift personnel are fully capable of controlling and taking appropriate mitigating actions should those offsite persons called out be delayed.

6.1.6 Response of Onsite Personnel to Emergency Warning Signals

Several warning systems are available to warn onsite personnel of an actual or potential emergency. Section 7 of the Plan describes the physical nature of these warning systems, and this section describes onsite personnel response.

6.1.6.1 Site Emergency Signal

1) The emergency signal consists of electronic warblers and beacon lights manually initiated from the control consoles or the hot shutdown panels. In an emergency, the signal will be sounded continuously for at least one minute. The signal is tested each Friday. Except in cases of a severe emergency when the Shift Manager is not readily available, sounding of the site emergency signal requires Shift Manager approval.

2) All personnel and visitors upon receiving initial site access training are issued a wallet type card which provides site emergency signal response information. Upon receipt of the emergency signal, onsite personnel are trained to immediately report to predestinated assembly areas unless otherwise directed by the site PA system.

3) Personnel are instructed to remain at the assembly area unless directed to leave by the Site Emergency Coordinator. If an assembly area is untenable, the person in charge in the area may direct personnel to leave, but will inform the Site Emergency Coordinator as soon as practicable.

6.1.6.2 Containment Evacuation Signal

The containment evacuation signal utilizes the emergency signal warbler and warning lights within the containment. When this signal is initiated, personnel in the containment are instructed to immediately leave the containment and report to access control.

6.1.6.3 Fire Signal

In the event the fire alarm is sounded, the Fire Fighters are dispatched as required. Other personnel are instructed to remain at their work locations and await further instructions. The fire signal is tested each Friday.

6.1.6.4 Criticality Monitor

The criticality alarms in the fuel handling areas and nearby hot machine shop are horns automatically initiated on high radiation level, as measured by the area monitors in the fuel handling building. Upon receipt of this signal, personnel in the area are instructed to immediately leave and report to Access Control.

6.1.7 Activation of Corporate Emergency Organization

The Corporate Emergency Organization is discussed in Section 5.

The Corporate Emergency Organization can be activated by the Site Emergency Coordinator by notifying the designated on-call Recovery Manager. If for any reason this individual cannot be reached, the Corporate Plan can be activated by calling the Corporate Security or Corporate Emergency Planning Department in San Francisco. These positions are available on a 24-hour basis.

The Nuclear Power Generation Business Unit is promptly notified of any occurrence that would be reported under the provisions of the Emergency Plan. The extent to which corporate resources are activated is based on staged mobilization depending on the nature of the occurrence.

6.1.8 Activation of County Emergency Organization

Activation of appropriate portions of the County emergency organization is accomplished by telephone or radio communication from the plant Control Room to the Watch Commander at the County Sheriff's Office Dispatch Center. Provisions are included for message authentication.

The San Luis Obispo County emergency organization will activate at the Alert, Site Area Emergency, and General Emergency classifications. The county emergency plan provides for activating the Emergency Operations Center (EOC) and non-utility portion of the EOF under these classifications. The county emergency plan details activation procedures for county emergency response operations. When the EOC is activated for an emergency classification, plant staff personnel will be available at the County EOC to advise the county on plant equipment and plant radiological status.

Initial and follow-up emergency messages for each emergency classification are delivered by the power plant to the Sheriff's Office watch commander until relieved by the Advisor to the County who relays the messages to County Command in the EOC. To ensure that all necessary information is clearly transmitted, a standard form is used. This form provides for such entries as the classification of the emergency, if a radioactive release is taking place, potentially affected population and areas, and what protective measures may be necessary. Follow-up messages provided to offsite authorities provide a comprehensive description of the incident with a characterization of the radioactivity release and appropriate recommended protective measures.

6.2 ASSESSMENT ACTIONS

In Section 4, a brief description of the basic assessment process is discussed for each of the postulated emergencies that were described. This section contains a more detailed discussion of the four most important assessment functions; namely, the proper functioning of emergency cooling systems for emergencies involving possible degradation of the core heat sink, the assessment of core condition in such a circumstance, the estimation of the magnitude of a release, and the determination of the environmental consequences of a release.

6.2.1 Verifying Proper Operation of the Emergency Core Cooling System (ECCS)

The design basis of the ECCS is to prevent a radioactive release by protecting the three major fission product barriers: the fuel cladding, the reactor coolant system piping, and the containment structure. A breach of all three barriers is necessary before radioactive contamination is released to the atmosphere that might pose a hazard to the health and safety of the public. If a Loss of Coolant Accident (LOCA) or Steam Generator Tube Rupture (SGTR) occurs, the reactor protection system will automatically trip the reactor and initiate the ECCS.

In the event of a reactor accident, the Shift Foreman, with the assistance of the operating crew, will ensure the reactor is tripped and will enter the Emergency Operating Procedures (EOPs). The EOPs:

- Verify the reactor is shutdown.
- Verify the operation of the ECCS equipment.
- Diagnose the accident.
- Provide corrective actions to mitigate or alleviate the problem.

If the expected action is not obtained or the equipment does not function properly, the EOPs direct alternate, remedial responses. Criteria for upgrading to a general emergency during a LOCA event are found in the Emergency Action Level Classifications.

6.2.2 Assessing Challenges to Fission Product Barriers

During the implementation of the EOPs, the Shift Technical Advisor (STA) is responsible for monitoring the reactor's critical safety functions to ensure that the remaining fission product barriers are not breached. These functions are:

- Subcriticality - Verifying the reactor is shut down - prevent clad failure
- Core Cooling - Ensuring the reactor core is being cooled - prevent clad or RCS failure
- Heat Sink - Ensuring the heat in the reactor is being dissipated - prevent clad or RCS failure or Containment failure
- RCS Integrity - Monitoring the reactor temperature to prevent thermal shock - prevent RCS failure
- Containment - Monitoring containment parameters to ensure containment integrity - prevent Containment failure
- RCS Water Inventory - Monitoring RCS water levels - prevent clad or RCS failure

Upon completion of the initial accident diagnosis, the STA will notify the Shift Foreman of the critical safety function status. If a safety function is threatened, an alternate EOP functional restoration procedure will be utilized to mitigate the problem.

6.2.3 Assessing Core Damage

Preliminary core damage assessment uses parameters such as reactor vessel water level and core temperatures to confirm that conditions do not exist which can lead to core damage. This is quantified through the use of containment hydrogen and area radiation monitor readings.

Long-term core damage assessment methodology uses reactor coolant and containment air sample analysis to determine the extent of core damage more accurately.

6.2.4 Assessing Release Magnitude

During the initial stage of an offsite release, the Emergency Evaluation Coordinator will make a preliminary dose assessment of any offsite release to determine the accident classification per Emergency Plan Implementing Procedures. After UDAC is activated, they will take over these responsibilities and perform more detailed calculations. These calculations use various radiation monitors, ventilation flow rates, wind speed, direction and stability classification, and the plant parameters to project an estimate of the magnitude, direction and size of the radioactive plume. The results of these calculations will be included in Protective Action Recommendations (PARs) to county personnel.

6.3 Overview of the Assessment and Monitoring Program

The following is a general discussion of the monitoring program. If sufficient personnel are immediately available, or as they become available, several monitoring teams can be formed and several of the steps should be performed simultaneously.

6.3.1 Assessment of Environmental Consequences of Airborne Releases

In the first few hours following a release of airborne radioactive materials to the environment, a monitoring program will be established to assess the extent of the release and to provide guidance for appropriate protective measures. The general program and measurement techniques for environmental monitoring following a suspected airborne release are discussed in this section.

The principal early concerns are thyroid exposure due to inhalation of radioactive iodines and/or whole body exposure from immersion in a cloud of radioactive noble gases. Criteria for taking protective actions such as sheltering and evacuation are expressed in terms of these two variables, and early offsite government agency efforts will be directed toward their assessment. Following this, efforts by offsite authorities will normally be directed toward the evaluation of possible long-term exposures from ground deposition and various food-chain pathways.

6.3.2 Offsite Dose Calculation

The scope of offsite dose calculation is to establish methodologies for performing early phase dose assessments used for evaluating the need to evacuate, shelter, or implement other appropriate protective actions for individuals located within the DCPP Basic Emergency Planning Zones (EPZ).

In the event of an accident at the Diablo Canyon Power Plant (DCPP) involving an actual or a potential release of radioactive materials, projected offsite doses to members of the public will be determined primarily using either the Plant Process Computer (PPC) program in the Control Room, or the Emergency Assessment and Response System (EARS) once UDAC is staffed. As a back-up method, in the event EARS is not operational, a PC-based dose calculation program is available which employs a manual dose calculation methodology. The manual calculations can also be performed without a PC using dose calculation implementing procedures. The EARS and manual dose calculations methodologies are both based on the current stochastic and deterministic risk models, developed originally by the International Commission on Radiation Protection (ICRP) in publication numbers 26, 30, and 60.

The ICRP risks models have been adopted by the Environmental Protection Agency (EPA) Regulatory Guide 400-R-92-001, "EPA Manual of Protective Action Guides and Protective Actions for Nuclear Incidents," which serves as the source document for implementing Protective Action Guides (PAG) to protect the members of the public and emergency workers in the event of a radiological accident at DCPP.

The implementing procedures used for performing manual dose calculations are EP R-2, written for use by Control Room Operators, or EP RB-9 and 11, written for use by the UDAC dose assessment staff.

All manual dose calculation implementing procedures share the same basic methodologies. The differences are:

1) EP R-2 uses a more simplified set of assumptions to allow plant operators to perform manual dose calculations quickly with less chance of error, thus allowing operators to focus their efforts on returning the plant to a safe and stable condition. The R-2 calculation can also be done by invoking an installed program on the PPC, which automatically retrieves the necessary radiation monitor, meteorology, and flow rate information to perform the calculation.

2) EP RB-9 and 11 are intended to provide users greater accuracy for projecting dose, and this methodology is employed by the PC-based program installed as a backup to EARS.

6.3.3 Estimate the Magnitude of the Release and/or Release Rate

In most cases, a release to the environment will be monitored by permanently installed, real time monitoring instruments at the effluent release points and at various locations in the environment. These instruments will be promptly checked to estimate the release rate and/or magnitude of the release. In addition, these monitor readings will be correlated with analysis data of the source terms of these releases. In those cases where the unavailability of monitoring instruments does not make the above possible, (due to monitors being off-scale or inoperable) onsite monitoring team data will be used to make the most accurate initial estimate of the magnitude of the release.

6.3.4 Determine If Onsite Personnel Assembly Areas are Affected

In the event of a major release, protection of onsite personnel is a high priority consideration. Onsite monitoring is conducted to assure personnel safety in the assembly areas by performing dose rate and air sample surveys. Results of these surveys are transmitted to the Radiological Advisor who may recommend evacuation or other protective measures as warranted.

1) Determine whether the external dose rate has reached an action level for evacuation.

2) Determine whether iodine sampling is necessary.

   The determination of airborne radioiodine concentration takes several minutes, due to the time required to obtain an air sample. In the early stages of assessment, it may not be desirable to collect air samples if it has been determined radioiodine is not a problem. Since noble gases will always accompany iodine in a release, and in general will be released in substantially greater quantities, it is possible to set an upper limit on the possible airborne iodine based upon a measurement of the external dose rate.

   In general, air samples are immediately collected if the general γ dose rate exceeds 3 mR/hr, and can be deferred for dose rates below this. This criterion is based upon predicted noble gas/iodine release rates for major accidents. Air samplers used to detect and measure radioiodine concentrations in the DCPP vicinity have a measuring range between 1E-10 and 1E-6 μCi/cc.

6.3.5 Perform General Monitoring Onsite

Once it has been determined personnel in onsite assembly areas are not endangered, the monitoring program should be directed toward a general assessment of radiological conditions onsite by making appropriate downwind surveys.

Because the location of a plume is often difficult to determine, it is necessary for monitoring teams to "fan out" circumferentially from the measured downwind direction. However, onsite terrain makes it difficult to reach all areas. The preferred monitoring locations would be along the circumference of a circle of approximately 0.5 mile radius from the reactor.

Where it is not possible to reach downwind monitoring locations at the 0.5 mile distance, it will be necessary to move in either closer to the reactor, or farther away. If a ground level release is the most likely, then moving in closer is preferred. If the release is elevated, then moving farther away is preferred.

To reduce confusion during the early stages of onsite data collection, predetermined monitoring locations near the 0.5 mile site boundary have been marked by white with red top poles. These are suggested locations for obtaining initial measurements.

The data gathered from onsite monitoring will be forwarded by satellite telephone to the Control Room or the TSC where that data can be evaluated by responsible assessment personnel. These personnel will then recommend protective actions, as appropriate, to the Site Emergency Coordinator. The Site Emergency Coordinator will make the decision to notify appropriate company or county personnel regarding release status and make appropriate action recommendations.

6.3.6 Establish Offsite Monitoring

If any of the assessment actions verify that a significant release has occurred, Field Monitoring Teams will be immediately dispatched to perform offsite monitoring. The teams will perform external dose measurements, obtain air samples, and can perform ground and vegetation surveys if required. This monitoring will continue throughout the duration of the accident so that the need for protection measures can be quickly assessed.

6.3.6.1 Identification of Monitoring Locations

Because it is extremely important to clearly and unambiguously identify locations where environmental measurements are made, a systematic approach has been developed to identify monitoring locations that are used throughout the Emergency Plan, showing the site and surrounding areas, respectively.

1) Emergency Monitoring Locations

   Suggested emergency monitoring locations have been established for each sector. These are easily identified locations in the environment to which teams should travel to obtain their initial samples and are chosen to produce data from representative environmental locations. By identifying these locations ahead of time, there is assurance that teams will obtain the maximum information during the early stages with minimum logistical difficulty. Although the Radiological Manager and/or the monitoring team may choose to sample at alternative locations, it must be emphasized that any such "nonstandard" locations must be carefully identified.

   Where fixed instruments are located in the environment, the "emergency monitoring location" usually coincides with the location of the fixed instrument.

2) Real time monitoring and environmental sampling locations

   There is an extensive network of real time monitors, TLDs, and air samplers surrounding the plant. The real time monitors will be automatically interrogated throughout the course of the accident and the environmental assessment. In some circumstances, it may be desirable to have the TLDs from the TLD stations collected and have the data analyzed. Monitoring teams are directed, however, to not collect these TLDs if the EOF Radiological Manager determines that it is necessary to measure the integrated dose over the duration of the emergency where continued releases are a possibility.

3) Dairies

   Because the milk pathway is often the limiting pathway, when actual release has occurred, if a milk dairy is in the area, milk samples will be analyzed as part of a long-term program.

6.3.6.2 Environmental Measurements

The field monitoring teams have a standard series of samples and measurements that they are prepared to make. These samples and the major uses to which the various data can be put are discussed below.

1) External dose rate and/or count rate three (3) feet above ground.

   Can be used to obtain whole body dose rate from plume and/or ground deposition. Can also be used to determine airborne levels in the plume if the plume is still present.

2) Ground Surveys

   Measurements made above ground can provide ground deposition data which can be used to estimate food chain dose.

3) Air Sample

   Will provide airborne radioiodine and particulate data if the plume is present. May be used for estimating internal exposure using dose conversion factors.

4) Vegetation Samples

   Provide information on vegetation contamination for evaluating food chain doses for ingestion pathway monitoring.

5) Soil Samples

   Provide information on ground contamination which is used to estimate food chain doses for ingestion pathway monitoring.

6) Liquid Samples

   Can be used to estimate ingestion doses for long-term program.

7) Smear Surveys

   Indicate need for decontamination measures. Smear samples may also be analyzed by a lab to determine isotopic content of ground deposition.

6.3.6.3 Assessment of Offsite Field Monitoring Data

Environmental monitoring data serves as part of the basis for determining what protective actions are required to protect the public. The group in the Unified Dose Assessment Center (UDAC) has the function to assess this data and recommend protective actions to the county emergency response director. This group is composed of utility, county, state, and federal personnel. Details on the mechanisms by which this group functions are as follows:

1) Field monitoring teams will meet at a predetermined location to obtain emergency sampling kits, radios, etc., and will be dispatched to standard monitoring sites in affected areas. Samples will be collected and analysis made as discussed earlier in this section.

2) The locally obtained survey data will be communicated by satellite telephone to the Control Room (CR) or TSC initially or, once established, to the Unified Dose Assessment Center (UDAC) at the EOF using the County Brown radio network as the primary communications mode with satellite telephones available as a secondary backup. Results from samples requiring more detailed laboratory analysis will be forwarded to UDAC from the various laboratories using telecommunication links.

3) UDAC personnel will interpret this data and, based on this assessment, make recommendations to the decision-making body. The primary method for handling this data will be through operator use of the Emergency Assessment and Response System (EARS) with backup methods as necessary to provide reliability.

6.3.7 Backup Offsite Dose Assessment Calculation Methods

Backup methods for assessing radiological doses due to an airborne release provide redundancy to the automated real-time system normally employed. The backup methods (manual calculation procedure, PC-based dose calculation program), utilize simpler models that have been standardized and accepted in the industry for assessing such offsite releases and form the basis for the more time-responsive automated system.

6.4 PROTECTIVE ACTIONS

6.4.1 Alerting of Onsite Personnel

Onsite personnel are alerted that an emergency condition exists by the sounding of the site emergency signal. Through the plant security system, visitors either have been briefed on the meaning of the plant emergency signals or are escorted by individuals knowledgeable on actions to be taken upon activation of the signals. This applies to visitors and contractors outside and within the plant Protected Area. This signal provides an immediate alert for all onsite personnel.

Supplementary alerting mechanisms for limited areas include the fire alarm, criticality monitor, and containment evacuation signals. A physical description of these alarm signals is included in Section 7 of this Plan.

Onsite tests have been performed to verify the response time for onsite personnel when the site emergency signal is sounded. These tests, conducted with considerable numbers of construction workers onsite, have shown assembly and accountability of employees can be expected in approximately 30 minutes. Even with peak construction forces onsite (> 5000 total people), total site accountability required no more than 60 minutes. Agricultural workers on the bench land will be alerted by Security personnel per procedure.

6.4.2 Onsite Personnel Accountability

Several methods for personnel accountability are employed at the plant. Each of these is discussed below.

1) Plant Personnel

The accountability procedures for plant personnel are intended to provide rapid assessment of who is onsite at any given time and where they are located. Several means are employed for personnel accountability, including control of identification badges, supervisory control, and written accountability logs.

As a prelude to the following discussion, it should be noted that plant personnel are provided with automobile passes enabling them to pass the Avila Gate entrance to the site on a 24-hour basis.

a) Control of Identification Badges

Each person requiring long term site access for their employment is issued a Protected Area identification badge for personal identification. The Protected Area identification badge is required for unescorted access into the Protected Area. Personnel visiting the site are provided visitor identification badges that are activated for the visiting period. Visitor badges provide an easily identifiable visual indication when expired. All personnel with authorized site access can be uniquely identified as a visitor or individually using their Protected Area identification badge. Personnel issued Protected Area identification badges are required to maintain control over their badges.

b) Supervisory accountability

In general, it is the responsibility of supervisors to know which of their personnel are onsite and their work location. Personnel report to their designated work headquarters and inform their supervisors of their presence. The supervisors are then responsible for knowing the general whereabouts of their personnel during the remainder of the work period.

c) Computerized Security System

A computerized record is maintained of personnel who enter or leave the Radiological Controls Area, the Power Block, and the Protected Area. The computerized security system can be used to determine personnel accountability inside these areas.

Personnel entering the Radiological Control Area must obtain written authorization in the form of a Routine Work Permit (RWP) or a Special Work Permit (SWP).

A log of all visitors to the Protected Area is maintained by the security staff.

d) Emergency assembly and accountability process

(1) Assembly - At the sounding of the site emergency signal, all non-essential site personnel are to report to their normal work locations and await further instructions. All personnel essential for emergency response and safe operation of the plant (ERO member, Plant Operations, Security, or Medical) will assemble at designated assembly areas or Emergency Response Facilities.

(2) Accountability - At the sounding of the site emergency signal all individuals remaining within the Power Block are accounted for and the names of missing individuals are determined within 30 minutes. Once established, accountability is maintained throughout the course of the event. Should un-accounted for personnel be determined missing, search and rescue operations are initiated. Accountability is coordinated by the Diablo Canyon Watch Commander and results forwarded to the Site Emergency Coordinator.

2) Visitors

The following assembly procedures are employed for visitors at DCPP. A visitor, as used in this section, refers to anyone who is not a member of the plant staff or is not employed with their normal work location at the site. This includes persons from outside the company as well as company personnel who are not assigned to the plant.

a) Assembly Process

(1) Prior to being allowed escorted entry into the Protected Area, visitors are required to sign the Visitor Log at the security building when they arrive.

(2) In general, visitors will have business with one or more plant personnel and their accountability while in the Protected Area will be the responsibility of their escort personnel. During plant start-up, refueling outages, or other special conditions, certain visitors may work for extended periods in the plant. In some cases, visitors may require unescorted access privileges while in the plant. Where these personnel are assigned to established work areas, instructed and badged as plant personnel, they may be treated as members of the plant staff for purposes of personnel accountability.

(3) Each visitor is escorted when in a Radiological Controls Area unless instructed in the basic fundamentals of the company's radiation protection program, including: identification of emergency and evacuation signals and action to be taken if they are sounded, identification of possible radiation hazards locations, and use of applicable protection and monitoring devices.

Visitors are assigned to an assembly area. Accountability is accomplished by checking the names of each person against the visitors log.

6.4.3 Evacuation of Onsite Nonessential Personnel

Evacuation of onsite nonessential personnel is one important protective action considered in emergency situations. Nonessential personnel include visitors and contractor personnel, and any other onsite individuals not having emergency response assignments.

1) Evacuation Criteria

The decision to evacuate nonessential personnel shall be made by the Site Emergency Coordinator.

Generally, nonessential personnel would be evacuated in the event of a SITE AREA or GENERAL EMERGENCY; however, in certain situations it may be desirable to evacuate these individuals at the ALERT level.

The Site Emergency Coordinator's decision to evacuate nonessential personnel will be based on the desire to protect the health and safety of these individuals within the constraints of the situation. It is desired to keep nonessential personnel exposures as low as reasonably achievable, and to the extent possible, lower than annual federally established limits for members of the public.

Anytime evacuation is considered it must be weighed against the consequences of not evacuating. In certain cases evacuation may result in higher evacuee exposures than if individuals remain in a shielded or otherwise protected area. In these cases evacuation would be inappropriate.

2) Evacuation Route Considerations

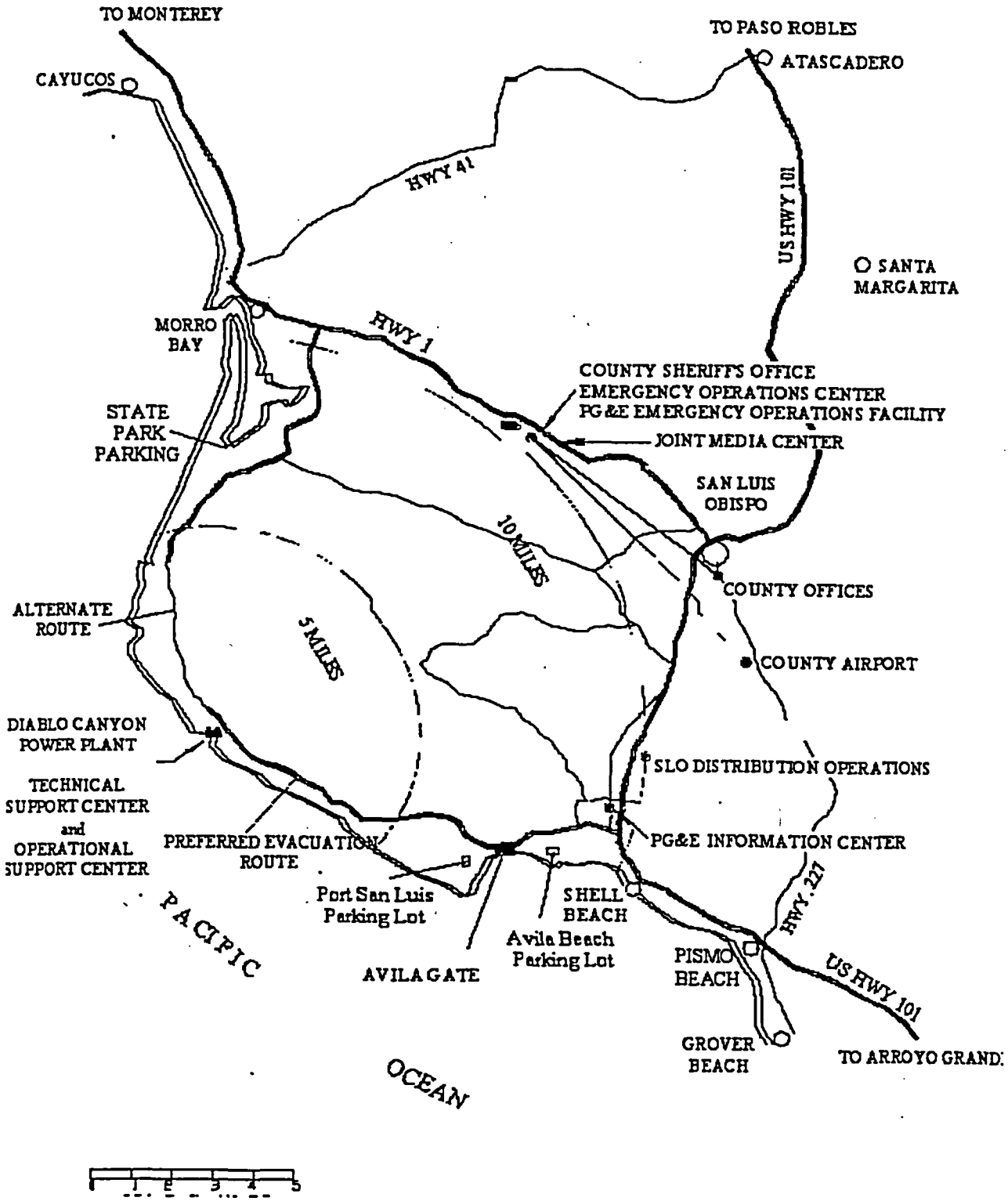
Two routes are available for evacuation from the site. The preferred route is south along the access road to Avila Gate. If conditions prevent the use of the southern route, the evacuation can take a northern route through Montana de Oro State Park. The southern route is preferred because the road is better. The northerly route would only be used in the event of northern wind with a large-scale radiological release or if the southern route is impassable or unsafe.

Alternate offsite assembly areas are available for each route. For the southern route, evacuees can meet at the PG&E Information Center, the frontage road along U.S. 101 north of the Information Center, the Port San Luis Parking Lot, or the parking lot at Avila Beach. For the northern route, evacuees can meet at the Ranger Station in the State Park. Preferred locations would be determined by selecting a direction away from the wind direction of movement. If it is a precautionary evacuation, locations nearer the site would be suitable, otherwise the more distant locations would be preferred.

The decision on which route and rendezvous point to be used shall be made by the Site Emergency Coordinator.

Evacuation routes are illustrated below.

Evacuation Routes for Onsite Personnel



3) Evacuation Procedure

Following the alerting and accounting of onsite personnel, if evacuation is required, the following general steps would occur:

a) The Site Emergency Coordinator will authorize the evacuation and determine which route and assembly areas shall be used. This information will be transmitted to the Evacuation Coordinator, appointed by the Site Emergency Coordinator.

b) The Liaison Advisor will notify the Sheriff's Department or the Advisor to the County (coordinates with county Command) of the evacuation, specifying the evacuation route, the assembly areas, the approximate number of cars and individuals being evacuated, pertinent radiological information, and any other information useful in the evacuation.

c) The Evacuation Coordinator is responsible for conducting the evacuation in a safe and orderly fashion. This includes clearing the evacuation route (owner controlled area), personnel accountability of evacuees offsite, assuring transportation traffic control measures, and appointing at least one Radiological Monitor and an Evacuation Leader for each major assembly area.

d) The Evacuation Coordinator is responsible for delivery of the evacuation kits from the Learning Center Building to the offsite assembly area. Additional supplies are available in the field monitoring team (FMT) kit storage areas.

e) A Radiological Monitor will leave with each group of evacuees, to monitor doses as the evacuation proceeds.

f) At the offsite assembly area the Radiological Monitor will be responsible for evacuee dosimetry and contamination control. Typical duties would include the establishment of contamination control areas; surveys of personnel, autos, and other items; decontamination as required; collection and reading of pocket dosimeters; collection of personnel dosimetry devices; and necessary record keeping. Surveys, decontamination techniques, release levels, etc., shall be in accordance with applicable radiation control procedures contained in the plant manual.

g) If evacuated non-essential personnel arriving at the assembly areas are contaminated, actions will be taken to decontaminate the evacuees and to prevent the spread of contamination. Equipment and supplies, along with generalized instructions, necessary to perform these actions are contained in the two decontamination showers located at the PG&E Information Center. The showers are stocked with soap, shampoo, towels, clothing, and other decontamination supplies.

h) The evacuation team leader is responsible for personnel accountability, communication with the Evacuation Coordinator and all other activities at the offsite assembly area.

6.4.4 Use of Onsite Protective Equipment and Supplies

Certain protective measures may be utilized to reduce the exposure to emergency workers.

6.4.4.1 Respiratory Protective Equipment

The quantities and types of respiratory protective equipment available for an emergency are discussed in Section 7. Respirators for routine plant use are also available for emergency use.

Before an emergency worker may use a respirator, prerequisite requirements for respirator training, fitting and medical surveillance must be satisfied. If all respirator program requirements are not satisfied, no credit should be taken for the respirator when estimating exposure reduction prior to exposure (i.e., respirator Protection Factor = 1).

It is the responsibility of the Radiological Advisor or Radiological Manager to determine when respiratory protective equipment use is appropriate, and to select the correct equipment for the expected radiological conditions. The use of respirators should consider maintaining TEDE ALARA for the individual worker; respirators should not be used exclusively for reducing radioiodine or lens of the eye exposure.

6.4.4.2 Protective Clothing

Protective clothing is maintained onsite for routine use and is available in sufficient quantities for use during emergencies.

Protective clothing provides minor protection against penetrating external radiation sources, but is intended to keep contamination off the clothes and skin of individuals and to control the spread of contamination. Protective clothing should be worn when entering known or potentially contaminated areas and should be removed upon exiting.

6.4.4.3 Thyroid Blocking Agent

Stable potassium iodine (KI) tablets are stockpiled and maintained at various on and offsite locations for distribution to emergency workers for emergencies involving significant releases of radioiodine. KI protects an individual's thyroid from airborne radioiodines by blocking the thyroid with stable iodine prior to or during exposure. Since it is an FDA approved drug, the Site Emergency Coordinator or the Recovery Manager, with advice from the Radiological Advisor or the Radiological Manager, shall determine when the issue for use of KI would be appropriate.

6.4.4.4 Emergency Dosimetry

An ample supply of dosimetry, both self-reading and various types of thermoluminescent dosimeters (TLDs) are available at the Radiologically Controlled Area (RCA) access control point, ready for immediate issue to emergency workers.

Supplemental emergency dosimetry is stored in kits at various on and offsite locations. The purpose of the kits is for issuing dosimetry quickly to emergency workers that:

- are not RCA qualified, or
- need high range self-reading dosimetry, or
- cannot easily gain access to normal dosimetry storage areas.

Equipment for reading TLDs is available onsite. During an emergency, individuals that routinely operate the TLD reader will either be onsite or are available to be called in to provide the capability of reading TLDs within a few hours.

6.4.5 Onsite Contamination Control Measures

Diablo Canyon's contamination control program consists of radiation control standards that specify measures to minimize the potential for personnel contamination and the spread of contamination. These standards specify criteria for surveys, the establishment of contamination control areas and acceptable surface contamination levels. In the event of an emergency, these same criteria would be used to determine which additional areas of the site would require access control measures. Likewise, these criteria would be used to determine when area and equipment could be returned to normal use.

To assure onsite personnel do not receive excessive exposure from the ingestion pathways, drinking water and food supplies that have been within the boundary of a RCA, should not be consumed.

Equipment and supplies necessary to establish contamination control areas, and for the decontamination of equipment, areas, or personnel are routinely stored in the Auxiliary Building. Additional supplies are stored at the Learning Services Building and various off-site locations. Decontamination supplies are at the PG&E Information Center.

6.4.6 Alerting Offsite Personnel

Offsite emergency support personnel are alerted by telephone or radio of emergency events and situations as discussed in Section 6.1.

1) Alerting the general public is the responsibility of local governmental authorities. Specifically, it is the responsibility of the SLO County Emergency Organization which is headed by the County Administrator in the role of County Emergency Services Director under the advisory direction of the County Board of Supervisors.

2) The lead agency for implementing the public alerting process is the SLO County Sheriff's office.

3) The Early Warning System is supplemented by special provisions for certain segments of the public as described in the SLO County Emergency Plan. Provisions are included in the plan for the Sheriff's office to promptly warn all persons in the Basic Emergency Planning Zone upon the determination general protective actions are necessary. For events of lesser significance, the timing, extent, and method of an emergency public warning (prior to the issuance of a normal media release) would be at the discretion of the County Emergency Organization.

6.4.7 Protective Actions for the General Public

The responsibility and authority for ordering protective actions for members of the public rests with the state and local emergency organizations. Maps used for describing the population distribution around the nuclear facility by evacuation zone is illustrated in the figures below.

Protective Action Zone and Public Education Zone

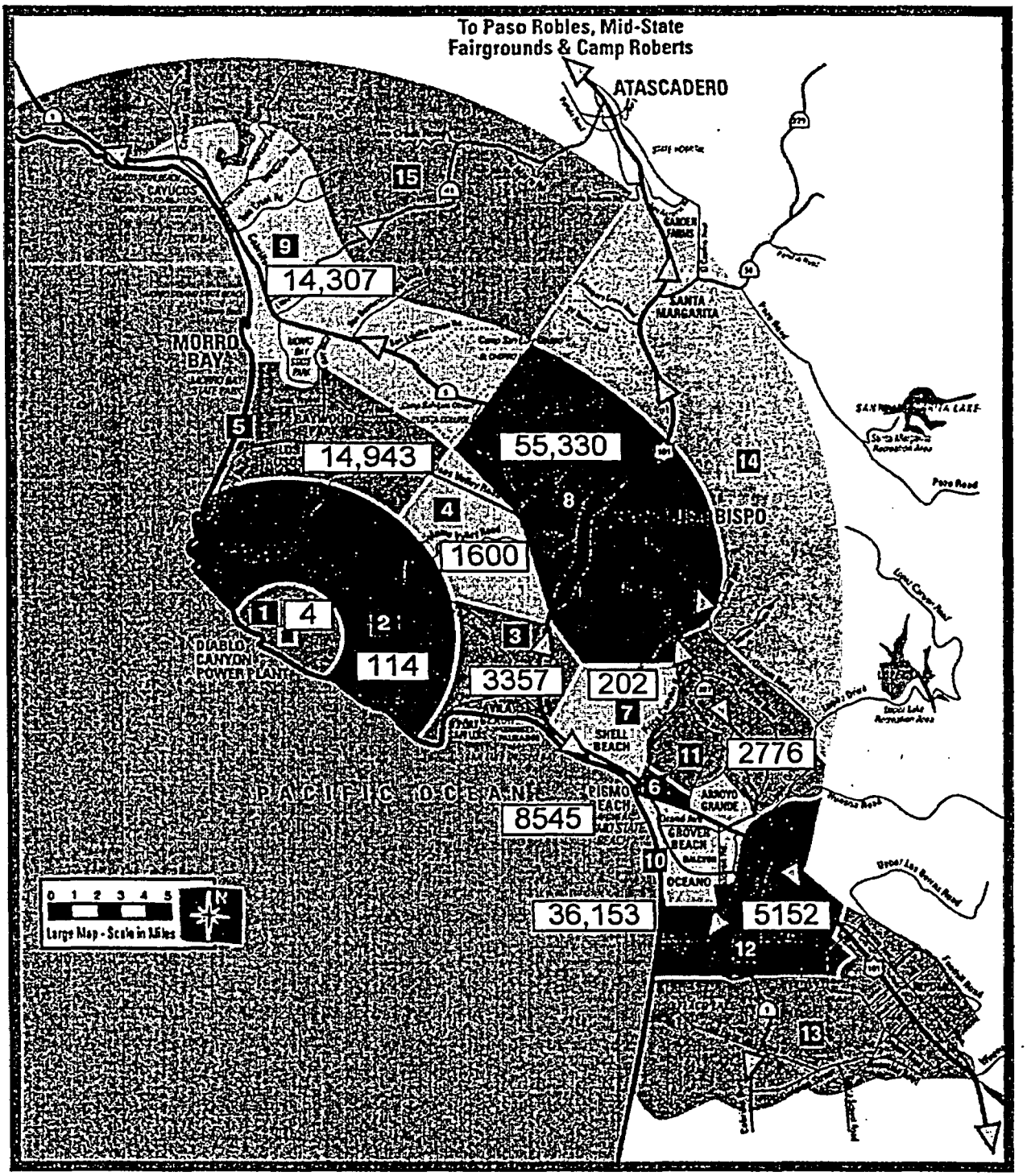
Protective Action Zones (PAZs)

1. 2 - mile
2. 6 - mile
3. Avila/San Luis Bay/See Canyon/Squire Canyon
4. Prefumo Canyon/Los Osos Valley
5. Baywood/Los Osos
6. City of Pismo Beach
7. Indian Knob/Price Canyon
8. San Luis Obispo Area
9. Morro Bay/Cayucos
10. Five Cities, Southern Portion
11. Orcutt Road, Lopez Drive, Route 227
12. Nipomo North of Willow Road

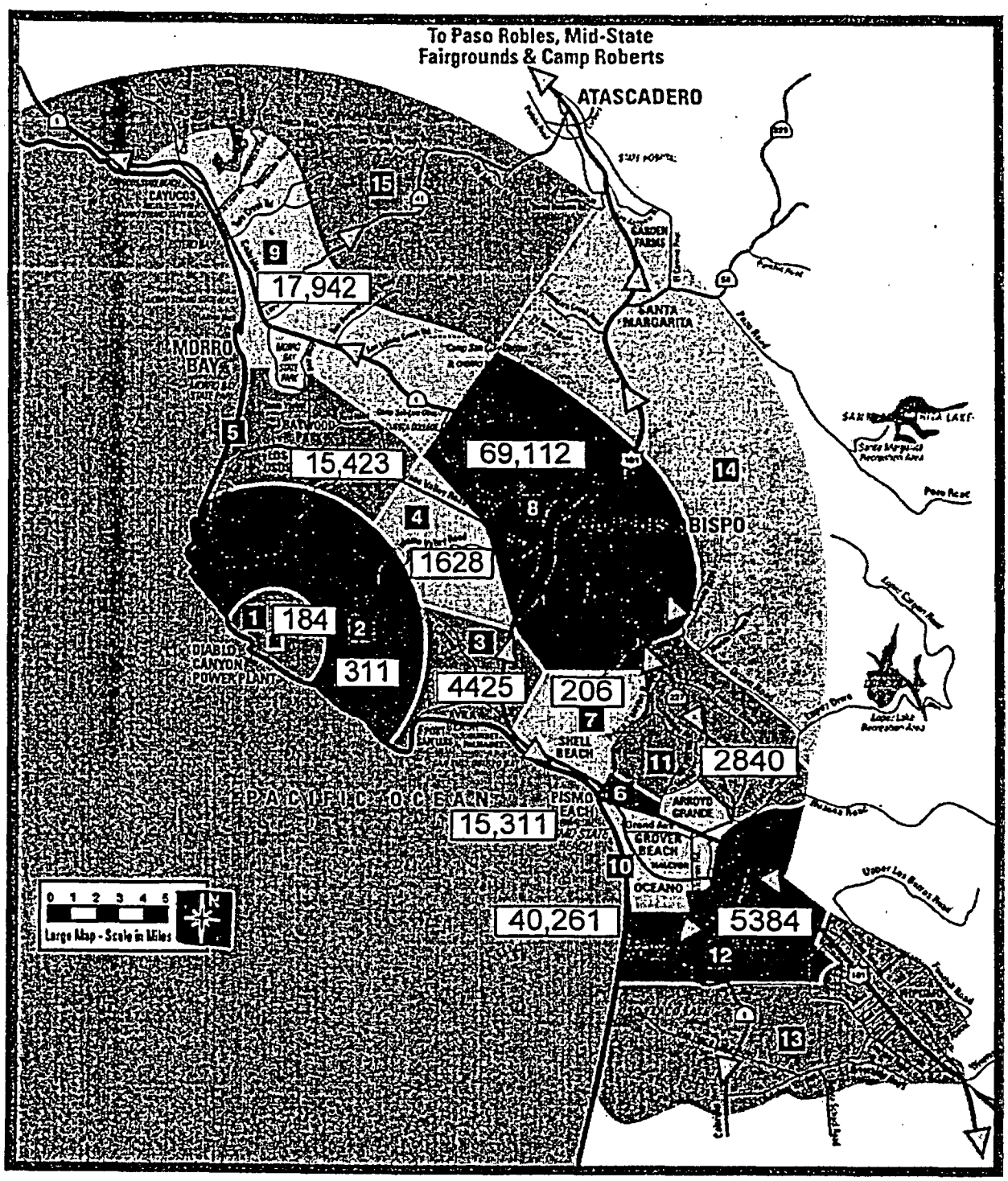
Public Education Zones (PEZs)

13. Nipomo
14. Cuesta Pass/Santa Margarita
15. Route 41/Cypress Mountain Dr.

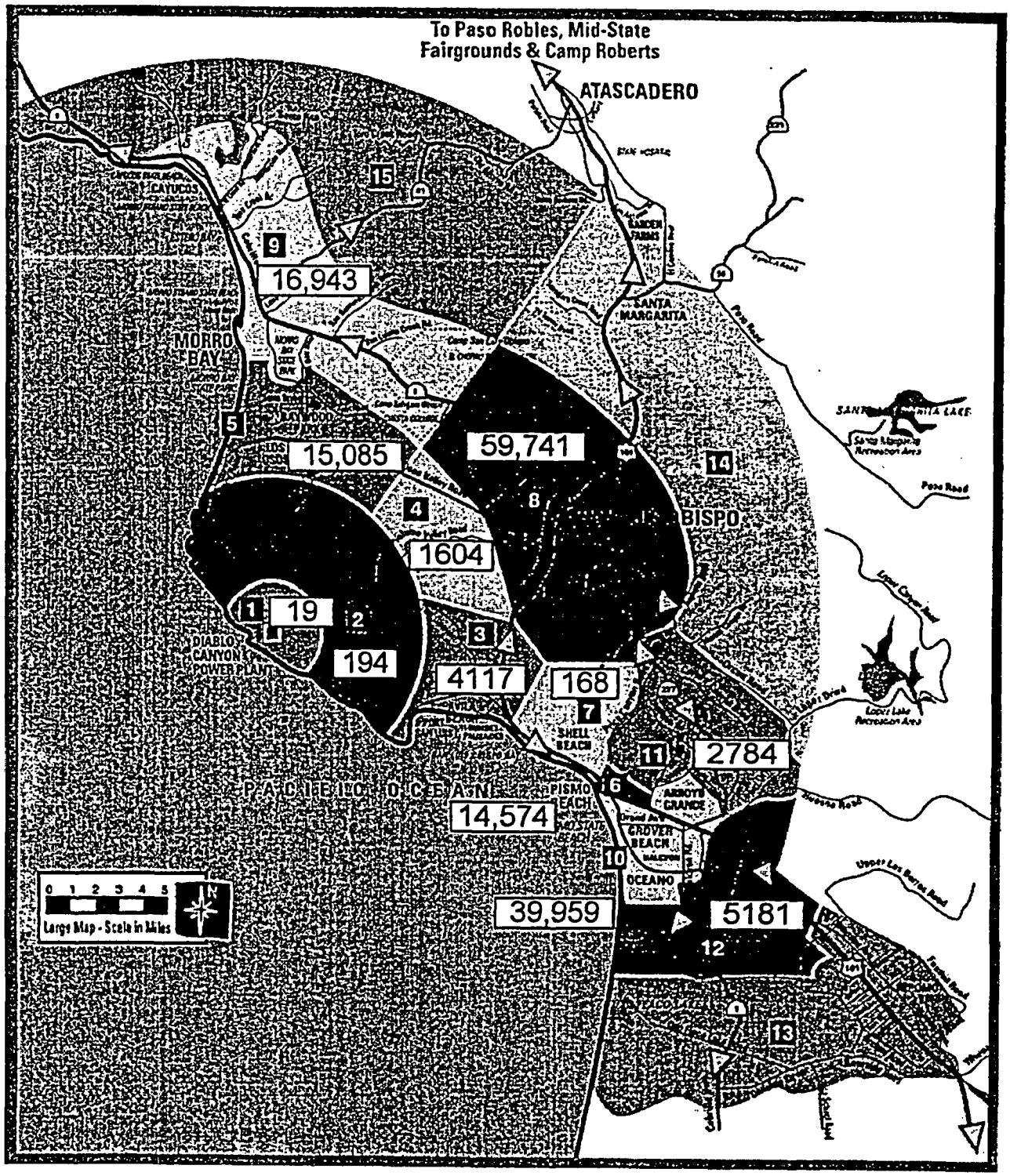
2002 Residential Population by Evacuation Zone



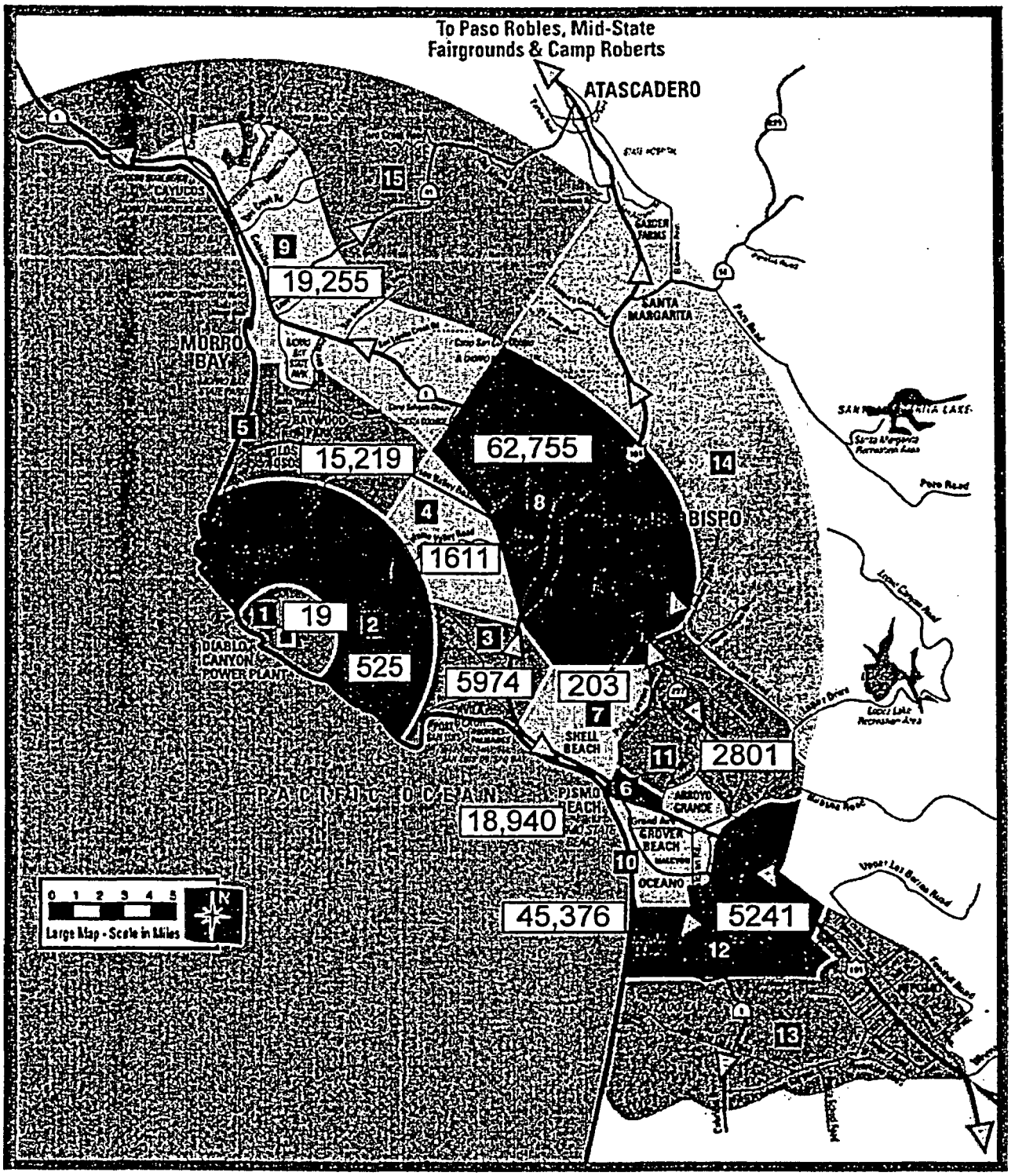
2002 Total Population Including Estimated Transients Normal Weekday



2002 Total Population Including Estimated Transients Nighttime



2002 total population including estimated, transients - Peak summer weekend



2002 Estimated Peak Populations and Evacuation Times by PAZ

Estimated Peak Populations and Evacuation Times by PAZ				
Protective Action Zone		Population	Estimated Cumulative Evacuation Time	
			Normal Weather	Adverse Weather
1	2-mile boundary	184	2.50	2.75
2	6-mile boundary	311	2.50	2.75
3	Avila Beach, Squire Canyon, See Canyon, San Luis Bay	4425	2.75	3.25
4	Los Osos Valley, Prefumo Canyon	1628	2.75	3.25
5	Baywood, Los Osos	15423	11.5	13.75
6	City of Pismo Beach	15311	11.5	13.75
7	Indian Knob, Price Canyon	206	11.50	13.75
8	San Luis Obispo	69112	11.50	13.75
9	Morro Bay, Cayucos .	17942	13.00	15.50
10	Five Cities (Southern Portion)	40261	13.00	15.50
11	Orcutt Rd, Lopez Drive, Rt. 227	2840	13.00	15.50
12	Nipomo, North of Willow Rd.	5384	13.00	15.50

SOURCE: Reference 4

Public Protective Actions

The Site Emergency Coordinator should recommend protective actions based on the following criteria.

1) Criteria Based Upon Nature of Emergency

Evacuation of some or all of the persons within the LPZ may be recommended for any GENERAL EMERGENCY situation regardless of whether or not any radioactive materials have been released from the plant.

When plant conditions warrant (i.e., a release is imminent or occurring) a recommendation to take immediate actions, such as selective or general sheltering or evacuation may be made by the plant staff. Precautionary actions or general evacuation recommendations will be made by a joint assessment group as described in the County Emergency Plan and would be recommended by the plant staff.

2) Criteria Based Upon Public Exposure

Insofar as possible, evacuation of members of the general population should be carried out to prevent persons from receiving doses in excess of those listed below.

PAGS for the Early Phase of a Nuclear Incident
(Reference EPA 400-R-92-001)

PROTECTIVE ACTION	PAG (Projected Dose)	COMMENTS
Evacuation (or sheltering[a])	1-5 rem[b]	Evacuation (or, for some situations, sheltering[a]) should normally be initiated at 1 rem. Further guidance is provided in Section 2.3.1 of EPA 400
Administration of Stable Iodine	25 rem[c]	Requires approval of State medical officials.

[a] Sheltering may be the preferred protective action when it will provide protection equal to or greater than evacuation, based on consideration of factors such as source term characteristics, and temporal or other site-specific conditions (see Section 2.3.1 of EPA 400).

[b] The sum of the effective dose equivalent resulting from exposure to external sources and the committed effective dose equivalent incurred from all significant inhalation pathways during the early phase. Committed dose equivalents to the thyroid and to the skin may be 5 and 50 times larger, respectively.

[c] Committed dose equivalent to the thyroid from radioiodine.

a) Evacuation Routes

Evacuation routes are dependent on the meteorological conditions at the time of the accident. The meteorological conditions at the Diablo Canyon Power Plant site are very strongly influenced by the local topography. The Irish Hills which run approximately northwest-southeast redirect most onshore windflows in these directions. The diurnal nature of the California coastal meteorology also has a strong influence by causing very frequent weak northerly and easterly offshore drainage winds during the night and early morning hours.

Because of the unusual meteorological characteristics of the Diablo Canyon site, four predominant wind conditions will be used in discussing evacuation routes and procedures taken by outside agencies. These conditions are as follows:

Northwest winds -- These are predominantly daytime winds which occur during fair weather and frequently are very strong.

Southeast winds -- These winds generally are associated with storm conditions and early morning drainage flow. They increase in frequency during the wet winter months.

Offshore northeast winds -- These are predominantly night or early morning winds that are usually weak. Occasional strong offshore winds occur between winter storms where inland high pressure systems dominate the weather.

Onshore southwest winds -- These are the least prevalent winds at Diablo Canyon, occurring less than 5 percent of the time. Onshore winds are highly localized and seldom persist for more than an hour or two.

b) Evacuation Procedures

Evacuation of members of the general public is the responsibility of the County Emergency Organization, working in conjunction with the State Office of Emergency Services, and will be carried out in accordance with their prearranged plans. See the SLO County/Cities Nuclear Power Plant Emergency Response Plan for descriptive text and maps describing evacuation routes, evacuation areas, relocation centers and shelter areas. The general steps to be followed in the event an evacuation is required are as follows:

(1) Based upon plant conditions, onsite and offsite measurements, and meteorological data, the Sheriff's Department will be instructed by the County Emergency Services Director to take protective actions which may include selected or full evacuation. The area to be evacuated, the evacuation routes, and shelter locations will also be agreed upon by the County Emergency Organization Command Group. The Site Emergency Coordinator or Advisor to the County Emergency Organization after EOF activation will keep the County informed of pertinent information regarding the company's evaluation of existing conditions.

(2) The Sheriff's Department assisted by other response agencies, is to carry out the evacuation in accordance with established procedures.

(3) Reentry into the evacuated areas is to be prevented until it is determined that radiological conditions will permit unrestricted access.

c) Evacuation Time Estimates

Studies conducted by demography specialists (see Reference 4) provide information on various evacuation scenarios that could take place as a result of evacuation of the Basic Emergency Planning Zone (BEPZ). A general conclusion for the time required to totally evacuate the BEPZ was 4-1/2 to 10 hours. This applies to normal road conditions. Factors which could increase evacuation times would include time of day (daytime), degraded weather/visibility, and road destruction.

The scenario development and conditions leading to the time estimates, identified by the specialty studies referred to earlier, have been made available to state and county officials for use in their preparation of the emergency response planning documents.

Protective actions to be ordered by county authorities are summarized in the SLO County/Cities Nuclear Power Plant Emergency Response Plan. PG&E cooperates with county and state officials to ensure the county plan reflects appropriate guidelines on how the time estimates will ultimately be used to determine the protective actions to be taken offsite.

Responsibility for ordering protective actions by the public is legally the ultimate responsibility of local government. PG&E will act in an advisory capacity, giving technical assessments of the conditions at the plant and the probabilities for a potential offsite release as well as other pertinent information. This information, along with PG&E's recommended protective actions, will be assessed by responsible county officials in determining appropriate actions to be taken.

6.4.8 Offsite Contamination Control Measures

The responsibility for ordering and conducting offsite contamination control actions rests with the SLO County Emergency Organization. However, PG&E is prepared to work with the SLO County and other participating governmental agencies to formulate and implement an appropriate program, if required.

6.4.9 Emergency Personnel Exposure

During an emergency, circumstances may dictate personnel receive exposures in excess of the 10 CFR 20 limits. Some examples of the circumstances would be lifesaving actions or other assessment or corrective actions that would serve to mitigate the consequences of the emergency.

During an emergency and prior to arrival of the Recovery Manager, the Site Emergency Coordinator can authorize emergency exposure in excess of 10 CFR 20 limits. These emergency exposure limits are described in EPA 400. The Recovery Manager assumes this responsibility after he takes his position at the EOF. Emergency workers may receive doses as indicated below.

Guidance on Dose Limits for Workers Performing Emergency Services
(Reference EPA 400-R-92-001)

Dose Limit[a] (rem)	Activity	Condition
5	all	
10	Protecting valuable property	Lower dose not practicable
25	Life saving or protection of large populations	Lower dose not practicable
>25	Life saving or protection of large populations	Only on a voluntary basis to persons fully aware of the risks involved (See Tables 2-3 and 2-4 of EPA 400)

[a] Sum of external effective dose equivalent and committed effective dose equivalent to nonpregnant adults from exposure and intake during an emergency situation. Workers performing services during emergencies should limit dose to the lens of the eye to three times the listed value and doses to any other organ (including skin and body extremities) to ten times the listed value. These limits apply to all doses from an incident, except those received in unrestricted areas as members of the public during the immediate phase of the incident (see Chapters 3 and 4 of EPA 400).

6.4.10 Decontamination

A decontamination shower is located near the access control area of the auxiliary building. Two offsite decontamination showers are located at the Information Center. Supplies include solid waste disposal supplies for contaminated clothing, personnel decontamination supplies, replacement clothing, and other related miscellaneous items.

All radiation protection personnel and licensed operators are trained in decontamination techniques as part of their radiation protection training.

6.4.11 Medical Transportation

Arrangements for medical transportation are discussed in Sections 5 and 7.

6.4.12 Medical Treatment

The company retains a number of physicians, hospitals and ambulances throughout its service area on a medical panel. The panel in the vicinity of Diablo Canyon is given below. French Hospital in San Luis Obispo, San Luis Ambulance, and Marion Medical Center in Santa Maria have agreements with the company for handling accidents involving radioactive contamination.

Physicians, Ambulances, and Hospitals Serving the Immediate Area around Diablo Canyon

Ambulances

NAME	REMARKS
San Luis Ambulance Service	Radiation Exposure Patients

Hospitals

NAME	REMARKS
French Hospital	Radiation Exposure Patients - External Defibrillation Equipped
Marian Hospital	

Physicians

NAME	REMARKS
Doctor's Med Stop	Industrial Injury Treatment
Family Medical Center	Industrial Injury Treatment
Paul Georghiou, M.D.	Medical/Radiation Consultant

C02

6.5 CROSS REFERENCE TO NUREG-0654

NUREG 0654	DCPP Emergency Plan	NUREG 0654	DCPP Emergency Plan
A.1.e	6.1.7	J4	6.3, 6.4.3
B.2	6.1.5	J5	6.4.2
B.6	6.1	J.6.a	6.4.4.1
E.2	6.1, 6.1.7, 6.1.8	J.6.b	6.4.4.2
E3	6.1.8	J.6.c	6.4.4.3
E7	6.1.8	J7	6.1, 6.2.4, 6.4.6, 6.4.7
F.1.e	6.1	J8	6.4.7
H.4	6.1, 6.1.7, 6.1.8	J.10.a	6.4.7
H.11	6.4.5, 6.4.10	J.10.b	6.4.7, 6.4.3
I.2	6.2.3, 6.3	J.10.c	6.4.6
I.3.a	6.3	J.10.m	6.4.6
I.3.b	6.2.4, 6.3	K.1.a to g	6.4.9
I.4	6.3	K.2	6.4.9
I.6	6.3	K.3.a and b	6.4.4.4
I.7	6.3	K.5.a and b	6.4.5, 6.4.10, 6.4.12
I.8	6.3	K.6.a to c	6.4.5
I.9	6.3	K.7	6.4.5, 6.4.10, 6.4.12
I.10	6.2.4, 6.3	L.1	6.4.12
J.1.a to d	6.1.3, 6.1.6, 6.4.1	P.7	6.5
J2	6.4.1, 6.4.3	P.8	6.5
J3	6.4.1, 6.4.4, 6.4.5		

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7. EMERGENCY FACILITIES AND EQUIPMENT

If corrective measures are to be promptly initiated in an emergency situation, it is important required emergency equipment and facilities be readily available. To the maximum extent possible, normal plant equipment and controls will be used to mitigate the consequences of an accident. In some instances, special emergency equipment and facilities have been provided. This section describes this special equipment in conjunction with normal plant equipment which has particular application in an emergency.

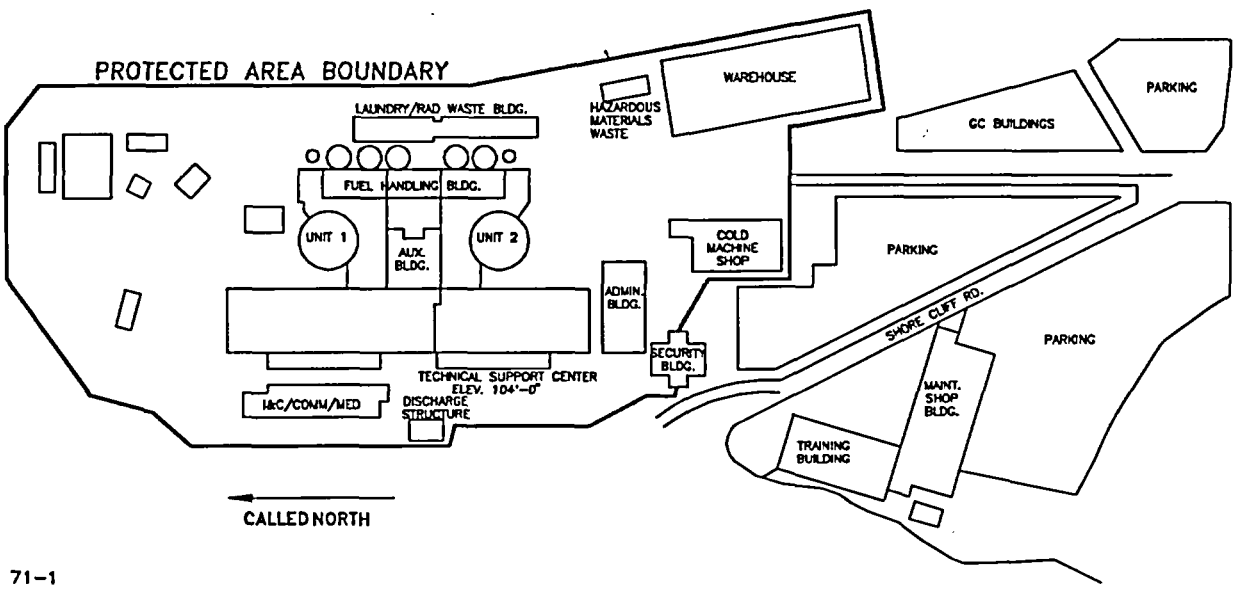
The Emergency Plan provides for a number of onsite and offsite facilities intended for use as accident management centers, and personnel staging and planning areas. These facilities are discussed briefly in the following paragraphs.

7.1 EMERGENCY RESPONSE FACILITIES

7.1.1 Control Room

7.1.1.1 Location and Description

The Control Room is common to Units 1 and 2 and is located at the 140' elevation of the Auxiliary Building as shown below. The Shift Manager's office is located adjacent to the Control Room. The Control Room has lavatory and kitchen facilities.



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7.1.1.2 Emergency Function

Prior to the time the Technical Support Center (TSC) is activated (and throughout the course of an emergency in which the TSC is not activated) the Control Room will serve as the headquarters for the Site Emergency Coordinator. All onsite activities are directed from this location, and all communication with offsite agencies will originate from the Control Room. The Control Room has the necessary equipment and instruments to perform accident assessment work involving possible or actual radiological releases and fuel barrier damage.

Following activation of the TSC, overall control of onsite activities will be transferred to the TSC. If the TSC is activated before the EOF, then the TSC will assume responsibilities for communications with offsite agencies until relieved by the EOF. The Control Room will then be headquarters of the onsite Operations Coordinator, and the major Control Room activity will be operation of plant equipment to mitigate the consequences of the emergency.

The Control Room also serves as the backup to the TSC should the latter be unavailable.

7.1.1.3 Habitability Objectives

The Control Room is designed to be habitable throughout the course of a design-basis accident. The Control Room shielding is designed to limit the integrated doses under post-accident conditions to 2.5 rem to the whole body.

The Control Room is provided with a Design Class I Criteria Ventilation System. The design of the system includes provisions for:

1) Protection from smoke generated inside or outside the Control Room area.

2) Protection from airborne radioactivity outside the Control Room and provisions for cleanup of activity trapped in the room.

3) Protection from airborne toxic gas outside the Control Room.

4) Provisions for limiting carbon dioxide buildup inside the Control Room during periods when airborne contaminants prevent use of outside makeup air.

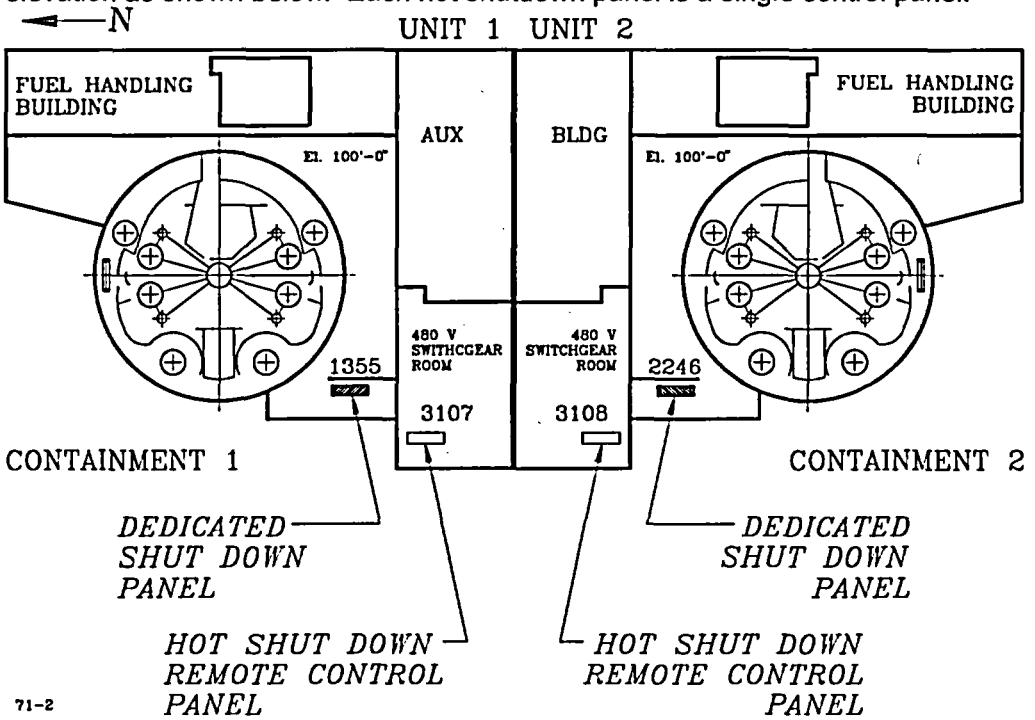
7.1.1.4 Special Equipment

The Control Room is the most completely equipped location in the plant in terms of provisions to monitor the status of plant systems and equipment. The Control Room has complete communication capability; as well as access to meteorological, seismic, and radiological monitoring data.

7.1.2 Hot Shutdown Panel

7.1.2.1 Location and Description

Each unit is provided with a hot shutdown panel located in the Auxiliary Building at the 100' elevation as shown below. Each hot shutdown panel is a single control panel.



7.1.2.2 Emergency Function

The hot shutdown panel contains the essential indicator and controls to maintain a unit in hot standby condition for an extended time period. The hot shutdown panel is primarily intended to be used for a situation in which smoke or toxic gas makes the Control Room temporarily uninhabitable. In such a circumstance, the operators are instructed to trip the reactor as they leave the Control Room and proceed to the hot shutdown panel. From this location, the unit can safely be maintained in the hot standby condition until the Control Room can be reentered.

Any occurrence requiring the use of the hot shutdown panel would also involve activation of the TSC. Overall emergency response actions, including offsite communications, would be handled from the TSC, where the Site Emergency Coordinator would establish his headquarters. A licensed operator would be stationed at the hot shutdown panel.

7.1.2.3 Habitability Objectives

The hot shutdown panels are not intended for use in radiological release type accidents. They are open to the room atmosphere in the "clean" (radiologically) portion of the Auxiliary Building. No special provisions have been made to assure habitability during radiological release emergencies.

7.1.2.4 Special Equipment

Hot Shutdown Panel Instrumentation and Controls are listed below. Each panel has a telephone and an emergency UHF radio for operations frequency.

Auxiliary Feedwater

1. AFW Pump discharge pressure
2. AFW flow indication
3. Turbine Driven AFW Pump Control Valve transfer switch
4. Turbine Driven AFW Pump Control Valve control switch
5. Turbine Driven AFW Pump Control Valve position indicator
6. Motor Driven AFW Pump Control Valve controller
7. Motor Driven AFW Pump Control Valve position indicator
8. Turbine Driven AFW Pump steam supply valve control switch
9. Turbine Driven AFW Pump steam supply valve transfer switch
10. Turbine Driven AFW Pump steam supply valve position indication
11. Motor Driven AFW Pump control switch
12. Motor Driven AFW Pump mode selector switch
13. Motor Driven AFW Pump START/STOP/LOCAL indicator

Auxiliary Saltwater

1. Auxiliary Saltwater Pump control switch
2. Auxiliary Saltwater Pump mode selector switch
3. Auxiliary Saltwater Pump START/STOP/LOCAL status

Chemical and Volume Control System

1. Centrifugal Charging Pump control switch
2. Centrifugal Charging Pump mode selector switch
3. Centrifugal Charging Pump START/STOP/LOCAL indicator
4. Boric Acid Transfer Pump transfer
5. Boric Acid Transfer Pump control switch
6. Boric Acid Transfer Pump ON/OFF indicator
7. Reactor Coolant Pump seal injection back pressure control valve controller
8. Centrifugal Charging Pump flow control valve controller
9. Reactor Coolant Pump seal injection back pressure control valve position indicator
10. Centrifugal Charging Pump flow control valve position indicator
11. Letdown Valve transfer switch
12. Letdown Valve control switch
13. Letdown Valve position indicator
14. Emergency borate valve transfer switch
15. Emergency borate valve control switch
16. Emergency borate valve position indicator
17. Emergency boric acid flow indicator
18. Volume Control Tank level indicator
19. Letdown flow indicator
20. Charging header flow indicator
21. Charging header pressure indicator
22. Reactor Coolant Pump Seal No. 1 pressure indicator

Component Cooling Water

1. Component Cooling Water Pump control switch
2. Component Cooling Water Pump mode selector switch
3. Component Cooling Water Pump START/STOP/LOCAL status

Containment Fan Coolers

1. Containment Fan Cooler transfer switch
2. Containment Fan Cooler control switch
3. Containment Fan Cooler ON/OFF status

Makeup Water

1. Condensate Storage Tank level indicator
2. Raw Water Reservoir level indicator

Reactor Coolant System

1. Pressurizer liquid temperature indicator
2. Pressurizer pressure indicator
3. Pressurizer level indicator (2)
4. Pressurizer heater transfer switch (2)
5. Pressurizer heater control switch (2)
6. Pressurizer heater breaker position indicator (2)
7. Pressurizer Power Operated Relief Valve emergency close switch

Steam Generators

1. Pressure indicator
2. Level indicator
3. Steam dump valve controller
4. Steam dump valve position indication

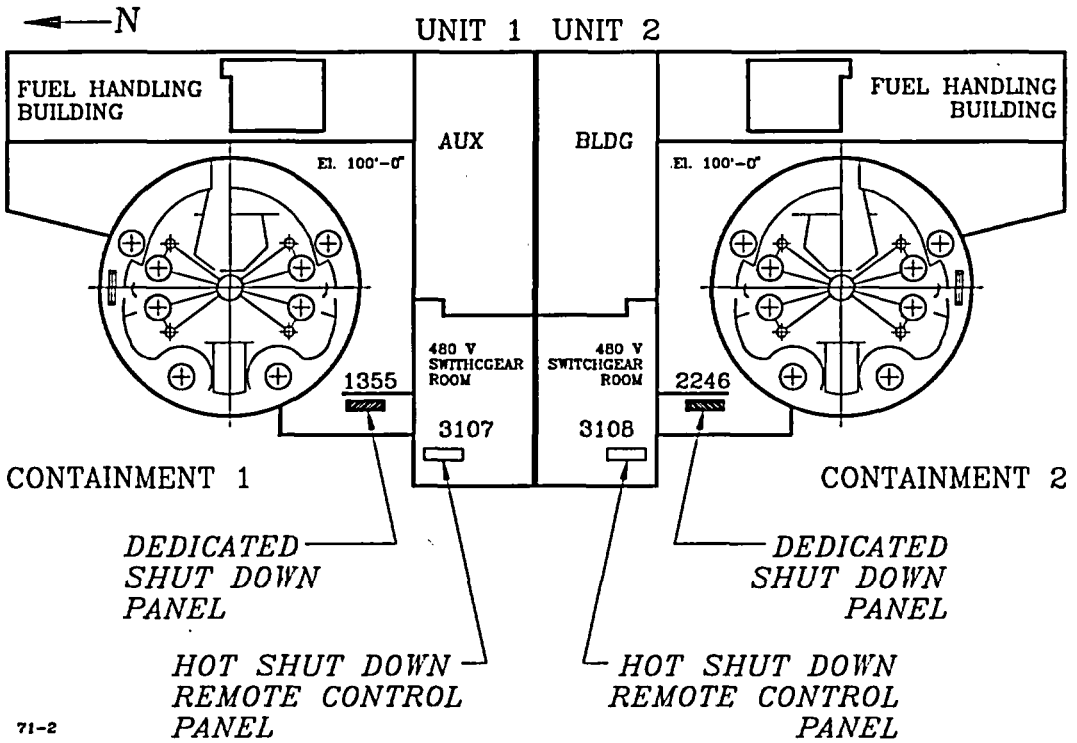
Other

1. Source Range neutron flux indicator (2)
2. Site emergency alarm switch
3. 4kV vital bus voltage indicator

7.1.3 Dedicated Shutdown Panel

7.1.3.1 Location

Each unit is provided with a dedicated shutdown panel located in the 100' elevation of the Auxiliary Building, as shown below.



7.1.3.2 Emergency Function

The dedicated shutdown panel in conjunction with the Hot Shutdown Panel is used if the unit must be taken from the hot shutdown condition to the cold shutdown condition from outside the Control Room. The dedicated shutdown panel contains sufficient instrumentation to follow and direct the cooldown operation and has controls for the pressurizer auxiliary spray control valve operation. The actual manipulation of other controls and valves would be done by operators at appropriate local stations.

Any occurrence requiring the use of the dedicated shutdown panel would also involve activating the TSC. Overall recovery actions, including offsite communications, would be handled from the TSC, where the Site Emergency Coordinator would establish his headquarters. An operator would be stationed at the dedicated shutdown panel.

7.1.3.3 Habitability Objectives

The dedicated shutdown panels are not intended for use in radiological release type accidents. They are open to room atmosphere. No special provisions have been made to assure habitability during radiological emergencies.

7.1.3.4 Special Equipment

Instruments found on each dedicated shutdown panel are listed below. PG&E phone jacks are located near each panel. Portable, hand held radio units may also be used for communications if required.

Steam Generators

1. Level indicator (each steam generator)

Reactor Coolant System

1. Temperature indicator - RCS Loop 1
2. RCS Loop 1 Temperature selector switch
3. RCS Loop 4 pressure indicator
4. Pressurizer level indicator

Chemical and Volume Control System

1. Auxiliary spray valve transfer switch
2. Auxiliary spray valve control switch

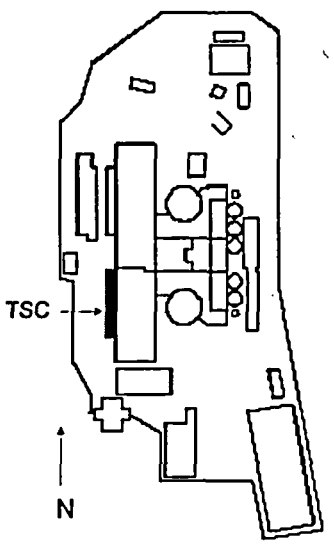
7.1.4 Technical Support Center (TSC)

7.1.4.1 Location and Description

The purpose of the TSC is to provide a facility separate from but in close proximity to the Control Room. The TSC has the capability to display and transmit plant status to personnel responsible for engineering and management support of reactor operations in the event of an accident. This separate facility is needed to house data gathering equipment and the personnel required to assist in an emergency, primarily to reduce Control Room congestion.

The TSC serves both Units 1 and 2 and consists of six rooms. It is located at elevation 104' on the west side of the Unit 2 Turbine Building. It occupies space created as a result of the exterior concrete buttress seismic modification of the turbine building. The thickness of the concrete walls required to enclose the TSC were largely dictated by radiation shielding considerations and the structure is designed to the Hosgri seismic criteria.

The figure below shows the location of the TSC within the plant.



The room layout and description from North to South is:

1) Command Center

   Desks, files and conference table provided for plant operations management, maintenance and technical staff personnel.

2) Operations Center

   Plant parameter data gathering and display equipment is provided for the use of technical staff in assessing the plant condition. The Emergency Response Facility Data System (ERFDS) is located in this room.

3) Computation Center

   Radiological and meteorological data gathering and display equipment and communications equipment is provided for the use of technical staff in assessing radiological conditions on and offsite.

4) Records Management and Reproduction

   Plant manuals, emergency plans and procedures, access to microfilm drawings and other records, and certain hard copy drawings are provided.

5) HVAC Room

   Heating, ventilating, and air-conditioning equipment for the TSC is located in this room.

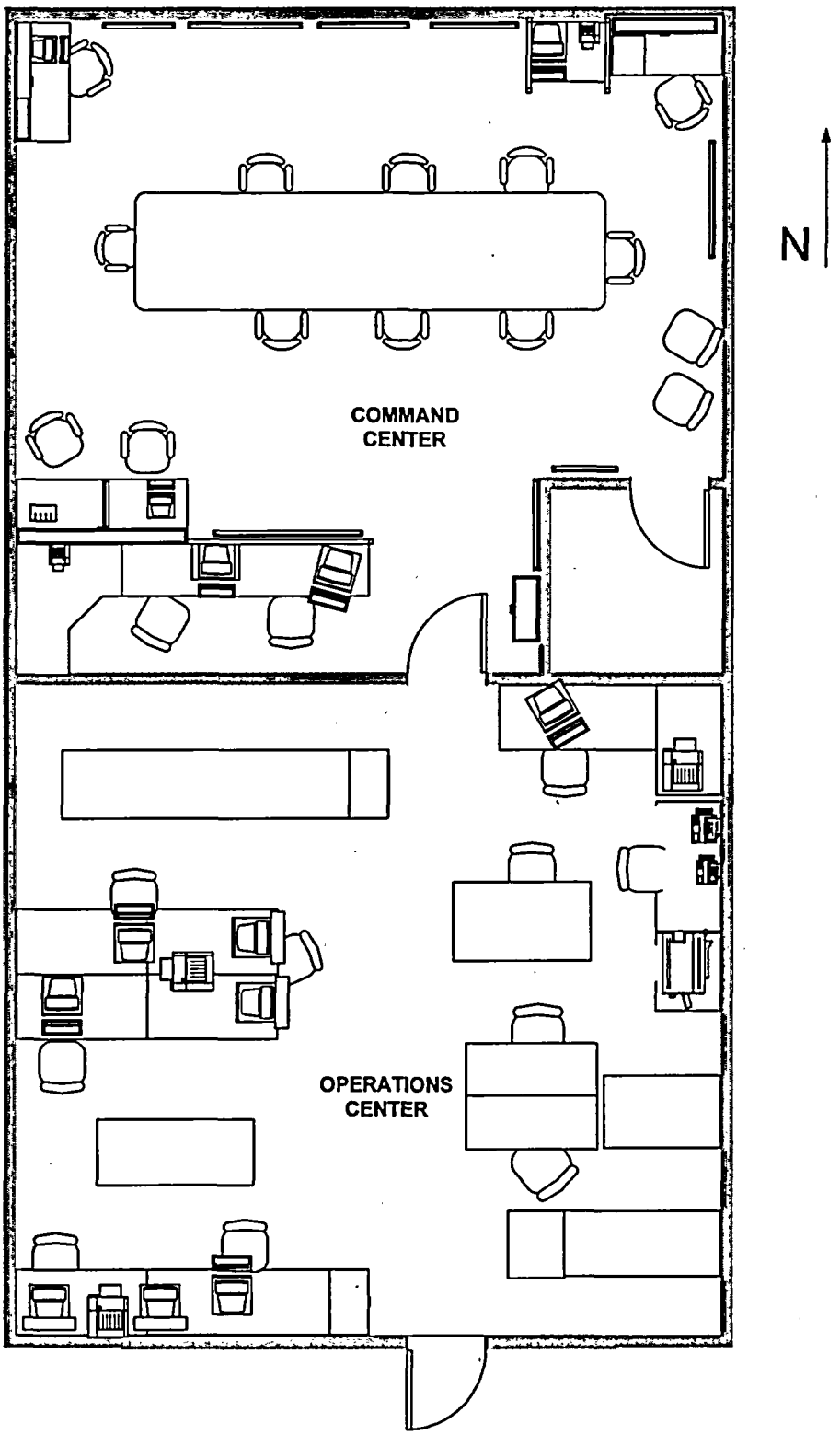
6) Laboratory (Radiological Counting Room)

   In a room adjacent to the TSC, radiological laboratory equipment for analysis of samples is provided.

   The radiological counting room is intended to be a backup location for this type of work in the event the normal counting room is unavailable.

   It is equipped with a multi-channel gamma ray spectroscopy system using aG high-resolution intrinsic germanium detector.

The following figures show the general floor plan of the TSC.



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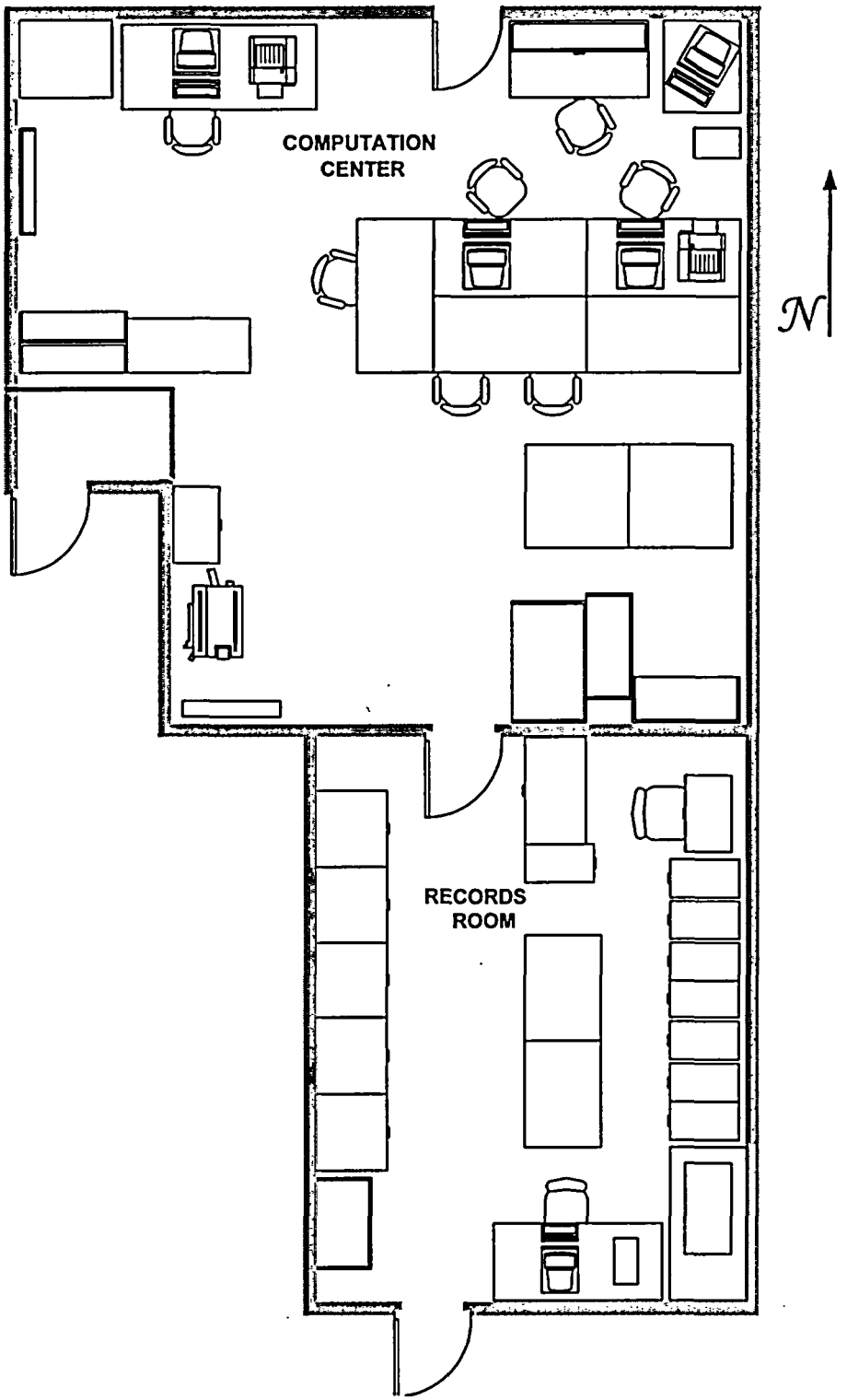
TSC Continued



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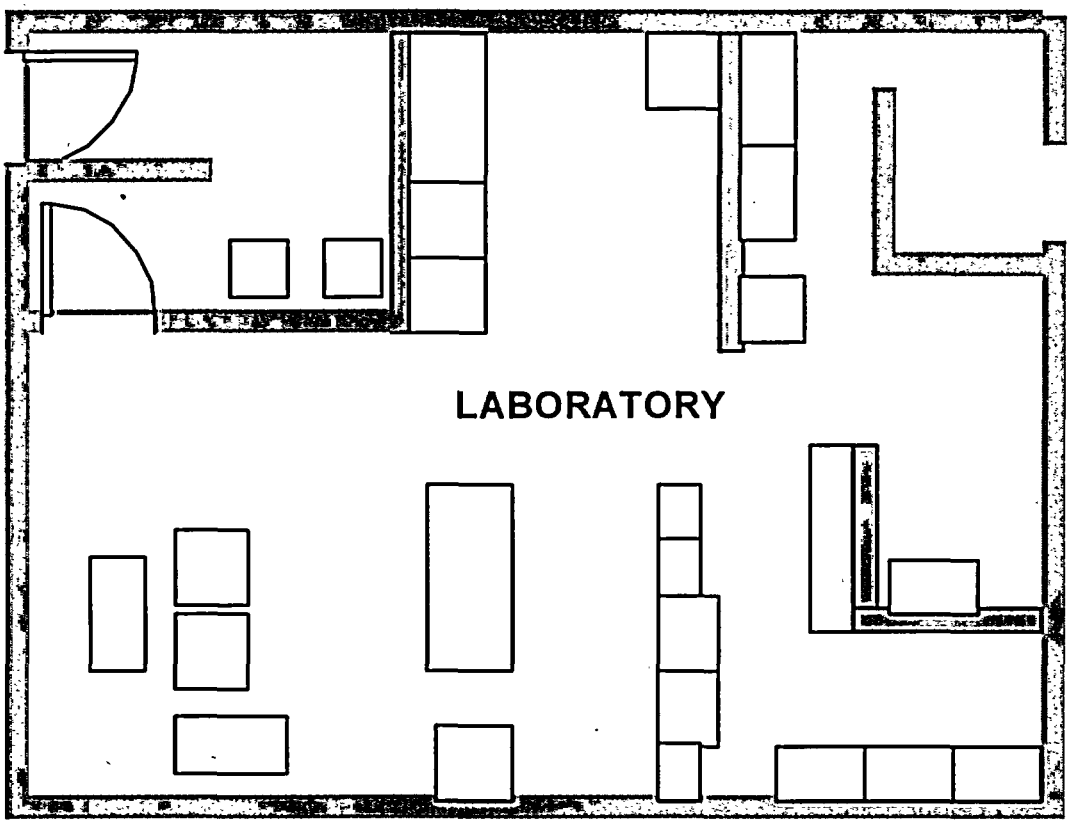
TSC Continued



7.1.4.2 Emergency Function

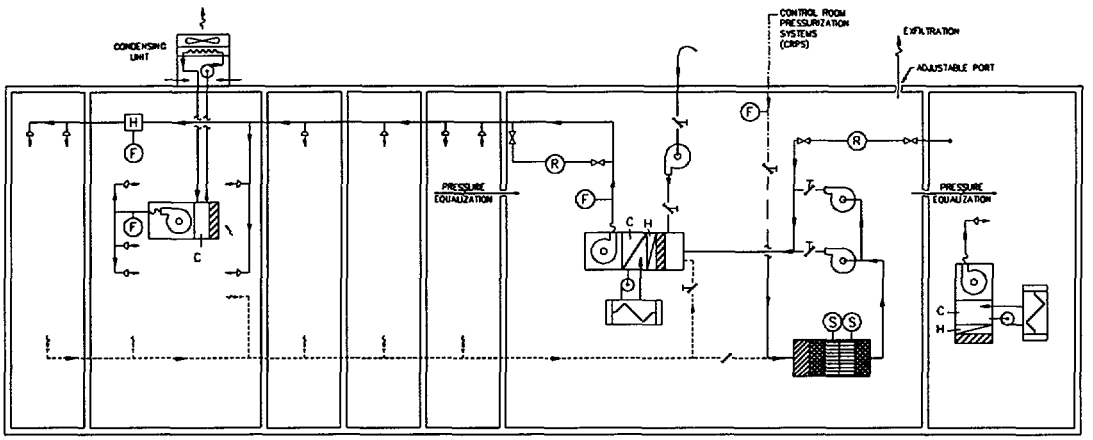
The TSC when activated serves as the headquarters for the Site Emergency Coordinator, Operations Advisor, Radiological Advisor, Communicator, and Engineering Advisor and their staffs throughout an emergency. Provisions have also been made for the establishment of an onsite NRC emergency team co-located in the TSC.

Following activation of the TSC, the overall onsite assessment and recovery programs will be directed from this location. In addition, communications with offsite emergency response locations will be handled through the TSC.

7.1.4.3 Habitability Objectives

The TSC is designed to be habitable throughout the course of a design basis accident. The outside walls, with steel bulkhead doors, form an airtight perimeter. The TSC shielding is designed to limit the integrated doses under post-accident conditions to 2.5 rem to the whole body consistent with the criteria for the Control Room. The TSC structure is designed to Seismic Class I criteria.

The TSC is provided with its own ventilation system. The ventilation system is shown below.



TECHNICAL SUPPORT CENTER HVACS

LEGEND

ROUGHING FILTER	(F) FLOW SWITCH (DIFFERENTIAL PRESSURE SWITCH)
HEPA FILTER	[C] COOLING COIL
CHARCOAL FILTER	FAN
(R) RADIATION DETECTOR	MANUAL OPERATED DAMPER
[H] HEATING COIL	(S) SMOKE DETECTOR

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Under accident conditions, the supply to the TSC is transferred to the Control Room pressurization system that maintains the TSC at a positive pressure. Intake air is conditioned and internally re-circulated through high efficiency particulate air (HEPA) and charcoal filters within the TSC. The pressurization air filtrates from the TSC to the outside atmosphere. The pressurization portion of the ventilation system, including the duct work, redundant ventilation fans and filter units for the TSC, are designed to Seismic Class I criteria. The fans are powered from 480-volt non-vital buses but can be transferred to a 480-volt vital bus on either unit. The air conditioning units are not designed as seismic structures and are powered from normal AC sources.

The TSC intake air is monitored by GM Detectors with alarm and control capabilities as part of the Control Room ventilation system. It also has area, particulate, iodine, and noble gas monitors with alarm capabilities, which may be backed up by portable equipment. The TSC is also provided with self-contained breathing apparatus and protective clothing for use in an emergency.

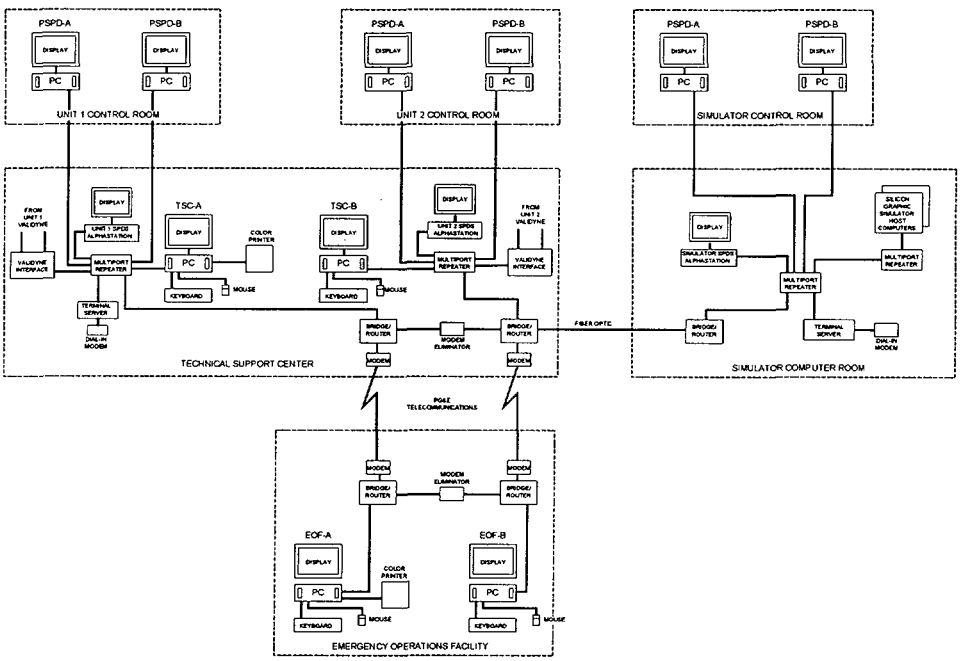
7.1.4.4 Special Equipment

1) Safety Parameter Display System (SPDS)

The SPDS was designed to the guidelines specified in NUREG-0696 and NUREG-0737 Supp. 1. It is part of the Emergency Response Facility Data System (ERFDS).

The SPDS for each unit is a computer-based system consisting of a data acquisition system, server computers, and display computers.

There are two high-resolution color SPDS monitors in the TSC. The displays available for the monitors allow TSC personnel to view plant parameters in real time ("SPDS display"), primary and secondary system mimics, and decision trees.



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Emergency Response Data System (ERDS)

The Emergency Response Data System is a direct near real-time electronic data link between a DCPP installed plant computer system and the Nuclear Regulatory Commission's Operations Center and Regional Office. This system provides for the automated transmission of a limited set of selected parameters and supplements the existing voice transmission over the NRC FTS telephone system. Activation of this system occurs at an Alert or higher emergency classification.

2) Communication

The TSC is provided with full radio and telephone communications capability.

3) Radiological Analysis

The TSC contains radiological laboratory equipment. The TSC is also tied into the emergency radiological monitoring network.

4) Plant Process Computer

The TSC is provided with a display terminal and a printer for each unit's Plant Process Computer (PPC). This provides the ability to monitor and print plant parameters acquired by the PPC.

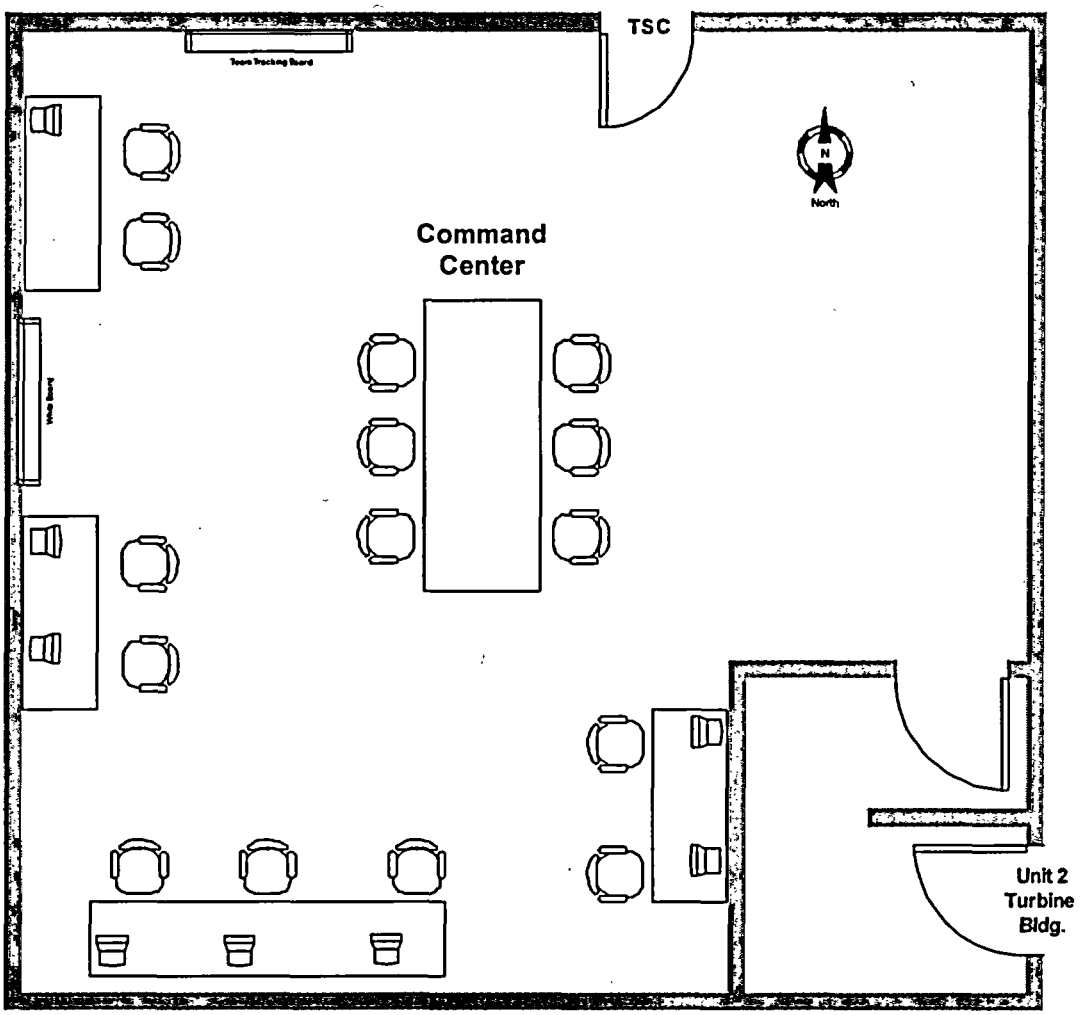
7.1.5 Operational Support Center

7.1.5.1 Location and Description

The Operational Support Center (OSC) provides locations functionally separate from the Control Room and Technical Support Center where designated support personnel assemble and await specific assignment during an emergency. The OSC command center is located in the buttress area on 104-foot elevation, adjacent to the west side of the Unit 2 Turbine Building and the south end of the TSC. Depending on the emergency events and plant conditions, personnel assigned to the OSC may be directed to assemble at the OSC command center, the 85' RCA Access Control, the site medical facility, the firefighters equipment storage area on the 140' elevation. OSC assembly areas serve as team dispatch locations and contain a variety of emergency support equipment immediately available for emergency use. The OSC command center is equipped with a dedicated tie line telephone extension to other facilities. Alternate backup locations for the OSC command center include:

- Elevation 140' Turbine Building northeast corner
- Administration Building (Room 215)

The general floor plan of the OSC command center is shown below.



7.1.5.2 Emergency Functions

Provides a location for staging and dispatching trained emergency workers for assignment to:

- Emergency maintenance, repair, and damage control.
- Fire fighting, search and rescue, and first aid.
- Emergency sampling of plant fluids.

The OSC also functions as locations of selected emergency response equipment and provide facilities for personnel decontamination.

The OSC is intended to eliminate congestion in the Control Room and TSC. This area has a supervisor assigned in the emergency organization.

7.1.5.3 Habitability Objectives

The OSC command and assembly areas are not required to have special provisions for minimizing radiation exposure. Consequently, personnel in these areas may be evacuated under certain emergency situations. If evacuation were necessary, personnel required for emergency response would be relocated to another area. Personnel not immediately essential to the onsite response may be assembled in the Learning Services Building or released.

7.1.5.4 Emergency Equipment and Supplies

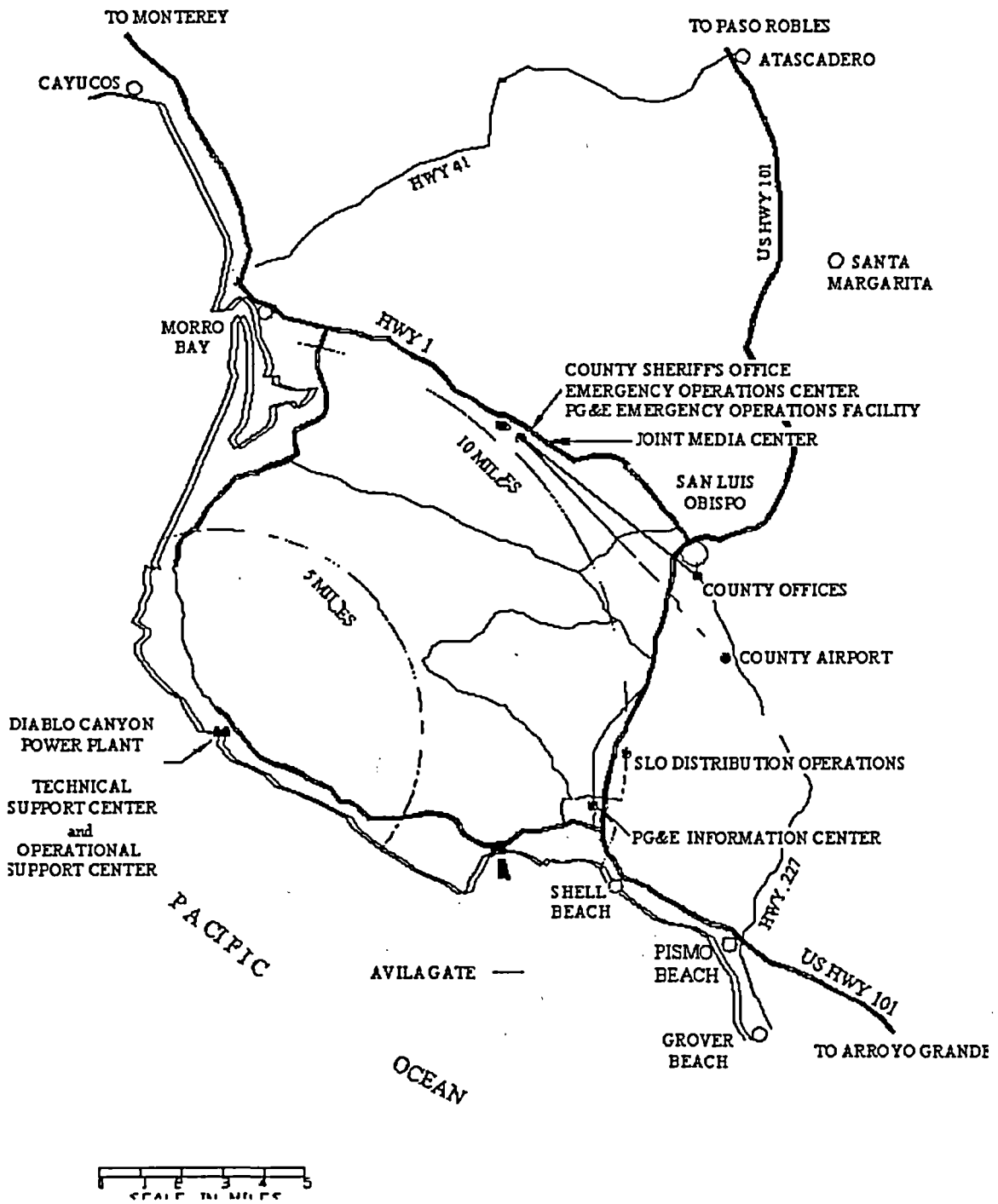
The OSC command center has a dedicated a tie line to the TSC and Control Room and has a CBX telephone with emergency facility priority access to commercial telephone circuits. In addition, there is access to portable radio equipment.

The OSC has ample supplies of respiratory protection equipment, protective clothing, monitoring instruments and other emergency response equipment.

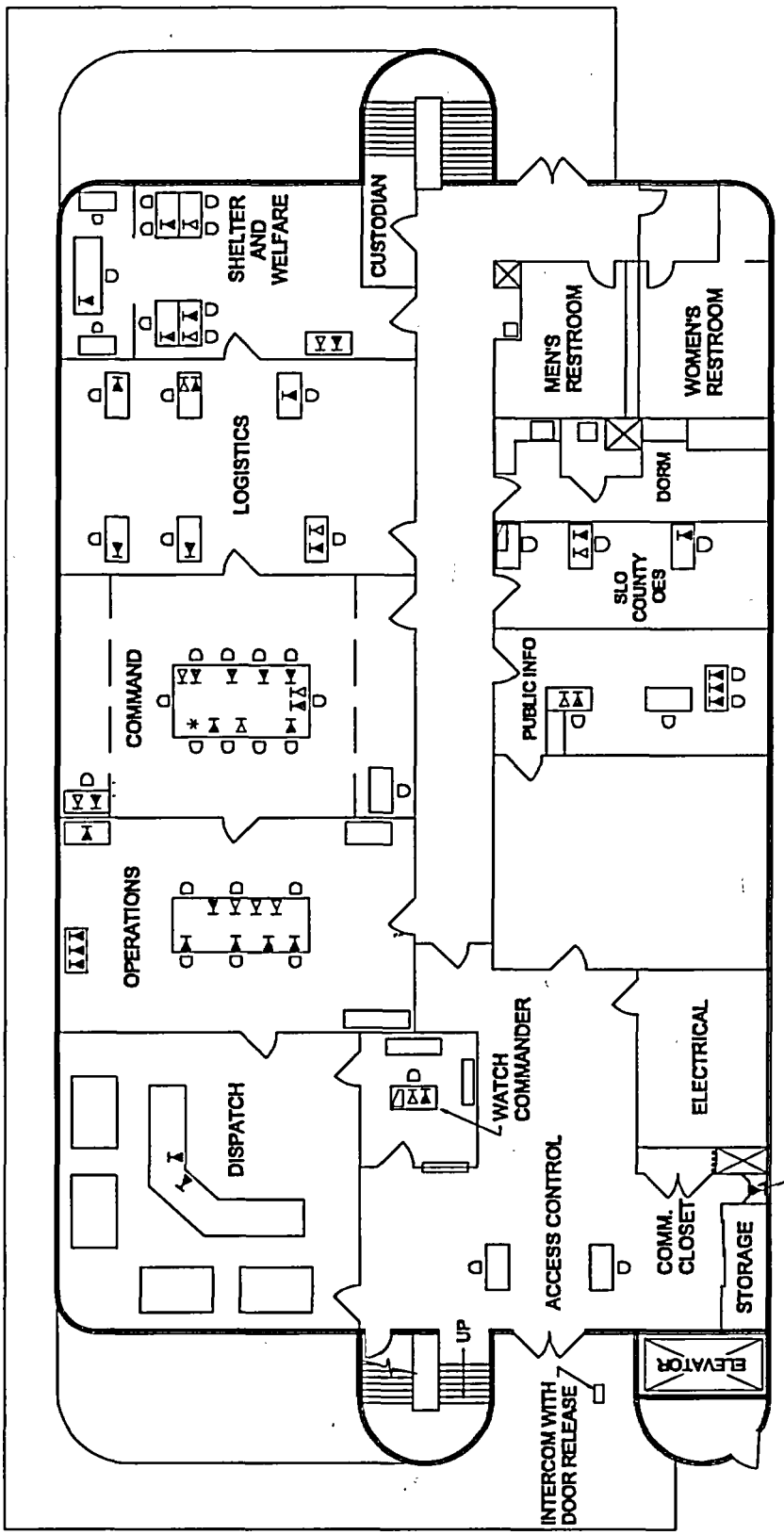
7.1.6 Emergency Operations Facility

7.1.6.1 Location and Description

The Emergency Operations Facility (EOF) and County Emergency Operations Center (EOC) are located approximately 11 miles northeast of the Diablo Canyon Power Plant. See figure below.



The San Luis Obispo County Sheriff's watch commander and dispatch center occupy this building on a 24-hour basis. The first floor of the building provides space for the County EOC, and the Sheriff's watch commander and dispatch center. See figure below.



FIRST FLOOR OF EOC / EOF BUILDING

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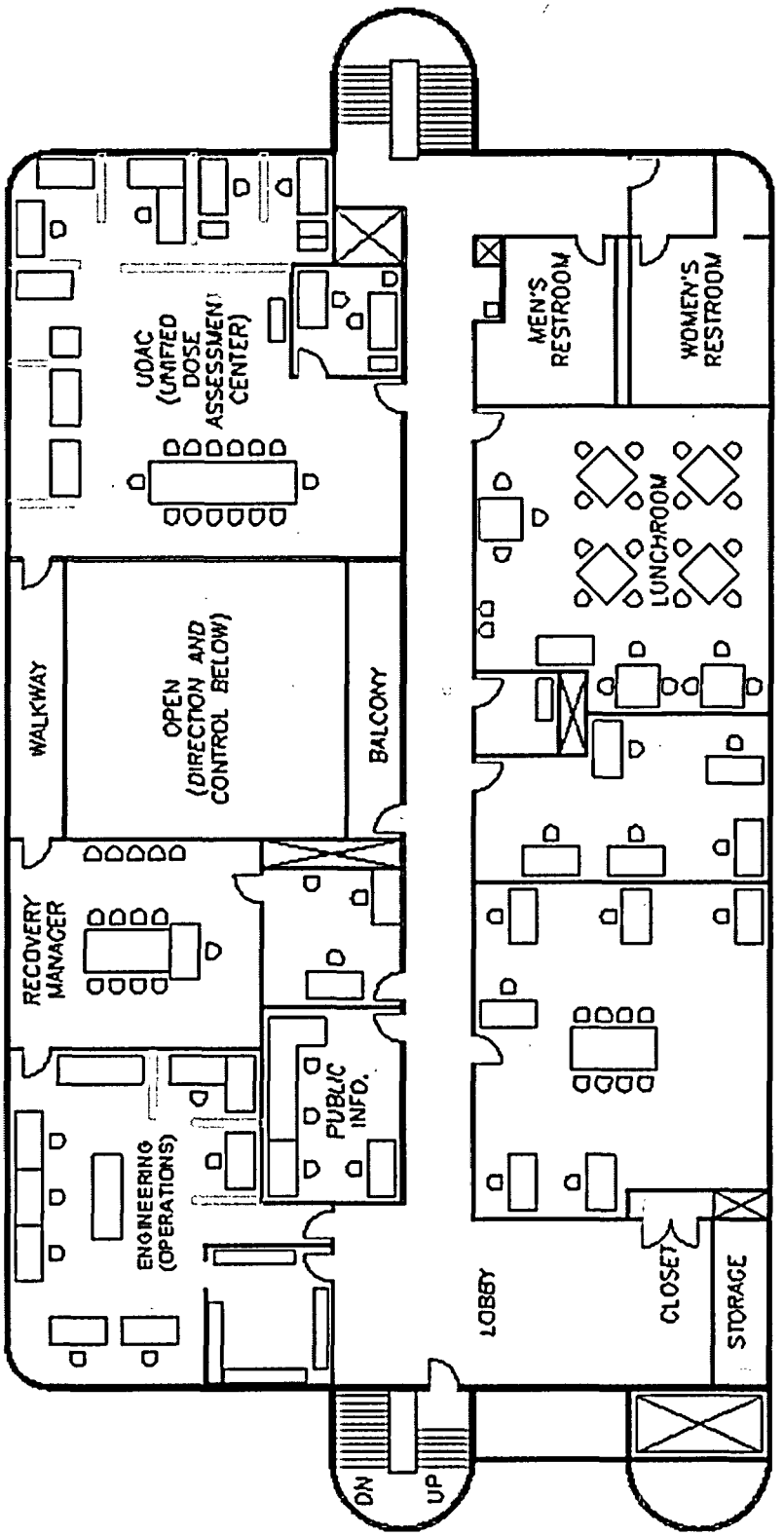
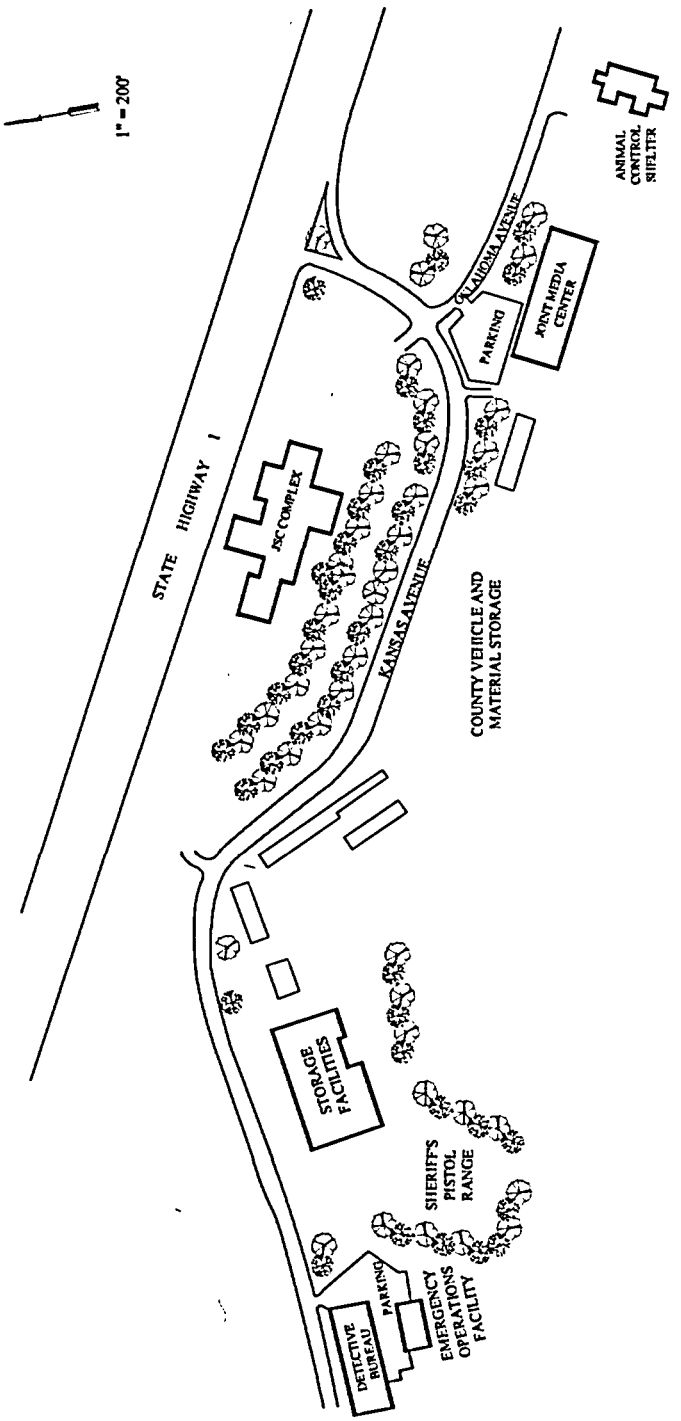
The second floor houses the EOF, the Unified Dose Assessment Center (UDAC) and office space for the State Office of Emergency Services (OES), the Nuclear Regulatory Commission (NRC), the Federal Emergency Management Agency (FEMA) and other responding Federal agencies. See figure below.



SECOND FLOOR OF EOC / EOF BUILDING

The JMC off Highway 1 on Kansas Avenue is approximately 1/4 mile from the EOF. Utility and county public information personnel perform various functions from this facility. The JMC has a briefing room that includes office space for public information officers and a phone assistance center. See figure below.



7.1.6.2 Emergency Function

The EOF when activated serves as the headquarters for the Recovery Manager, Advisor to the County and UDAC. The EOF acts as the interface between the Company/County, and the public. The Recovery Manager and his staff utilize the EOF as their headquarters to provide overall direction of the recovery effort for Company response personnel for a declared emergency.

7.1.6.3 Habitability Objectives

The distance from the plant to the EOF, the very low frequency of winds in the direction from the site to this location, and the shielding and turbulence produced by the mountainous terrain between the two locations makes special habitability provisions unnecessary.

7.1.6.4 Special Equipment

The EOF is provided with extensive telephone and radio communications capability. Communication systems in the building are redundant and include microwave links to DCPP and the General Office.

The EOF is provided with computer monitors that can display plant parameters received by the Emergency Response Facility Data System (ERFDS). It is also a central controlling station for the Emergency Assessment and Response System (EARS) used for offsite dose assessment. The EOF/EOC building is protected by a Wet Pipe Fire Sprinkler System.

Management coordination between the TSC, the EOF and EOC is assured by reliable telephone communications. Telephones at key locations in the EOF/EOC are equipped for building or area paging. Backup electrical power is supplied from a 100-kW diesel-fueled emergency generator.

Resource materials available in the EOF include:

- Plant procedures
- Emergency Plan and implementing procedures
- Maps with sectors indicated (10 and 50 miles)
- Air Sampler
- Portable Count Rate and Dose Rate Survey Instruments
- Plant electrical, piping and instrumentation drawings

The EOF is provided with a display terminal and printer for each unit's Plant Process Computer (PPC). This provides the ability to monitor and print plant parameters acquired by the PPC.

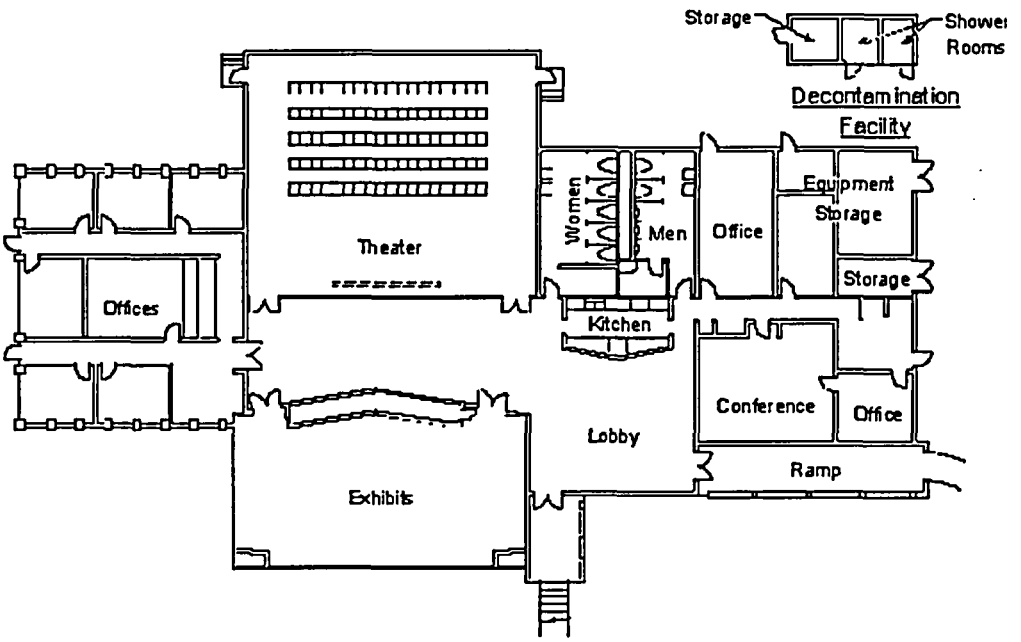
7.1.6.5 PG&E Corporate Interface

The Nuclear Logistics Coordinator has direct contact with the Corporate Policy Group Chair in the PG&E EOC and the Recovery Manager in the EOF. The Nuclear Logistics Coordinator is provided with communications from the Company telephone system and WAN links to Diablo Canyon.

7.1.7 PG&E Information Center

7.1.7.1 Location and Description

The PG&E Information Center is located 12 road miles from DCPP in an ESE direction. The Information Center is approximately 7,000 square feet. The floor plan of the Information Center and adjacent decontamination shower facility is shown below.



7.1.7.2 Emergency Function

The Information Center is the preferred location to gather onsite personnel in the event of a site evacuation, providing meteorological conditions permit. The Information Center can also be used as a headquarters, staging area, and personnel decontamination center. Finally, the Information Center is the first choice for a backup Emergency Operations Facility.

7.1.7.3 Habitability Objectives

No special provisions have been provided to enhance habitability for radiological emergencies. The Information Center has lavatory and kitchen facilities.

7.1.7.4 Special Equipment

The Information Center is provided with a base station emergency radio as well as PG&E and Public Switched Telephone Network (PSTN) telephones. It also has two decontamination showers and related supplies, including replacement clothing.

7.1.8 San Luis Obispo Electric Control Center Operations

7.1.8.1 Location and Description

The San Luis Obispo Electric Control Center Operations (ECCO) is located at the PG&E Service Center in San Luis Obispo approximately 10 miles east of Diablo Canyon. The ECCO is staffed around the clock and monitors distribution outages. There is space for about 15 additional persons in the adjoining Division Emergency Center.

7.1.8.2 Emergency Function

The San Luis Obispo ECCO is primarily intended as a backup headquarters and staging area for Corporate support personnel, in the event the Information Center is unavailable. It is also a back-up offsite assembly area in the event of a site evacuation. It could also be utilized as a backup location for the EOF. It also serves as the backup location for activating the Early Warning System EWS.

7.1.8.3 Habitability Objectives

No special provisions have been provided to enhance habitability for radiological emergencies. The San Luis Obispo ECCO has lavatory and limited kitchen facilities.

7.1.8.4 Special Equipment

The San Luis Obispo ECCO is provided with a base station emergency radio as well as PG&E and PSTN telephones.

7.2 COMMUNICATIONS EQUIPMENT

7.2.1 Private Unified Telephone System

The Company telephone systems provide voice communications to Company facilities. The phone system is arranged so any plant telephone can reach any other plant telephone. The plant phones can also reach other company facilities. Plant telephones are located at various locations throughout the plant, including the Control Room, Hot Shutdown panels, Security Building, laboratories, shops, Technical Support Center, Operational Support Center, Emergency Operations Facility and other work and equipment operating areas. In addition, phone jacks are located in the Control Room and at other strategic operating locations throughout the plant. Each phone jack is associated with a telephone number, and when used in conjunction with a portable telephone unit, can communicate with any other telephone in the power plant as well as the Company Network.

The Plant Telephone System consists of four Rolm CBX (Computerized Branch Exchange) Nodes with two located in the plant and two in the I&C Telecom Medical Facility. The Nodes are connected by INLs (Inter Nodal Links), which make the Nodes act as one switch but if one or more fails the others can run independently. The Control Room and other high priority areas have lines from different nodes to give them redundancy.

The Turbine Building also is serviced alternately from the two nodes in the plant so if one node fails the user can go to another phone near by and get service.

Special dedicated trunks to the PG&E 2-wire dial system in the corporate office are also part of the system. These provide a backup access to PSTN via the San Francisco dial exchange. There are also two one-way Attendant Trunks from San Francisco with access to the CBX. This would allow access from San Francisco even if all the regular and special feature trunks were busy.

During normal plant operations, calls to other PG&E facilities are processed via tie trunks over two independent transmission systems. The primary telephone link between the plant and the rest of the company is over a Digital Network of private lines. Another link is the company-owned and operated West Valley Microwave System. In addition to these trunks, additional one-way tie trunks are provided to the PBX in the San Francisco Corporate Headquarters. These trunks provide direct dial access to the corporate telephone exchange bypassing the normal dial traffic and accessed only by high priority telephones. The trunks ensure calls by high-priority telephones can be made to selected Corporate Offices as well as providing an alternate access to the PSTN System through San Francisco should the local PSTN Exchange in San Luis Obispo be congested. Also, Off-Premise Extensions (OPX) (i.e., plant telephones physically located offsite) located in the Corporate Offices provide unrestricted access to the power plant CBX excluding the necessity of operating through the PBX in San Francisco.

The power plant's company system has several built in conference call features to allow multiple callers to be connected to the same phone call. One such line is set aside for emergency use and is normally initiated following the sounding of the emergency signal or the fire alarm. Numerous personnel who pick up a company phone and dial a special conference call will be included in the call.

7.2.2 Communication Interface with Public Switched Telephone Network (PSTN)

The DCPP Emergency Response Facilities are served by two trunk groups, the Administrative and Emergency.

The plant also has many Direct Inward Dial (DID) lines which allow direct access to noncritical ROLM extensions from PSTN. Some of these lines come in via the Baywood Park cable and some via Avila Beach for redundancy. There are also many Direct Call Outward lines used for out dialing. All service to PSTN and PG&E company outside Diablo Canyon is distributed among the four Nodes at the plant for the greatest redundancy possible. Separate PSTN lines come into the plant for operational use. One line is mounted on the Senior Control Operator's desk in the Control Room to call out from the Control Room in an emergency. This number is unlisted to assure it will not be tied up. A second line runs to the Plant Manager's office, a third line to the Security Supervisor's office, a fourth line is dedicated to the Central Alarm Station (CAS) and the fifth goes to the Secondary Alarm Station (SAS).

7.2.3 Power Supplies

Power is provided by a battery charger where the charger supplies the load and float current for the batteries. The AC for the chargers is supplied from redundant sources. The battery chargers are load-sharing units. The mountain top repeater for the microwave systems are DC powered, employing AC powered battery chargers with batteries which float on the line. An automatic emergency generator at each repeater site supplies the charger if normal AC power is lost.

7.2.4 Control Room Telephone Communication

Numerous phone lines link the Control Room to the power plant telephone exchange. The lines to the Control Room are split between Nodes 3 and 4 for redundancy.

In addition, there are several special provisions including:

1) Dedicated dispatch lines that link the Control Room to the Company San Francisco General Office.

2) Dedicated tie lines go from the Control Room and (TSC) Technical Support Center to NRC Headquarters in Bethesda, Maryland (NRC FTS telephone), California Office of Emergency Services (OES) located in Sacramento, the Emergency Operations Facility (EOF) and the Sheriffs Office in San Luis Obispo. Also there are dedicated tie lines from the Operational Support Center (OSC) and the TSC to the Control Room.

7.2.5 Telephone Communications for the Technical Support Center (TSC)

The TSC has numerous phone lines to the plant CBX exchange. Additional telephone communications for the TSC are provided by a CBX Attendant Console. From this console, all incoming calls to the plant emergency phone number can be answered and/or transferred to personnel designated for response. The console can also be used to obtain an outgoing trunk line for use by the TSC. The Attendant's Console will normally be shut-off except during an emergency.

The TSC has dedicated lines to the Control Room, Operational Support Center, Emergency Operations Facility, the San Luis Obispo Count Sheriff's office and the State Office of Emergency Services. The TSC also has a standard unlisted telephone from the NRC FTS telephone system. This telephone provides direct access to an offsite location in the event the Company exchange system is not available.

7.2.6 Operational Support Center Telephone Communications

The Operational Support Center (OSC) has a CBX line and a dedicated auto-tie line to the Control Room and the TSC. In addition, the OSC has access to several telephone extensions installed for routine use.

7.2.7 Telephone Communication at the Emergency Operations Facility (EOF)

The Emergency Operations Facility (EOF) and County Emergency Operations Center (EOC) are co-located near the San Luis Obispo County Sheriff's Office. Included in the building is the County Sheriff's Dispatch Center, which has a dedicated tie line to the Control Room and TSC. This circuit is a common circuit to all these locations and can be accessed from each end.

There is an Off Premise Extension (OPX), in the EOC Command Center. This extension provides unrestricted access to the power plant, via company owned microwave paths, should the local PSTN be congested.

Communication circuits for the EOF include telephone lines from the power plant exchange and additional unlisted telephone lines from the PSTN Network. The NRC FTS telephone lines also tie into the EOF.

Communications between the plant and French Hospital, San Luis Obispo, can be channeled through the EOF. Normal communications will be via commercial telephone. Portable radios may also be used for emergency communications between French Hospital the Plant and EOF.

7.2.8 Data Communication System

The data communication system contains many dedicated circuits that are used in collecting and distributing information. The data network is divided into four areas: 1) records management, 2) time-share operation, 3) operational computer, and 4) health physics.

The majority of the data links radiate from the TSC, which has connectivity to the PG&E LAN/WAN for distribution to many locations in the PG&E network including the PG&E General Office in San Francisco and the EOF.

7.2.9 Nuclear Regulatory Commission Communication Lines

The Nuclear Regulatory Commission (NRC) installed a dedicated telephone system for their use at Diablo Canyon Power Plant.

This system, the Federal Telecommunications System (FTS), provides a separate government network for all the essential communications functions anticipated during an emergency. These essential functions are summarized as follows:

1) Emergency Notification System (ENS): Initial notification by the licensee, as well as ongoing information on plant systems, status, and parameters. The ENS telephones are located in the TSC, Control Room, and EOF.

2) Health Physics Network (HPN): Communication with the licensee on radiological conditions (in-plant and offsite) and meteorological conditions, as well as their assessments of trends and need for protective measures onsite and offsite. The HPN telephones are located in the TSC and EOF.

3) Reactor Safety Counterpart Link (RSCL): This is the channel by which the NRC Operations Center supports NRC reactor safety personnel at the site. In addition, this link may be also used for discussion between the Reactor Safety Team Director and licensee plant management at the site. The RSCL telephones are located in the TSC and EOF.

4) Protective Measures Counterpart Link (PMCL): This is the channel by which the NRC Operations Center supports NRC protective measures personnel at the site. In addition, this link may also be used for discussion between the Protective Measures Team Director and licensee plant management at the site. The PMCL telephones are located in the TSC and EOF.

5) Emergency Response Data System (ERDS) Channel: This is the channel over which the raw reactor parametric data is transmitted from the site. The ERDS lines are located in the TSC computer cabinets.

6) Management Counterpart Link (MCL): Established for any internal discussions between the Executive Team Director or Executive Team members and the NRC Director of Site Operations or top-level licensee management at the site. The MCL telephone is located in the EOF.

7) Local Area Network (LAN) Access: Established for access to any of the products or services provided on the Operations Center's local area network. This includes technical projections, press releases, status reports, E-Mail, and various computerized analytical tools. The LAN line is located in the EOF.

7.2.10 Satellite Telephones

Satellite telephones are available for use for intercommunications between emergency response facilities, along with communicating to Field Monitoring Teams.

7.2.11 UHF and VHF Radio System

7.2.11.1 General

The plant has several voice radio systems available for emergency response use in the UHF (Ultrahigh Frequency) and the VHF (Very High Frequency) radio-frequency bands. In the shorter range UHF band, the plant has voice channels available for Plant Operations and Security use, so that personnel from each department can simultaneously utilize radio communications to perform their duties without interfering with or being interfered with by each other.

The Plant can also communicate by voice radio on VHF channels assigned for Marine use and VHF Aeronautical channel (122.9 Mhz). A channel is also available for use by the California Division of Forestry/County Fire for fire fighting.

7.2.11.2 Plant UHF Radio Systems

The DCPP UHF radio systems can maintain point-to-point communications between the Control Room, the San Luis Obispo ECCO, the PG&E Information Center, the Port San Luis Gate, the San Luis Obispo County Sheriff's Dispatch Center, Technical Support Center, the Emergency Operations Facility, the Security Department, in addition to satellite telephones. Field Monitoring Teams have mobile radios and hand-held radios available for communication to the Emergency Operations Facility using the County Brown radio network.

The plant UHF radio system provides direct radio unit to radio unit usage around the Diablo Canyon site and between emergency response facilities which is independent of the telephone systems. The base station receivers located at the Sheriff's Operations Center, the PG&E Information Center and San Luis Obispo ECCO are equipped for selective calling. The normally silenced receivers may be selectively keyed by the plant Control Room, TSC, or county EOC. This feature may be cut out on the base station receivers to permit continuous, unrestricted monitoring of all units during emergency situations.

The Communications Room base stations are powered from battery backed DC power supplies which are fed from plant vital AC power. The radio system power supply is independent of all other non-vital 48 VDC fed equipment in the room.

Control consoles for this system are located in the Control Room, Technical Support Center, and Emergency Operations Facility.

Additionally, in-plant antenna arrays on radio systems make portable radio communications possible throughout the plant.

7.2.11.3 VHF Systems

The VHF radio system is the Company's Los Padres District Commercial operating network that covers from King City in the north to Solvang in the south. District Company radio-equipped vehicles within the district are normally dispatched by one of the several base stations in this network. The Control Room, TSC, and EOF are equipped with VHF radio consoles that can also be used for dispatch.

7.2.12 Joint Media Center

Telephone service for the Joint Media Center is provided primarily by the PSTN Company with some service from the PG&E network.

7.2.13 News Services Office San Francisco

Telephone service in the News Services Office in San Francisco is provided primarily by the PSTN Company.

7.3 ONSITE SIGNALS AND ALARMS

Several signals and alarms are provided to alert plant personnel to a possible emergency situation. These include:

7.3.1 Site Emergency Signal

The site emergency signal is a very loud sound produced by electronic warblers placed at numerous locations throughout the plant. The site emergency signal and containment evacuation signal are the only plant signals that are produced by an electronic warbler. The site emergency signal sound is a rapid rise in pitch followed by a slower drop. The cycle repeats itself as long as the signal is energized.

The site emergency signal is initiated manually by the Control Room Operator. Control switches are provided at the Control Room Consoles and the Hot Shutdown Panels for Units 1 and 2. Once initiated, the signal will continue until it is manually turned off.

Due to high background noise levels, flashing red lights as well as a warbler are included in the containment and in some locations of the turbine and auxiliary buildings.

The response of onsite personnel to the site emergency signal, other signals and alarms is discussed in Section 6 of the Emergency Plan.

7.3.2 Fire Signal

The fire signal is produced by sirens placed at numerous locations through out the plant. The fire signal is a steady tone for thirty seconds.

The fire signal may be initiated from any PG&E dial telephone in the plant. A three-digit number is dialed to actuate the signal. The caller is routed to the Control Room where the Unit 1 operator can filter the call and verify the need to sound the Fire Signal. If the operator is delayed from answering, the caller will route to the Emergency Bridge after four rings. The Fire Signal is actuated as soon as the call enters the Bridge and sounds for 30 seconds.

The bridge has multiple ports on the initiation side that will allow multiple callers the ability to report a fire or other emergency. The answer side of the bridge has multiple ports so that Operations, Fire and Medical personnel can listen in to see if they need to respond to the fire/emergency.

7.3.3 Criticality Monitor Signal

The criticality monitors are area monitors over the spent fuel pool and the new fuel storage area. These instruments generate an evacuation signal if radiation levels exceed the setpoint value.

The criticality monitor signal consists of horns mounted so that they are audible throughout the fuel handling building and in the hot shop area as well as flashing red lights which are mounted near the doors to the fuel handling building on the +85', +91', and +115' elevations. Flashing red lights over the doors in the hot shop indicate which fuel handling building has been alarmed. Units 1 and 2 have similar systems.

7.3.4 Containment Evacuation Signal

The containment evacuation signal utilizes the same signaling equipment within the containment as is used for the site emergency signal. The electronic warbler on the +140' elevation and flashing red lights on the +91' and +115' elevations are utilized. In addition, a flashing red light is located at the entrance to each personnel airlock.

The containment evacuation alarm is manually actuated from the control console, or from switches mounted in the containment by each airlock. This signal is independent for each unit. The containment evacuation alarm will continue until manually reset in the Control Room.

7.4 OFFSITE EARLY WARNING SYSTEM

An Early Warning System (EWS) is installed to provide prompt alerting of the public in the event of a major emergency at Diablo Canyon Power Plant. The EWS, used in conjunction with radio and TV broadcasts, allows instructions, information, and necessary actions to be immediately communicated to the general public.

The EWS is designed to meet the requirements of NUREG-0654/FEMA-REP-1 and employs guidelines set forth in FEMA REP-10, "Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants."

The EWS design objective specified in Appendix 3 of NUREG-0654 is to provide an alert signal within 15 minutes. This signal is initiated in conjunction with broadcasts providing notification and informational or instructional messages to the population on an area-wide basis throughout the NRC minimum ten-mile radius EPZ. The initial alerting system is designed to assure direct coverage of essentially 100 percent of the population within five miles of the plant site. The SLO County/Cities Nuclear Power Plant Emergency Response Plan provides arrangements to assure 100 percent coverage of the population the NRC designated plume exposure EPZ.

7.4.1 Outdoor Warning

The portion of the EWS providing initial outdoor alerting for the public to turn on their radios consists primarily of a siren system. Alerting provisions for groups that require special contact arrangements and for craft-at-sea are included in the SLO County/Cities Nuclear Power Plant Emergency Response Plan.

The approach taken in designing the siren system is based on the criteria set forth in documents noted above and on substantial practical field experience by the manufacturer. Because of the many factors that can greatly alter sound propagation from a warning device toward a potential listener, the design criteria set forth in the documents identified above are conservative in theoretical terms.

The system employs several siren sizes to attain the desired coverage. Choice of smaller sirens is often dictated by terrain or sparsely populated or isolated areas.

The number of sirens employed in the system was determined by choosing the siren providing the desired radius of coverage deemed necessary to achieve an adequate dissonant alerting signal level.

7.4.2 Indoor Warning

Large groups of people may be gathered together inside structures. Such structures may preclude detection of the warning provided by the outdoor warning system or may present particular response problems. The Emergency Alert System (EAS) is the primary means of providing indoor warning to residents of the DCPP Emergency Planning Zone.

San Luis Obispo Country also has over 100 tone alert monitor receivers in schools, hospitals, convalescent care centers, and other institutions to alert them with special instructions. No tone alert monitor receivers are distributed to residential members of the public. Control consoles for activation of these receivers are located in the Sheriff's Dispatch Center in the EOC/EOF Building.

Pagers have been assigned to key emergency response personnel including governmental officials and to members of the Environmental Health field monitoring teams. The pagers are activated from the Sheriff's Dispatch Center.

7.4.3 Early Warning System-Area of Coverage

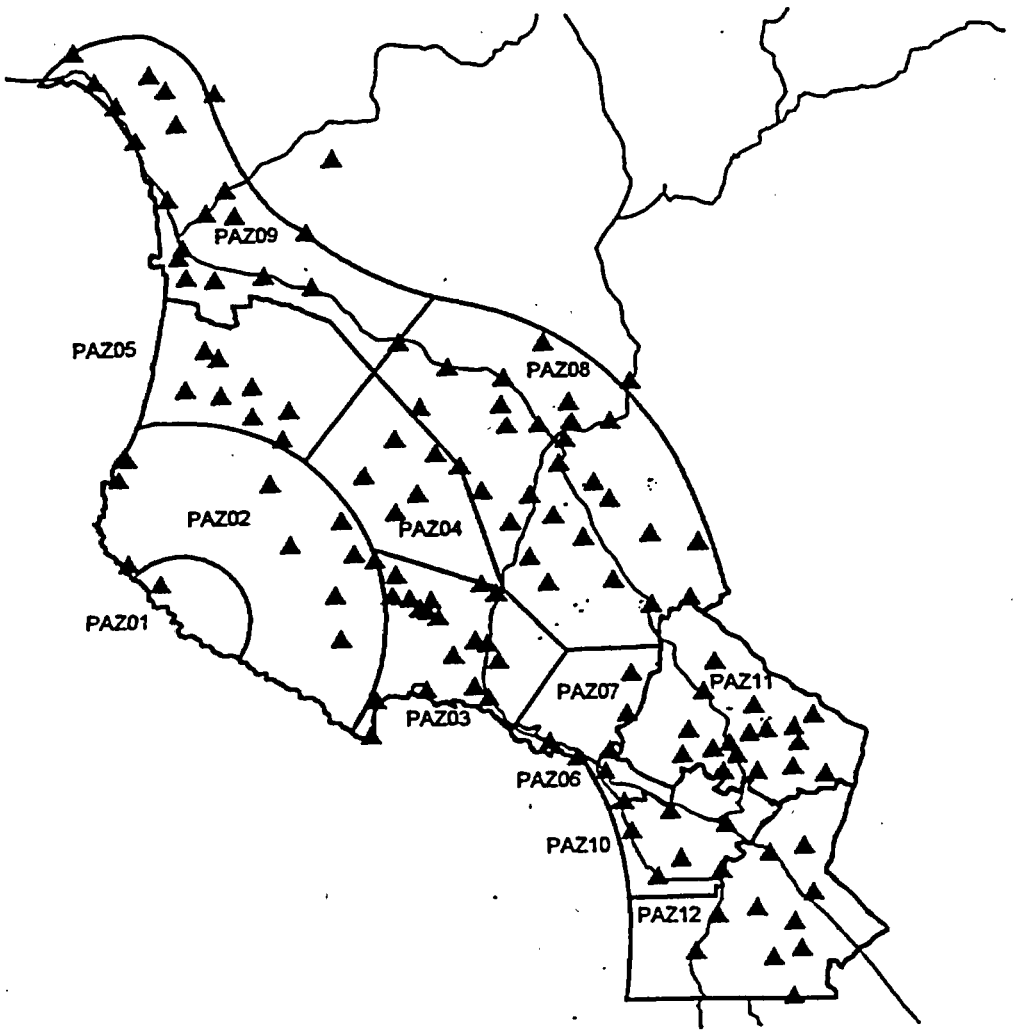
The coverage area of the EWS has been extended beyond the ten-mile radius to include the State of California Basic EPZ. The design coverage objective is based on the following assumptions:

1) All populated areas within the outdoor siren coverage range will be alerted with a 60 dB or greater siren signal.

2) All public institutions and business operations will have and use means for communicating specific instructions to their personnel when they hear the siren signal.

The large area within the five-mile radius of the plant has limited siren sites since it is rugged wilderness and, largely, inaccessible to the public. A portion is identified as a state park with jeep trails. The County Emergency Plan provides special notification arrangements in this area.

There are 131 area sirens of various sizes used in the EWS. The siren locations and approximate areas of coverage are illustrated below.



7.4.4 Siren Location

The location of each siren was determined in accordance with ambient noise measurements and other considerations.

A site survey to measure ambient noise levels was made in the general area of each proposed siren site. These measurements, the topography, the terrain coverage and the population density formed the basis for choosing the siren setting. A substantial portion of the population covered by each siren will be in a sound field that is 10 dB above the average daytime ambient background noise. Each siren site was chosen to minimize the biological, cultural and human impacts consistent with proper acoustic coverage.

7.4.5 Early Warning System Activation

The EWS sirens are activated by a supervisory control and data acquisition (SCADA) control system with primary and backup activation centers. San Luis Obispo County Emergency Operations Center personnel are responsible for system activation. The SCADA control system sends commands to and receives data from the sirens via radio signals from radio base stations such as Tassajera, Black Butte, Davis Peak, and Arroyo Grande Hill. Most of the sirens can be reached from at least two of the base stations.

The SLO County Sheriff Watch Commander, is responsible for EWS activation upon authorization as described in the SLO County/Cities Nuclear Power Plant Emergency Response Plan. The sirens can be activated simultaneously, individually or in designated groups. Security provisions against inadvertent operation of the EWS are built into the SCADA control system.

7.5 ONSITE ASSESSMENT SYSTEMS AND EQUIPMENT

7.5.1 Seismic Monitoring System (SMS)

The plant is provided with two unit common seismic monitoring systems, the Basic Seismic System (BSS) and the Supplemental Seismic System (SSS).

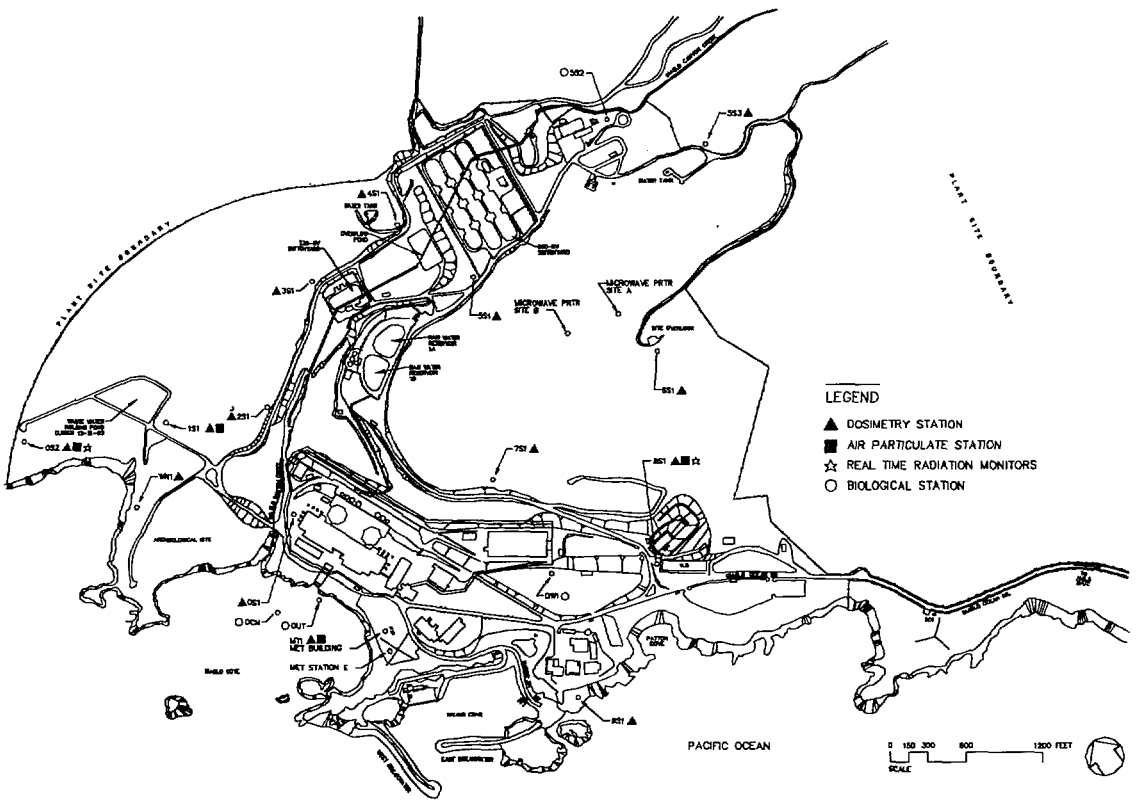
The SSS was provided by Terra Technology and is designed to measure minor ground acceleration of less than 0.005g to the design maximum range of each sensor. This system is activated by two trigger accelerometers located about the plant, causes an alarm in the main control room, and starts digitally recording data on recorders in the Aux Building. An alarm on this system alone does not constitute an emergency.

The instrument which alerts the operator to the occurrence of a moderate earthquake and which is used in the short term to initiate various emergency action levels is the BSS, a Kinemetrics strong motion triaxial accelerometer located in Unit 1. Activation of this unit at an acceleration of 0.01g at Unit 1 containment base slab sounds a main control room annunciator and starts a magnetic tape cassette and digital recording system which records the output of the device. In addition, the accelerometer output goes to an Earthquake Force Monitor unit, consisting of three indicators (one for each axis) that read out in percent of g. The indicator display is held at its maximum reading until reset, so peak accelerations can be immediately determined. The readout and cassette playback equipment for this instrument are located in the Unit 1 Control Room. This equipment is powered from a normal AC source, but has a battery backup capable of operating the unit continuously for one hour. In addition to the above seismic monitoring systems, there are 3 additional sensors per unit causing an automatic reactor trip.

7.5.2 Meteorological Systems

7.5.2.1 Measurement Systems

Site meteorological conditions are monitored continuously on two meteorological towers in close proximity to the plant structures. The locations of the meteorological towers are shown below.



A primary 76 m tower system is located about 200 meters (m) SSW of the plant structures. Measurements have been taken and used from this site since July 1967. The following data are provided: wind speed, wind direction, wind direction standard deviation (sigma theta) at the 10-m and 76-m levels; temperature at 10m; temperature difference (delta T) between 10-m and 46-m and between 10-m and 76-m levels; precipitation and dewpoint near the tower base; and 10m, 46m and 76m aspirator currents.

Meteorological data at the primary site is recorded continuously on strip charts and digitized electronically at two-second intervals. Fifteen-minute mean values are computed from the 2 second values by microprocessor within the primary met facility and are sent to both the Unit 1 and Unit 2 Plant Process Computers (PPCs) where they are archived and alarm processed. Primary Met data are sent to the Unit 2 PPC via the backup Met tower computer (FSAR 2.3.3.7.). The 15 minute values are also sent to the EARS Computer System, which is located in the TSC. The meteorological data via EARS is also available to the Emergency Operations Facility. On-line storage of the most recent 12-hour record of 15 minute means is maintained for ready access at all times on the EARS computer in the TSC. On-line storage of the most recent 30 days at 15 minute means is available on both the Unit 1 and Unit 2 PPCs. Archives are made approximately every 2 weeks so data from December, 1993 on will always be available.

A backup 60-m tower system is located about 1.2 KM ESE of the primary tower with two levels of measurement at 10-m and 60-m.

Measurement, reduction, storage, recording and transmission of data (the parameters measured in the first paragraph) are continuous with and similar to that of the primary system. The backup Met system measures 60m-10m temperature difference and sum of aspirator currents and battery voltage (FSAR 2.3.3.6.). It does not measure temperature at the intermediate level and the measurement of precipitation and dewpoint are available only at the primary site. The backup Met computer is located in the TSC (FSAR 2.3.3.7.). Failure of either the primary or backup systems will be shown on both the Unit 1 and Unit 2 PPC alarm screens and alarm printers.

Power for the primary system is derived from the Unit 1 480 volt nonvital bus with automatic switching in the event of failure to the Unit 2 480 volt bus. The primary microprocessor and meteorological sensors are backed up by an 8-hour battery source. The backup meteorological system is supplied AC power from the underground 12kV startup bus with backup power in the form of a one-week battery source. To minimize required battery capacity, further backup is provided by a spring-wound strip-chart with mechanically driven pens.

As shown below, supplemental meteorological information is available in the plant vicinity from two Doppler acoustic sounders and eight 10-m tower sites.

Meteorological Network in the Vicinity of DCPP

Six of these sites (Pt. Buchon, Los Osos, Foothill, Service Center, Information Center, and Davis Peak) are run exclusively for DCPP by PG&E. Another two sites (Templeton and Santa Maria) are run by PG&E for other projects but have data available for emergency response. Two 10-m tower sites (Morro Bay and Grover Beach) are operated by the San Luis Obispo County Air Pollution Control District and the aviation weather observations at the county airport are also available.

PG&E also operates two Doppler acoustic sounders (DAS) that provide remote sensing of wind speed, wind direction, standard deviation of wind direction (sigma-theta) vertical velocity and standard deviation of vertical velocity (sigma-w) as well as information on the presence of inversion layers. One DAS is located near the backup tower and the other DAS is located at the Information Center. The above parameters are provided for each of twelve 50-m layers with midpoints extending from 50-m through 600-m above ground level. Doppler data are processed to provide 15-minute averages of the above. PG&E surface (10-m) sites provide consecutive 15-minute averages of wind speed, wind direction and sigma-theta based on a 1-2 second sampling interval. The APCD 10-m sites provide hourly averages of wind speed and direction based on a 1-second sampling interval at Grover Beach and Morro Bay. Finally, the Weather Service/Airport site provide standard airways sequence data.

All data from the PG&E sites are available in real time at the EOF by PG&E Wide Area Network and dial-up modem.

In the event of failure of all electronic measurement systems, a portable weather station is available. This unit is battery powered for independent operation. The instrument provides recording of wind speed, wind direction and ambient temperature, which can be used to estimate offsite effects through manual calculation procedures in the event of failure of the automated assessment process. Should its use be required, χ/Q would be determined by using wind speed and a stability category based on wind direction range. (See App. 2.3I of Reference 3).

These measurement systems have been upgraded continually and currently satisfy all requirements of NUREG-0737, NUREG-0654 and Regulatory Guide 1.23 of the NRC.

7.5.2.2 Modeling Systems

Dispersion modeling software is operational on the Meteorological tower onsite computer systems to provide required inputs to the Dose Calculation Methodology. The model in use is consistent with characteristics of a Class A model as required by NUREG-0654 and 0737. Normalized ground level plume centerline concentration (dilution) values (χ/Q) are computed by the model as 15-minutes means for ten downwind distances ranging from 0.8 to 100 kilometers. Lateral and vertical plume dimension (sigma y and sigma z) are also provided for each of the same downwind distances. Concentration and plume dimension data generated by the model provide the necessary relationships between effluent monitor readings and offsite exposure and contamination. These data are distributed to recipients in the same manner specified earlier for meteorological measurement data.

Additional details on the meteorological measurement and modeling systems are provided in Section 2.3 of Reference 3.

7.5.3 Area Radiation Monitoring System

The area radiation monitoring system is a system of permanently installed radiation monitoring detectors located throughout the plant. Monitors and locations are listed below. The purpose is to measure the ambient radiation level in each monitored area. Such information is used both for personnel radiation protection purposes and to alert personnel to the release of radioactive materials within a plant structure.

This system includes G-M or Ion chamber detectors that are permanently mounted. Each of these instruments has a readout at the detector and in the Control Room, except as noted below. If an adjustable high radiation setpoint is reached, audible and visual alarms are sounded both at the detector and in the Control Room. The GM detector instruments are calibrated in mR/hr and have a range of 0.1 up to 10,000 mR/hr. The instruments will remain pegged full scale at radiation levels beyond the full-scale value. These instruments are powered from emergency power sources and would be available for post-accident use (except as noted below).

Additional detectors have been added to augment the original system of GM detectors in order to provide area monitoring where new spaces or specialized equipment have been added. The additional areas where these detectors have been added are in the Technical Support Center (G-M Type), and in the Containment (Ion-Chamber Type).

Detector Number	Location	Remarks
U-1 & 2 R-1	Control Room	
U1-R-2 U2-R-2	Containment operating deck (140' elevation) near personnel access hatch.	Not designed to withstand post loss-of-coolant-accident containment temperature.
U1-R-4 U2-R-4	Reciprocating charging pump room (73' elevation in Auxiliary Building).	
U1-R-6 U2-R-6	NSSS Sampling room (100' elevation in Auxiliary Building).	
U1-R-7 U2-R-7	Incore seal table area (103' elevation in containment).	Not designed to withstand post loss-of-coolant-accident containment temperature.
U-1 & 2 R-10	Auxiliary Building control board (85' elevation in Auxiliary Building).	
U1-R-30 U1-R-31 U2-R-30 U2-R-31	Containment high range radiation (140' elevation in containment).	Designed to withstand post loss-of-coolant-accident (LOCA) conditions in containment.
U1-R-34 U2-R-34	85' Plant Vent RMS Room (ALARA)	
U1-R-48 U2-R-48	HRSS (Sentry) Post Accident Sampling Room	Non-vital power supply Local readout only
U1-R-58 U2-R-58 U1-R-59 U2-R-59	Spent Fuel Pool Storage Area New Fuel Storage Area	
U-1 & 2 R-60 U-1 & 2 R-61 U-1 & 2 R-62 U-1 & 2 R-63 U-1 & 2 R-64 U-1 & 2 R-65	TSC Office Area TSC Operations Area TSC Computer Area TSC NRC Office Area TSC HVAC Equipment Area TSC Lab Area	Local readout only Normal power is from non-vital supply, but can be aligned to vital buses from Switchgear room.

7.5.4 Process Radiological Monitoring System

Several liquid and gaseous plant process streams are continuously monitored for radioactivity to provide an indication of equipment performance and provide a record of radioactivity releases to the environment. The important process monitors from the standpoint of potential usefulness in emergency situations are listed below.

Detector	Process & Location	Type	Range (CPM)	Remarks
1-R-11 2-R-11	Containment air particulate (100' penetration area GE)	Gamma scintillation	10^1 to 10^6 cpm	Continuous sample drawn from containment, passed through moving filter, returned to containment. Detector looks at filter. Sample lines are automatically isolated by R-44A/B in event of major accident in containment.
1-R-12 2-R-12	Containment air gas (100' penetration area GE)	G-M	10^1 to 10^6 cpm	Detector looks at sample flow downstream of particulate monitor. Sample lines are automatically isolated by R-44 A/B in event of major accident in containment.
1-R-13 2-R-13	RHR exhaust duct air particulate (100' Aux. Building)	Gamma scintillation	10^1 to 10^6 cpm	Detector looks at air particulate sample on moving filter.
1-R-14/14R 2-R-14/14R	Plant Vent gas (85' area L)	Beta scintillation	10^1 to 5×10^6 cpm read out in μCi/cc	Detector looks at pressurized sample flow downstream of iodine and particulate monitors.
1-R-15/15R 2-R-15/15R	Condenser air ejector gas (104' Turbine Building)	Beta scintillation	10^1 to 5×10^6 cpm	Detector looks at air ejector off-gas.
1-R-17A,B 2-R-17A,B	Component Cooling Water (73' Aux. Building)	Gamma scintillation	10^1 to 10^6 cpm	Detector looks at sample off CCW discharge header. High alarm isolates CCW surge tank vent.
R-18	Liquid radioactive waste system effluent line to ocean (54' Aux. Building)	Gamma scintillation	10^1 to 10^6 cpm	Looks at waste stream prior to dilution in outfall. High alarm closes waste discharge valve and diverts to EDR.
1-R-19 2-R-19	Steam generator blowdown liquid (100' Aux. Building penetration area GE)	Gamma scintillation	10^1 to 10^6 cpm	Detector looks at combined blowndown from 4 steam generators. Can be valved to look at each steam generator individually. High alarm will isolate Stm. Gen blowndown tank inlet and overboard lines.
R-3	Oily water separator effluent (85' Turbine Building)	Gamma scintillation	10^1 to 10^6 cpm	
1-R-22 2-R-22	Gas decay tank discharge gas (54' Aux. Building)	G-M	10^1 to 10^6 cpm	Detector looks at gas decay tank discharge line and isolates it on high alarm.
1-R-23 2-R-23	Steam generator blowdown to discharge tunnel (100' Aux. Building penetration area GW)	Gamma scintillation	10^0 to 10^6 cpm	Detector looks at liquid blowdown. 10-7 μCi/cc is the detectable level. High alarm will isolate Stm. Gen blowdown tank inlet and overboard lines.

(continued next page)

Detector	Process & Location	Type	Range (CPM)	Remarks
1-R-24/24R 2-R-24/24R	Plant Vent Iodine (85' area L)	Gamma scintillation	10^1 to 5 x 10^6 cpm (readout in μ Ci/cc)	Detector looks at plant vent I-131. Sensitivity based on I-131. Continuous sample is drawn through fixed particulate prefilter and silver zeolite cartridge in series. Detector looks at silver zeolite cartridge.
1-R-25 2-R-25 1-R-26 2-R-26	Control room ventilation supply (160' Aux. Building)	Gamma scintillation	10^{-2} to 10^3 mR/hr	Detector looks at Control Room ventilation intake to supply duct. High activity will transfer ventilation system to pressurization mode. (Mode 4)
1-R-28/28R 2-R-28/28R	Plant Vent particulate (85' area L)	Beta scintillation	10^1 to 5 x 10^6 cpm (readout in μCi/cc)	Continuous sample drawn from plant vent is drawn through fixed filter and detector looks at filter
1-R-29 2-R-29	Plant Vent high range gross gamma (outside PV on 155' lvl)	Ion-chamber	10^{-1} to 10^7 mR/hr	Detector monitors plant vent gross gamma by using a shielded detector with a wedge shaped "view window" aimed at the plant vent.
1-R-41 1-R-42 1-R-43 2-R-41 2-R-42 2-R-43	Gas decay tanks (64' Aux Building).	Ion-chamber	10^0 mR/hr to 10^4 mR/hr	Readout is at the Aux. Building Control Panel only. Well mounted with view ports directed at each tank.
R-51 R-52 R-53 R-54	Control room pressurization system inlet (140' Turbine Building)	G-M	10^{-2} to 10^4 cpm	Detector measures gross activity in the intake line. High alarm switches intake to opposite end of Turbine Building.
R-71 R-72 R-73 R-74	Steam lines downstream of containment penetration (130' pipe racks)	G-M	10 to 10^6 cpm	Detector measures gross gamma activity in steam line, including Nitrogen-16.
1-R-44A & 44B 2-R-44A & 44B	Containment Purge Exhaust (100' penetration area L)	Beta-scintillation	10 to 5 x 10^6 cpm	Containment purge exhaust. High alarm causes CVI.
R-66 R-68	TSC HVAC Duct TSC Lab	Beta scintillation	10 to 10^6 cpm	Particulate Monitor
R-67 R-69	TSC HVAC Duct TSC Lab	Beta scintillation	10 to 10^6 cpm	Noble Gas Monitor
R-82 R-83	TSC HVAC Duct TSC Lab	Gamma scintillation	10 to 10^6 cpm	Iodine Monitor
1-R-87 2-R-87	Plant Vent extended range gas (85' area L)	Beta scintillation	10^{-4} to 10^5 μCi/cc	Extended Range Plant Vent Noble Gas Monitor
1-RF-87A & 87B 2-RF-87A & 87B	Plant Vent Sample (85' area L)	Sampler only	N/A	Iodine Grab Sample (High Range)

7.5.5 Radiological Counting Room

The plant has extensive counting room equipment that is used for routine radiochemical determinations. This equipment could also be used during emergencies.

7.5.5.1 Location and Availability

The counting room is located on the +85' elevation of the Auxiliary Building. Although this area would be expected to be available during most emergency conditions, it should be noted that operation of residual heat exchanger 1-1 in the post LOCA recirculation mode (assuming a Regulatory Guide 1.4 source term in the reactor coolant system) produces a gamma background in the facility, which would make it unusable. The TSC also has the capability to accomplish radiochemical analyses.

7.5.5.2 Counting Room Equipment

1) Multi-channel gamma analysis capability

   The counting room has a gamma spectroscopy system that utilizes high purity germanium detectors with high-resolution quality. The data is analyzed (peak search, peak fit, peak identification, peak quantification, etc.) by a host computer.

   Analysis data from the counting room can be transmitted to the onsite Technical Support Center.

2) Liquid Scintillation Spectroscopy

   The counting room employs liquid scintillation spectroscopy. This analyzer is microprocessor controlled. The analyzer is primarily used for tritium (hydrogen - 3) analysis.

3) Proportional Counting Systems

   The counting room has a gas flow proportional counting system that is used for alpha and beta measurements.

7.5.6 Analytical Facilities Associated with Onsite Technical Support Center

One compartment adjacent to the Technical Support Center is set aside for analytical work. The principal purpose of this facility is to provide necessary onsite analytical capability in the event that the normal facilities in and around access control are unavailable. A germanium gamma spectroscopy system similar to those in the counting room is provided for isotopic analysis.

Emergency Assessment and Response System (EARS)

The EARS receives input data from a variety of offsite and onsite monitors to a central computer for dispersion dose calculations. The system includes a terrain specific atmospheric dispersion model which accounts for non-linear plume transport due to hill and valley influences. It provides plume projection maps and other assessment related information to centers both onsite and offsite. Overall system design seeks to optimize the diagnostic ability of operators and emergency response groups, maximizing the ability of system operators to understand events as they unfold.

EARS is interfaced to selected channels of the onsite meteorological towers and plant radiation monitoring system. EARS calculates doses for offsite locations based on data received from the various interfacing systems. These computed plume displays, along with input data, source terms, and meteorological parameters, are transmitted via data links to UDAC.

Each EARS workstation has the capability to graphically display plume projection maps and data, and to provide hard copy to the user. Displays at the TSC and EOF can be of an identical form for the purpose of response planning and coordination between the two facilities. Displayed information may be selected from several forms of calculated data and map presentations. Mapping capabilities are provided to superimpose plume boundaries, dose rates, airborne concentrations, population centers, and evacuation routes. Color graphics and printouts are used to increase the information content and readability of information.

7.5.6.1 System Description

The emergency dose assessment system consists of three functional subsystems:

1) Input Data Subsystem

   The data acquisition subsystem provides live-time radiological and meteorological data needed by the central computer as input parameters for the dose projection models. The specific input data systems are described below.

2) Central Computer Subsystem

   The servers, PCs, peripherals, and software needed to manage input and output communications, and to maintain live-time and historical databases. The central computer subsystem is the main data storage and distribution point for EARS. It is located in the Technical Support Center (TSC).

3) EARS Stations

   These are the dedicated PC workstations, with color graphics display monitors, color printers, and the EARS software for execution of the dose projection model, and transmission of results to the central computer and other EARS Stations.

The EARS Stations are distributed at two locations:

- TSC (DCPP)
- EOF (San Luis Obispo)

The TSC and EOF EARS Stations are both Control Enabled stations, capable of performing dose projections. Data transmission and software execution rates provide for updating the graphics display at intervals of not more than fifteen minutes.

4) Input Data Systems

a) Offsite Radiation Monitors

The offsite monitoring system consists of a "ring" of low-level gamma dose-rate monitors installed at selected locations at distances of 6-17 miles from the Diablo Canyon Power Plant site. These fixed locations have been chosen with a dual purpose of providing measurement stations at population centers, and of including the largest practical number of land based sectors from the site.

b) Meteorological Towers

Meteorological data are provided from the primary onsite meteorological tower. A secondary (backup) meteorological tower located onsite is equipped with similar instrumentation at two levels. The meteorological data from either tower is accessible from any network PC. EARS Stations automatically receive the necessary data from the primary tower, with auto-failover to backup tower data for any missing parameters. Manual entry of current data from the primary or backup meteorological tower is possible in the event of some problem with automatic input or data reduction.

c) Onsite Radiation Monitors and Plant Process Instruments

Parameters from fixed radiation monitoring and process instruments are available to any network PC. EARS Stations automatically receive the radiation monitor and flow element readings necessary for performing dose projections.

No. of Monitors	Monitor Channel	Monitor Function
2	R-02	Containment Area Monitor
2	R-11	Containment Air Particulate Monitor
2	R-12	Containment Noble Gas Monitor
2	R-14	Plant Vent Noble Gas Monitor
2	R-14R	Plant Vent Noble Gas Monitor, redundant
2	R-15	Condenser Air Ejector Gas Monitor
2	R-15R	Condenser Air Ejector Gas Monitor, redundant
2	R-22	Gas Decay Tank Discharge Monitor
2	R-24	Plant Vent Iodine Monitor
2	R-24R	Plant Vent Iodine Monitor, redundant
2	R-28	Plant Vent Air Particulate Monitor
2	R-28R	Plant Vent Air Particulate Monitor, redundant
2	R-29	Plant Vent Gross Gamma Monitor
2	R-30	Containment High Range Area Monitor
2	R-31	Containment High Range Area Monitor
2	R-87	Extended Range Plant Vent Noble Gas Monitor
2	FM-12	Plant Vent Flow Rate
2	FM-700	Containment Purge Flow Rate
2	FIT-81	Condenser Air Ejector Flow Rate
2	R-44A	Containment Purge Exhaust and CVI
2	R-44B	Containment Purge Exhaust and CVI, redundant
2	RE-71	Main Steam Line Monitor
2	RE-72	Main Steam Line Monitor
2	RE-73	Main Steam Line Monitor
2	RE-74	Main Steam Line Monitor

7.5.7 Portable Survey and Dose Rate Instruments

A variety of portable survey instruments (count rate and dose rate) is available at the plant for routine as well as emergency radiological monitoring. The general equipment types are summarized below. It should be noted that this list is intended only to be illustrative of the plant's capabilities. Precise quantities and models of specific equipment may vary from time to time as conditions change, new products appear on the market, etc. The equipment listed in the table is normally located at Access Control when not in use.

Portable Count and Dose Rate Meters

Instrument (Model No. or equivalent)	Detector Type	Radiation Measured	Range	Primary Use
Beta-Gamma Survey Meter (E-140), with the following detectors:			0-600, 0-6000, 0-60,000 CPM	General contamination surveys
Hand probe (HP-260)	GM	Beta, Gamma		
Shielded hand probe, (HP-210)	GM	Beta, Gamma		
Count rate meter (RM-15) for use with GM probes listed above, and:			0-500, 0-5K 050K, 0-500K CPM	Personnel contamination surveys
alpha scintillation probe (AC-3B-7)	ZnS (Ag_2), 59 cm sensitive area	Alpha		
gamma scintillation probe (SPA-3)	NaI (T1) 2" x 2"	Gamma		
Count rate meter (PRM-6) for use with GM probes listed above AC-3B-7 and SPA-3 probes	See above	See above	0-500, 0-5K 050K, 0-500K CPM	General contamination surveys
ASP-1 (HP 270 shielded hand probe)	GM	Beta, Gamma	.1 →10K mR/hr	General environmental radiation surveys
Portable REM Counter (PNR-4)	BF_3	Neutron, thermal to 10 MeV	0-5,0-50,0-500,0-5000 mR/hr	Neutron dose rate
Teletector 6112 OR Equivalent (Johnson Extender, Telescan)	Twin G-M tubes 30 mg/cm beta window	Beta, Gamma	0-2 mR/hr, 0-50 mR/hr 0-2 R/hr 0-50 R/hr 0-1000 R/hr	Beta, gamma dose rate
RO-2	Ion chamber 3.5 mg/cm beta window air fill gas	Beta, Gamma	Dose rate: 0-5, 0-50, 0-500 mR/hr 0-5R/hr	Dose rate
RO-2A	Ion chamber 3.5 mg/cm beta window air fill gas	Beta, Gamma	0-50, 0-500 mR/hr 0-5, 0-50 R/hr	Dose rate

7.5.8 Field Monitoring and Evacuation Kits

1) Field Monitoring Kits

Field Monitoring Kits are stored onsite at the Learning Services Building and offsite at the EOF. Miscellaneous equipment is stored at a location near the EOF. The purpose of Field Monitoring Kits is to provide Field Monitoring Teams (FMTs) with the portable supplies in convenient locations for quickly dispatching teams to the field. These kits contain equipment and supplies that allow assessment of ambient exposure rate, airborne, particulate concentration, airborne radioiodine concentration, and ground deposition.

Radiological Emergency Kits Contents

12VDC Air Sampler, sample head	Allen Key for Environmental TLD Holders
Constant Geometry Holder	Decon Center Key
Extra Sample Head	Corporate 909 Key
Air Sample Particulate Filters	Fuses for Air Sampler
TEDA Impregnated Cartridges	Change for Phones
Paper Envelopes for Particulate Filters	Pocket Dosimeter (0-200mR,0-5R)
Small Ziploc Bags	Dosimetry Charger w/battery
Forceps	Count Rate Instrument, E-140N (or equivalent)
Smears	Dose Rate Instrument, ASP-1 (or equivalent)
Timepiece	Pancake GM probe HP-210/260 (or equivalent)
Marking Pens	Extra Batteries for instruments
Tape	Instruction Binder containing the following:
Flashlight	• Procedure EP RB-8
Plastic Bags	• Record of KI Distribution
KI Tablets	• SLO County Map
Protective Clothing	• Field Monitoring Data Sheets
Calculator	

The following miscellaneous equipment is located in RM 126 of the Simulator Building.

2-way radios and satellite telephones
Bolt Cutters

The following miscellaneous equipment is located in the OEL garage storage area:

Trowel	Radiation Signs w/Inserts
Grass Shears	Radiation Barrier Tape
Liter Bottles	Air Sample Particulate Filters
Coveralls	AgZ and/or TEDA Impregnated Cartridges
Skin Decon. Soap	Paper Envelopes for Particulate Filters
Scrub Brush	Small Ziploc Bags
Flashlight	Surgical Gloves
Paper Towels	Smears
Plastic Bags	Extra Batteries
Tape	2-way radios and satellite phones

2) Evacuation Kits

Evacuation Kits are available for purpose of providing Evacuation Teams with the necessary portable supplies for performing contamination surveys of evacuated site personnel and their vehicles. The Evacuation Kits are stored in the Learning Services Building.

If the Site Emergency Coordinator recommends evacuating non-essential personnel onsite, the Evacuation Kits will be obtained by the Evacuation Coordinator and their monitoring staff prior to the evacuation.

Evacuation Kits Contents

- Barricade Tape
- Batteries
- Binder Containing:
  - Procedure G-4
  - Procedure G-5
  - Form 69-9310
  - Form 69-9311
- Bullhorn
- Calculator
- Corporation Key (3A90909)
- Count rate meter, E-140 (or equivalent)
- Decon Center Key
- Dose rate instrument, ASP-1 (or equivalent)
- Dosimeter Charger
- Flashlight
- GM Probe, HP-210/260
- Pens
- Plastic Bags
- Pocket Dosimeter (0-200 mR)
- Protective Clothing
- Smears

3) Hospital Kit

Hospital kits containing portable instrumentation, protective clothing and rad protection supplies are stored at French Hospital in San Luis Obispo.

Hospital Kit Contents

- Barricade Tape
- Batteries
- Count Rate Instrument, E-140 (or equivalent)
- Disposal Coveralls
- Dose rate instrument, ASP-1 (or equivalent)
- Dosimeter Charger
- Duct Tape
- GM probe, HP 210/260 (or equivalent)
- Latex Gloves
- Markers
- Personnel Decon. Records (69-9392)
- Pocket Dosimeters, 0-200 mR
- Rad Sign - 6 pocket
- Rad trash tags
- Radiation and Contamination Survey Sheet (Form 69-11510)
- Shoe Covers
- Smears
- Yellow/Magenta Tape, 2" width
- Ziploc bags

4) Clothing

Clean overalls and shoe covers are stored with the evacuation kits onsite, at the PG&E Information Center, and at the TSC for use in the event emergency worker evacuee clothing is contaminated.

7.5.9 Fire Detection and Trouble Alarm System

The Fire Detection and Trouble Alarm System uses heat detectors, flame detectors, and smoke detectors to provide the Control Room with an early warning of the existence and location of a fire or potential fire and in certain instances, initiates fire suppression systems.

In addition to the smoke and flame detection system, a vital equipment room temperature monitoring system provides indication of abnormally high compartment temperatures which may result from fire, ventilation system malfunction, or other equipment malfunctions. Individual components are equipped with the usual complement of trouble alarms, some of which (e.g., high temperature bearing alarm) can provide the operators with early warning of fire or potential fires.

7.5.10 Sampling and Analysis Capability

1) Reactor Coolant Sampling

If emergency conditions require sampling of reactor coolant, sampling may be performed by sampling of reactor coolant system and containment sump sampling systems. In addition to the normal plant laboratory facilities, the TSC has instrumentation for radiological analysis of the samples.

2) Containment Atmosphere Sampling

If emergency conditions require sampling of the containment atmosphere, the CASP containment atmospheric sampling system may be used. Equipment is provided to determine containment hydrogen. Dilute samples can be collected and prepared for counting. Radiological analyses are performed in either the normal plant laboratory facility or the TSC laboratory.

7.5.11 Miscellaneous Post Accident Assessment Instruments

1) Containment Interior Radiation Monitoring

These detectors are part of the area and process monitoring systems and include two high range gamma radiation-monitoring instruments that have been provided to monitor post-accident radiation levels inside of the containment. They utilize ion chamber detectors and have a range of 1.0 to 10^7 R/hr. The units read out and alarm in the Control Room. These units are supplied from emergency AC, are seismic design Class I, and are qualified for post-accident containment conditions.

The radiation level inside the containment can also be estimated from outside the containment using hand held instruments.

2) Containment Water Level

Two wide range and one narrow range containment water level recorders can be used to indicate water level from the bottom of the reactor cavity (elevation 64 feet) to elevation 98 feet. The volume of water these recorders will represent is greater than 600,000 gallons. The indicators are located in the Control Room.

3) RCS Subcooling Monitor

RCS subcooling instrumentation is provided to determine margins to saturation pressure and temperature using reactor coolant system pressure and temperature instruments and incore thermocouples. A dedicated calculating microprocessor module powered from a vital bus is provided. A digital readout is provided on the main control board. The margin, in either degrees Fahrenheit or pounds per square inch, is displayed on a continuous basis. Low and low-low main annunciator inputs are provided.

4) RCS Pressure Indication

Reactor coolant pressure transmitters on loop 4 and loop 3 of the RCS are provided. One transmitter has an indicator in the Control Room with a range of 0 to 3,000 psig. The other transmitter has a recorder with a range of 0 to 3,000 psig and an indicator with a range of 0 to 600 psig.

5) RCS Temperature Indication

RCS temperature is monitored with both narrow and wide range instruments. Each RCS loop has one wide range hot leg RTD and one wide range cold leg RTD. The wide range RTDs are in the main loops and have a temperature range of 0-700F. The narrow range RTDs are in thermowells that protrude into the legs and have a temperature range of 530-630F. The RTDs have Control Room readouts.

Also originally installed is a redundant, two train incore thermocouple system with readout on SPDS monitors in the Control Room, TSC and EOF. The number of operable thermocouples required per core quadrant is governed by the requirements given in the Technical Specifications. The incore thermocouple system is designed to Class 1E electrical requirements and uses microprocessor equipment to calculate and readout on the PAMS monitors. Readout is also available on the plant computer and SPDS monitors.

6) Containment Pressure Indication

Seven containment pressure indications are available in the Control Room (each uses its own transmitter):

a) During normal operation a single recorder with a range of -1 to +1.5 psig is utilized.

b) Four indicators are available with a range of -5 to +55 psig.

c) To indicate higher containment pressure two recorders with a range of -5 to 200 psig are available.

d) The instruments described in 2) and 3) are powered from vital electrical power supplies.

7.6 OFFSITE MONITORING EQUIPMENT

7.6.1 Offsite Geophysical Monitors

Offsite seismic observation and monitoring facilities in the coastal region are located at the University of California (Berkeley), California Polytechnical University (San Luis Obispo), California Institute of Technology (Pasadena), California Department of Water Resources (Sacramento), the U.S. Geological Survey (Menlo Park), and PG&E Geosciences Department (San Francisco).

7.6.2 Offsite Meteorological Data

Data from supplemental meteorological sites surrounding Diablo Canyon are available at the Emergency Operations Facility (EOF) and through Meteorological Services at PG&E headquarters in San Francisco and San Ramon. The sites include two upper air sounders, one at Diablo Canyon and the other at the PG&E Information Center and six surface meteorological sites located at Pt. Buchon, Los Osos, Foothill Blvd., Davis Peak, Information Center, and PG&E Service Center. Additional meteorological information that may be obtained on the PG&E Wide Area Network are: other PG&E power plants, offsite National Weather Service (NWS) data including upper air soundings at Vandenberg AFB, Oakland, San Diego, Las Vegas, Winnemucca and Medford, Oregon, and surface sites located in Monterey, Salinas, Paso Robles, Santa Maria, Santa Barbara, San Luis Obispo and Buoys EB11, EB23, and EB62. There are also additional surface meteorological sites available from central and southern California as well as the latest infrared and visual satellite images available at the EOF. Weather forecasts during an Emergency Plan activation are available from the EOF, PG&E forecast office, NWS Los Angeles and Monterey.

7.6.3 Environmental Direct Radiation Monitors and Air Sampling Devices

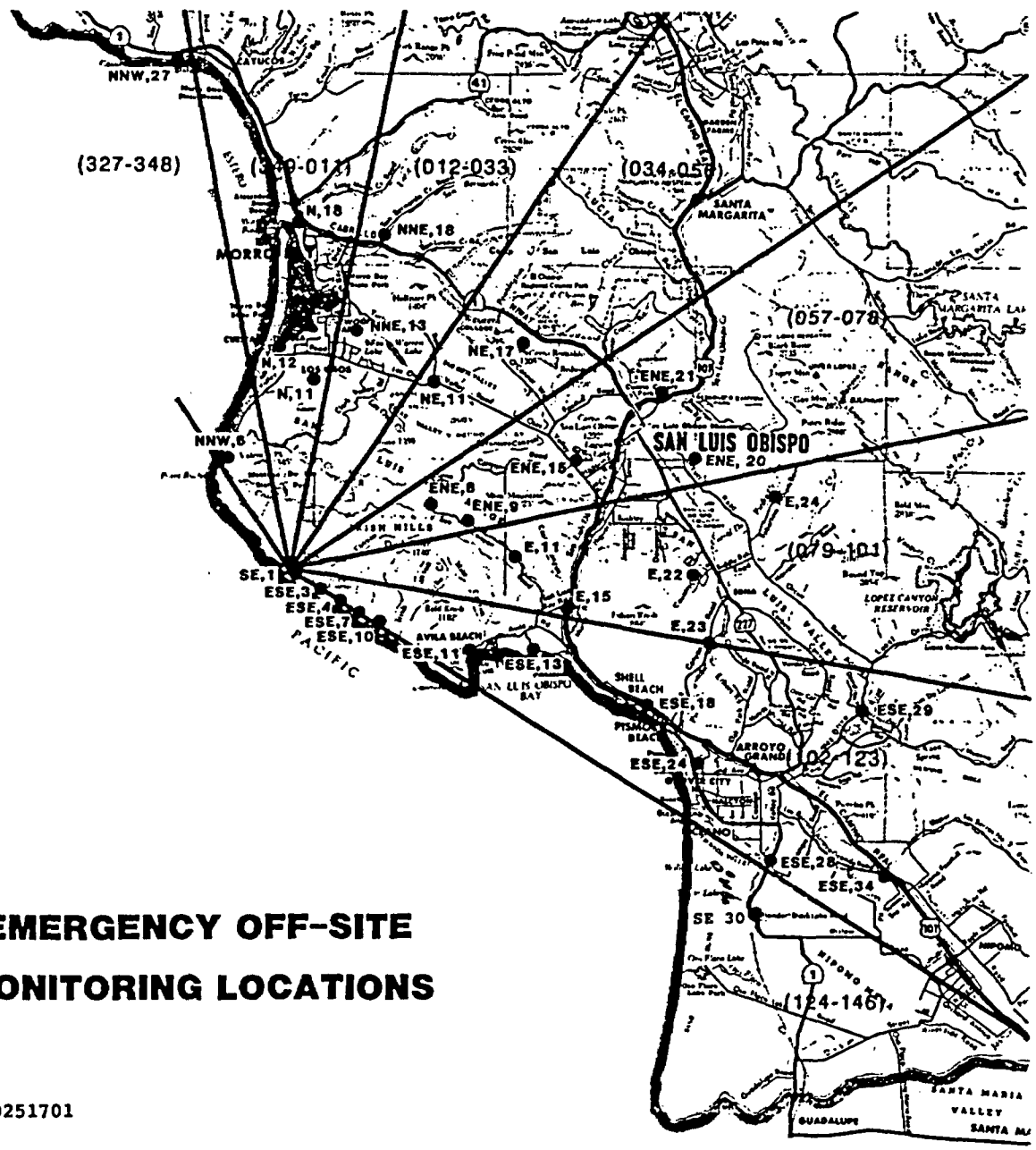
The Company has approximately 31 direct radiation monitoring stations in the vicinity of the plant which are part of its ongoing environmental monitoring program. Each station is equipped with thermoluminescent dosimeters. Fifteen of these stations are located onsite and sixteen are located offsite.

Twenty-one of the stations are located in order to provide an inner ring of stations in the general area of the site boundary and an outer ring in the 4-5 mile range from the site with a station in each land sector of each ring. Since the site is on the coast surrounded by a hilly, generally inaccessible area, some areas of the site boundary and in the range of 4-5 miles are inaccessible. However, a monitoring station has been placed to the closest accessible location to the stated criteria. Some of the above monitoring locations are also equipped with an air sampler fitted with a particulate filter and iodine cartridge.

Radiation monitoring stations are located in Santa Barbara County in the cities of Orcutt, Lompoc, and Solvang.

Maps of monitoring locations are shown below.

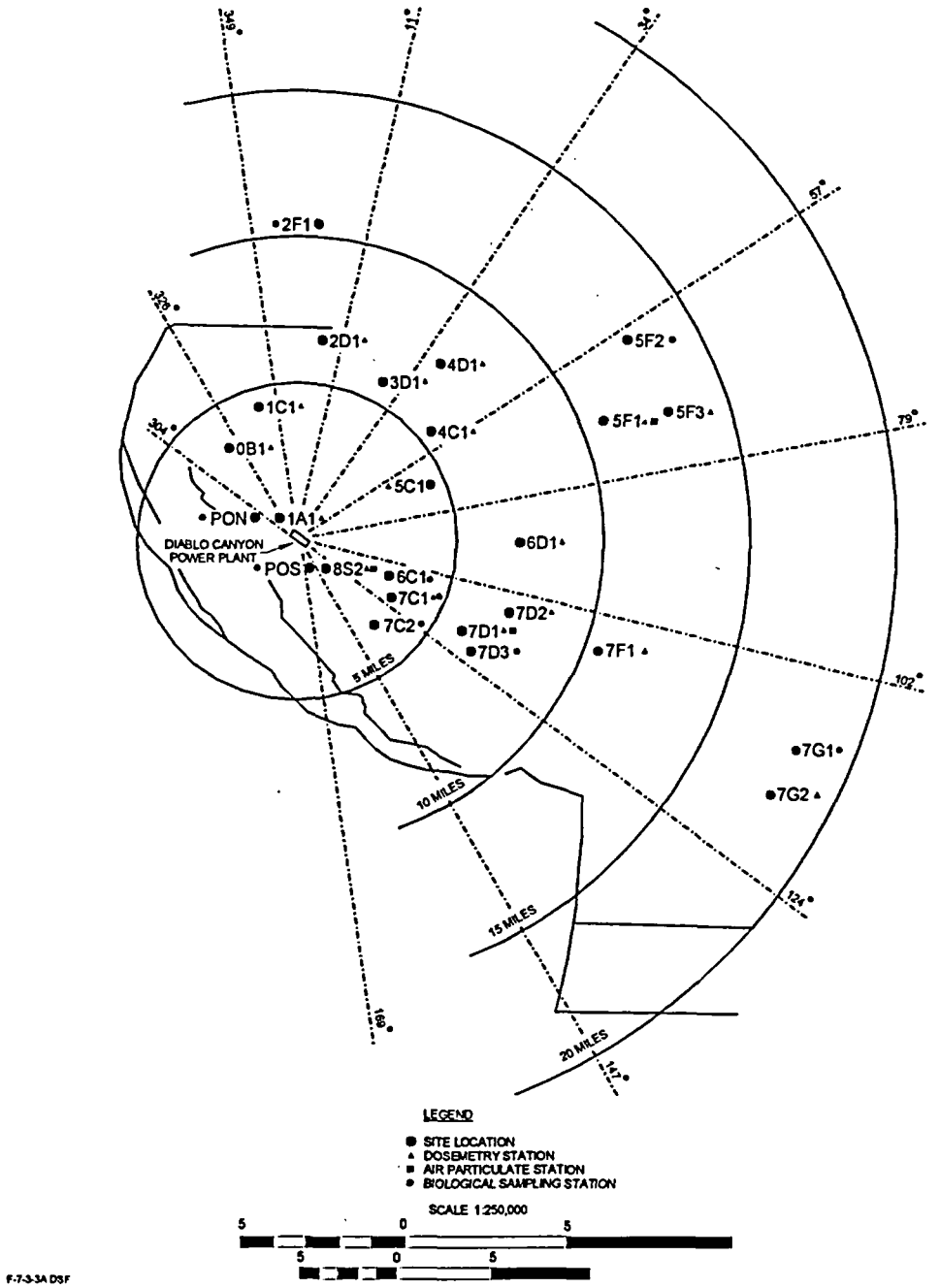
Emergency Offsite Monitoring Locations



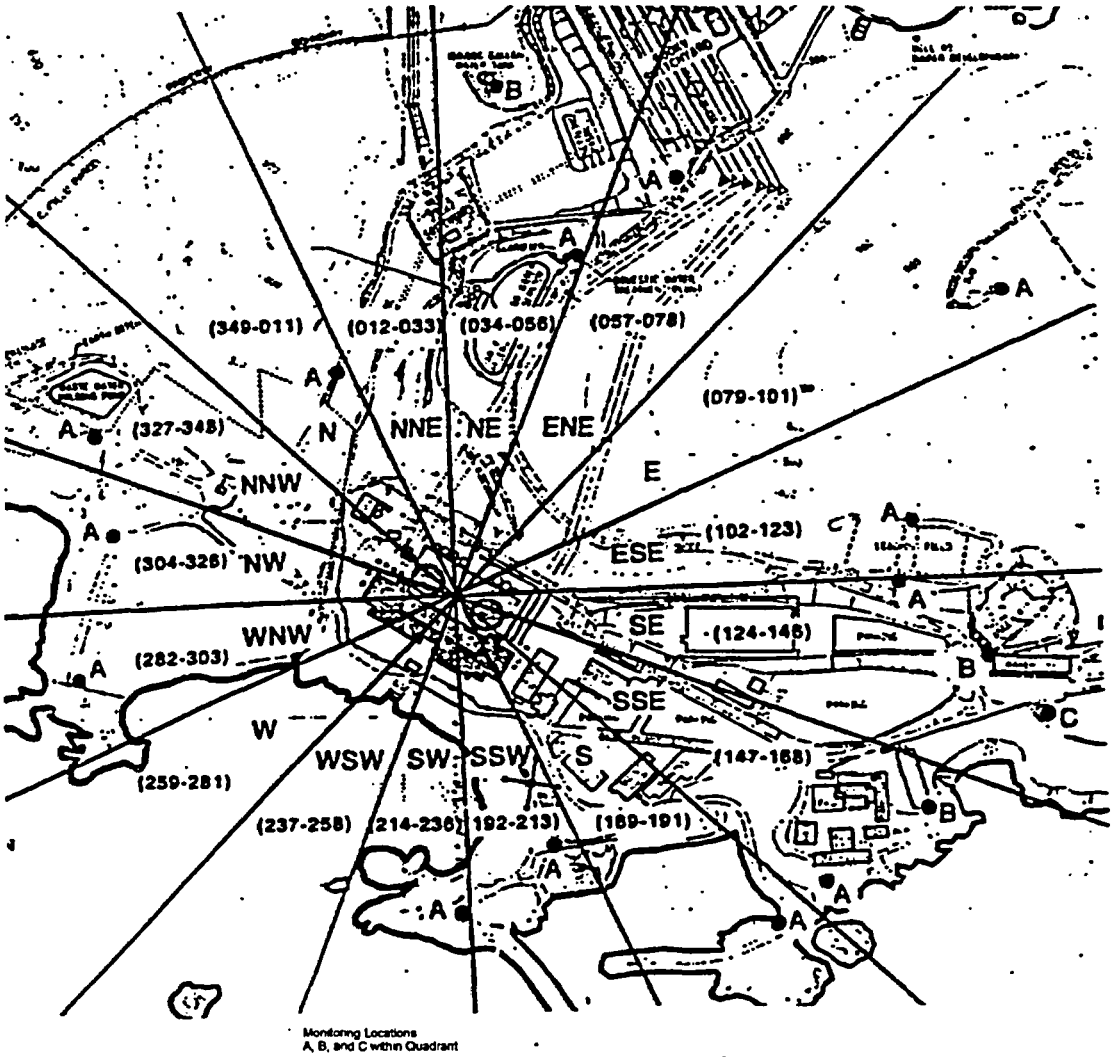
EMERGENCY OFF-SITE MONITORING LOCATIONS

00251701

Offsite Environmental Monitoring Stations

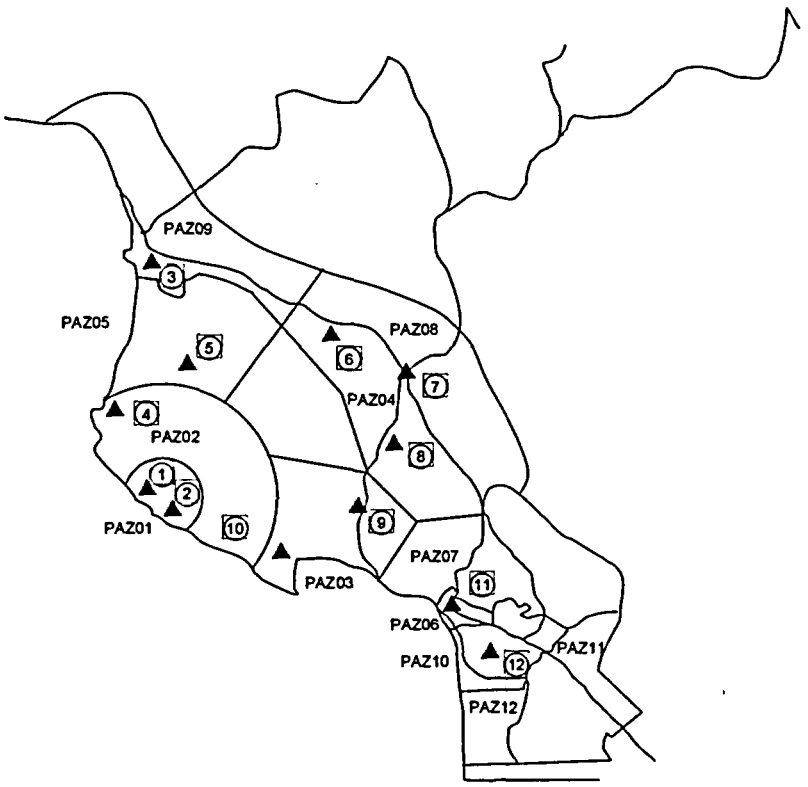


Onsite Monitoring Stations



7.6.4 Offsite Radiation Monitoring System

The real-time radiation dose-rate monitoring system consists of twelve low-level gamma radiation dose-rate monitors; ten are installed at the various population centers in the vicinity of Diablo Canyon Power Plant, and two located on the power plant as shown and listed below.



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PIC #	Description
1	DCPP North Gate Guard Post.
2	SSW Corner of Target Range (near on-site field monitoring location, SE, B).
3	Morro Bay Power Plant, near front gate.
4	Montana de Oro State Park. At the Park Ranger's residence, adjacent to the siren.
5	South Bay Fire Department.
6	Outside rear entrance to EOF (south side of building) (NE, 17).
7	SLO Police Department. Intersection of Santa Rosa Street and Walnut Street. Behind fence SW of Walnut Street driveway.
8	SLO Service Center, 4325 So. Higuera St., SLO (OEL Garage).
9	PG&E Information Center (E,15).
10	DCPP Front Gate.
11	Pismo Beach at the PG&E Pismo Warehouse on Price Canyon Road, about 0.5 miles NE of the Price Street intersection. PIC is located in the upper parking lot.
12	SLO County Building, Grover Beach. Exit Hwy 101 at 4th street. Take 4th to Longbranch and proceed NE on Longbranch. County Social Services Building is on corner of 16th and Longbranch.

These instruments are the Reuter-Stokes 1013 Environmental Radiation Monitoring Stations which employ a pressurized ion chamber (PIC) for accurate measurement of low-level gamma radiation. The RSS-1013 with the wide range gamma radiation sensor reads gamma dose rate between background readings (<0.01 mR/hr) up to 10R/hr. The RSS-1013 can be read locally on a LCD graphic display.

Data from the PIC's is transmitted to the TSC or EOF where it can be displayed, integrated, and transmitted to various offsite locations.

The purpose of the system is to provide continuous measurement and reporting to PG&E, local and state agencies of gamma radiation dose rates in the environment around Diablo Canyon Power Plant. The system provides a real-time display of radioactivity releases from Diablo Canyon so that informed decisions to protect the public can be made. The technical description of the real-time radiation dose-rate monitoring includes:

1) Detector Type and Specifications

   a) Type: Reuter-Stokes 1013 PIC Environmental Radiation Monitoring Station

   b) Sensitivity and Accuracy of the wide range gamma radiation sensor 0-10R/hr.

	Low	High
Range	0 μR/hr to 500 μR/hr	500 μR/hr to 10 R/hr
Accuracy	10 μR/hr: 5% above 10 μR/hr: better than ±5%	500 μR/hr: 8% above 800 μR/hr: better than ±5%
Sensitivity	10mV/R/hr	10 Hz/mR/hr

   NOTE: The sensor will perform within the stated accuracies over a temperature range of -25°C to +55°C degrees.

   c) Dose rate reading is taken continuously and is averaged and then polled by the EARS central computer at the TSC over a 1-minute period. It is also displayed and recorded locally at each PIC station.

2) Data Transmitted to EOF

   The data is taken from the real-time monitors by the EARS central computer at the TSC and this data is transmitted to desktop computers at the Emergency Operation Facility (EOF) in San Luis Obispo. The station will be able to display on CRT in color graphics or on printer, any received information about either the projected or the actual radioactivity release plume path and all PIC station readings.

   Monitor data will be stored in a data base on the EARS central computer. Instantaneous readings are available within the previous 2 hours and one hour averages are available on an annual basis.

   Each monitor has a unique ID number which is coded to prepared maps of different scales indicating exact locations of all monitoring stations. Each map can be displayed on the station's CRT's with monitor numbers overlaid at their respective locations and monitor data on one side of the map. The displayed map can also be transformed to hard copy on printer.

3) Detector Locations

The real-time radiation monitors locations were selected on the basis of three criteria. The first is the need to obtain radiation levels in the population centers surrounding Diablo Canyon. The data received from the real-time monitors would not only provide routine background gamma radiation dose rate data but also gamma radiation dose rate in the event of a significant airborne release from Diablo Canyon to augment radiation data obtained by field monitoring teams. The second is the need to distribute the monitors over as many of the land based compass sectors as possible. The final criterion relates to the prevailing wind direction, wind speed and the topography in the area of the Diablo Canyon Power Plant.

7.6.5 Offsite Laboratories

Two offsite radiological laboratories will be available in the event of an emergency.

1) PG&E's Technical and Ecological Services Health Physics Laboratory
   a) Location:
      (1) San Ramon, California.
   b) Capabilities:
      (1) Gamma Spectrum Analysis: 50 samples per 24-hour day; samples may be in the form of food, milk, water, air filters and iodine cartridges.
      (2) Gross Alpha/Beta Analysis: 50 samples per 24-hour day; samples may be in the form of air filters and water.
   c) Equipment:
      (1) Intrinsic germanium detector with associated NIM electronics and computer system.
      (2) Liquid scintillation detectors.
      (3) Gas proportional detector.
   d) Response Time:
      (1) During normal hours - staff existing at facility.
      (2) During off-normal hours - two hours following notification.

2) PG&E's Offsite Emergency Laboratory (OEL) at the PG&E Service Center in San Luis Obispo
   a) Location:
      (1) Dispatch point - PG&E San Luis Obispo Service Center, 4325 Higuera, Street, San Luis Obispo, California.
   b) Capabilities:
      (1) Gamma Spectrum Analysis - 35 samples per 24-hour day; samples may be in the form of filters, cartridges, liquids and solids.

C03

c) Equipment:

(1) Intrinsic germanium and/or sodium iodide detectors with associated electronics and desk top computer.

(2) Radio communications link with the Technical Support Center for voice transmission or analyses results.

(3) Portable health physics instrumentation.

d) Response Time:

(1) During normal hours - two hours following notification.

(2) During off-normal hours - two hours following notification.

7.6.6 Offsite Emergency Laboratory (OEL)

Offsite field sample analysis equipment is stored at the PG&E Service Center in San Luis Obispo. The OEL analytical equipment is transportable and is equipped with a gamma spectroscopy analysis and detection system, portable health physics survey equipment; communications equipment; and independent power supplies.

7.7 MISCELLANEOUS PROTECTIVE FACILITIES AND EQUIPMENT

7.7.1 Installed Smoke, Flame & Heat Detectors

Smoke, flame and heat detectors which are located throughout the plant are designed to give early warning of possible fire conditions. These detectors are annunciated on alarm panels in the Control Room.

When an alarm is received in the Control Room a plant operator will be sent to investigate the cause of the alarm. If a fire condition exists, it should be reported by calling telephone extension 779. Fire suppression system alarms (i.e., sprinkler, deluge, CO2 or halon) also annunciate in the Control Room. These alarms could indicate a potential fire condition and shall be investigated in the same manner as any fire detection alarm.

7.7.2 Fire Detection by Personnel

Reporting of fires takes precedence over fighting a fire. Only personnel trained in fire fighting equipment use should attempt to suppress a fire. The fire alarm signal system is the normal way to report a fire. The fire signal is initiated by dialing from any telephone on the plant site. The call goes to a Control Room Operator who receives information from the caller on a conference line. The fire alarm is sounded by a 30 second monotone sound. The alarm is followed by a public address system message with details about the fire.

The fire signal is a 30-second blast on the fire sirens.

When a fire alarm is sounded, the typical response is to perform the following duties immediately: The Fire Brigade can be made up of IFOs (i.e., Fire Captains and Fire Fighters) and Operations personnel. The Fire Brigade Leader can be a Fire Captain or a licensed operator that is Fire Brigade Leader qualified. A licensed operator will accompany the Fire Brigade unless the Fire Brigade Leader is a Licensed Operator. (See FSAR 9.5H.) The Industrial Fire Officers (IFOs) are professional fire fighters and makeup the rest of the Shift Fire Brigade for Fire, Rescue and Hazardous Material Emergencies. The Fire Captain is trained as a Fire Brigade Leader and has the primary role to support the Fire Brigade as an "Operations Officer" in the Incident Command System (ICS). The IFOs will be part of the 5 man Fire Brigade required by the FSAR.

The designated Shift Brigade Members will report to the Operational Fire Brigade Station, don protective equipment, pick up radios, proceed to the fire and maintain communication with the Control Room while fighting the fire.

The Security Department will upon notification of a fire, send a security officer to report to the Fire Brigade Leader located at the Fire Brigade Station.

Security will assist with access and the staging of offsite fire response personnel including providing radios, dosimetry, and escorts as necessary. Security will also assist the fire brigade with security barriers and ensure that plant security is not compromised during the emergency response.

The SEC will notify California Department of Forestry, San Luis Obispo County Fire (CDF/SLO). If the telephone lines are unavailable, the CDF/SLO radio will be used.

Notification shall be made for any of the following conditions:

- An active fire, or an incipient fire that has the potential to become an active fire, is reported in a structure that requires a Fire Brigade response.
- Report of smoke within a structure with no known location for the smoke.
- The first report of a fire in a location where accessibility for extinguishment is known to be difficult (i.e., high pressure turbine insulation, etc.).
- Any wild land fire.
- Any non-fire emergency that would require the use of CDF/SLO Technical Rescue or SLO County Hazardous Materials Team.
- Any time the Fire Brigade Leader or Site Emergency Coordinator recommends additional assistance.

Follow-up notification is made to CDF/SLO within ten minutes of the initial request for assistance. Sooner notification will be made if the fire has been extinguished and no offsite assistance is required.

7.7.3 Plant Fire Detection and Suppression and Respiratory Protection

Plant fire detection and suppression systems and respiratory protection equipment are described in the FSAR.

7.7.4 Halon 1301 Systems

Halon 1301 Systems are present in but not exclusive to the following:

1) Learning Center Building - There are Halon 1301 cylinders of various sizes set up to protect six different areas within the building. The areas are activated through either a manual pull-station or smoke detectors (photo-electric and ionization) that are cross zoned for automatic release. A full detector activation on the simulator area will open main power breakers for the simulator and the computer, close ventilation dampers and will delay a Halon release for 30 seconds after an alarm. Two different alarms will sound prior to discharge. The first is a ringing bell that is caused from an activated detector. The second alarm is a flashing strobe light and a horn that has been activated from a second detector. The second alarm will bring a discharge of Halon within 30 seconds.

2) The Administration Building - Halon system protects microfiches and sixth floor PC Network rooms and 1st floor Telecommunication room. The discharging of halon is caused by detector activation in the same way as the Learning Services Building.

3) The I&C/Tele Com/Medical Building - The Halon system protects the second floor telecommunication room. Halon discharge is caused by detector activation in the same way as the Training Building.

4) Document Storage Building (Building 604) - Halon discharge is caused by detector activation.

7.7.5 Mobile Fire Fighting Equipment

Mobile fire suppression equipment is provided to support a fire brigade response to areas outside of the main plant structures including construction areas and surrounding wildland. This equipment includes a 1987 class "A" rated fire engine pumper that includes a 1250 gpm two stage fire pump with a 1000 gal water tank. It carries 600 ft of 5", 600 ft of 3" and 600 ft of 1-3/4" fire hose. The engine also includes an installed foam proportioner with two 10 gallon storage tanks (10 gallons of class A foam, 10 gallons of class B foam).

7.7.6 Respiratory Protection Equipment

Respiratory protection equipment as described in the FSAR is available for emergencies involving fires and airborne radioactive materials.

7.7.7 Self-Contained Breathing Apparatus

MSA Model 401 pressure demand self-contained breathing apparatus units (SCBA) or Interspiro 4530 or equivalent are available at the site. Locations and numbers are as follows:

Location	SCBA	Extra 30-Minute Tanks
TSC	10	0
Control Room	10	0
Fire Brigade (various locations)	18	16
Access Control	20	20
Storage (various locations)	50*	64*
Total	108	100

NOTE: Up to one-half of this number may be removed for servicing.

Two onsite facilities are available to recharge SCBA tanks. They are located in: the 85' Aux. Building (RCA and the Unit 2 East Buttress 85'. One portable Poseidon Air Compressor capable of refilling either high pressure (4500 psi) or low pressure (2200 psi) is also available.

7.7.8 Constant Flow Air Line Respirators

The plant employs oil-free air compressors. As a result, the plant service air system can be used to supply breathing air. Approximately 20 MSA "clearvue" full facemasks outfitted as constant flow air line respirators are available. Duo-flow regulators allow the respirators to be used with HEPA filtration or as a constant flow system.

The regulators of these facemasks require a supply pressure of 35 to 40 psig. Since plant air supplies are at a higher pressure than this, pressure regulator boxes are used between the supply and the facemask. These boxes have manifolds where up to six separate air hoses can be plugged into the pressure regulated air. Approximately 10 of these regulator boxes are available at the site. Low pressure alarms are available to let the monitor know when pressure drops below the setpoint.

7.7.9 Radiological Protective Clothing

The plant is stocked with a considerable supply of protective clothing for normal personnel use when working in radiologically controlled areas of the plant. Typically, sufficient clothing is available for about 500 people.

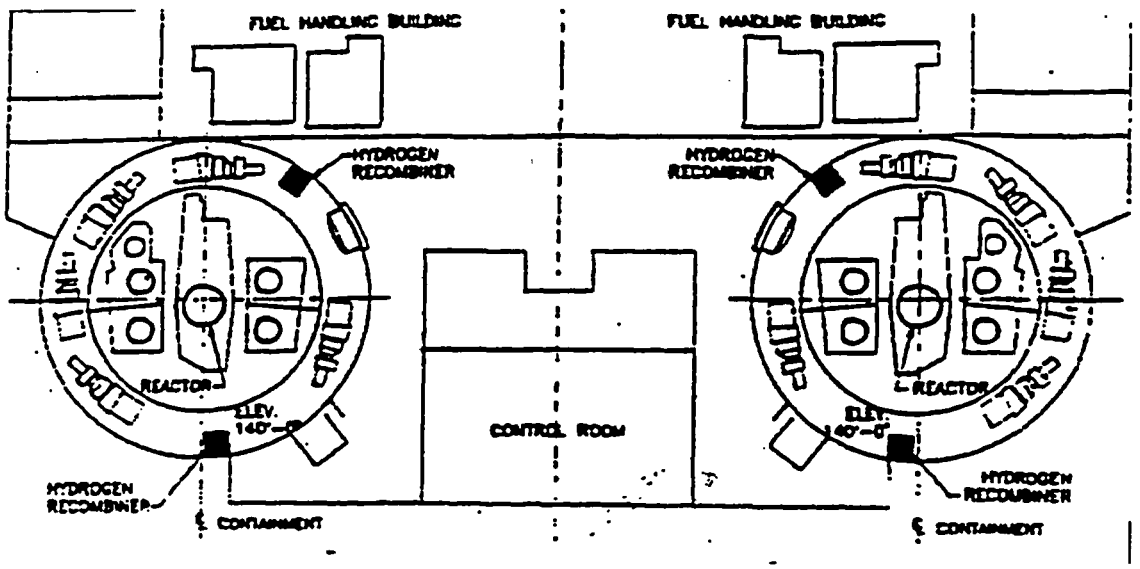
7.7.10 Containment Hydrogen Recombiners

The electric hydrogen recombiner system consists of two completely independent subsystems. Each subsystem is capable of providing the required hydrogen and oxygen removal capacity.

Each subsystem consists of a recombiner unit which is located in the plant containment building at elevation 140' and a control panel and power supply. The latter two components are located outside the containment in the Auxiliary Building which is an accessible structure following a loss-of-coolant accident (LOCA). Connections external to the containment for removal of hydrogen gas from inside containment by portable recombiner units are provided on the post-accident hydrogen purge system containment penetrations.

Each recombiner unit is a constant volume device with a flow of 100 cfm. It has a minimum hydrogen removal rate equivalent to a removal efficiency of 98 percent with a process gas hydrogen concentration of 4 percent.

The recombiner unit consists of an inlet preheater, a heater-recombination, and an exhaust chamber. The unit is completely enclosed and the internals are protected from impingement by containment spray. The inlet and outlet ports are louvered to minimize moisture entering the unit.



7.7.11 Permanent Lighting Systems

The plant is provided with independent lighting systems:

1) Normal AC Lighting

Normal lighting is operated at 208/120 volts supplied from the 480-volt system. The DC emergency lighting is supplied at 125 volts from two of the station batteries and is limited to a period of approximately two hours. This lighting is located principally in control and electrical equipment rooms, stairways, exits and entrances, corridors, and passageways.

2) Emergency AC Lighting

The AC emergency lighting is supplied from two vital 480-volt buses. It is located throughout the plant to provide minimum lighting. The AC emergency lighting is routed in separate conduits from the normal AC lighting.

3) Emergency DC Lighting

The DC lights are also in separate conduits in vital operating areas of the auxiliary building.

After the diesel generators start and the single phase AC emergency transformers receive power, the DC emergency lights are automatically relayed off. An overlapping time delay keeps the DC lights operating while the AC emergency lights return to service.

Lighting panels and circuits breakers were tested by the supplier to satisfy seismic requirements. Lighting panel wall attachments have been calculated to be adequate for seismic loads. Conduit supports have adequate seismic supports. The standard fixtures for DC lights are direct mounted to building surfaces, and are therefore subject to building seismic forces. The fixtures will not experience appreciable amplification of seismic forces.

7.7.12 Portable Lighting

Numerous battery-powered lanterns and flashlights are maintained in the storeroom for normal and emergency use. Additional units are stock items in the warehouse.

7.7.13 Transportation

7.7.13.1 Plant Vehicles

There are several types vehicles at the plant site, which can be used to provide emergency transportation. These include:

1) Two-wheel drive vehicles

   There are a variety of two-wheel drive sedans, station wagons as well as quarter ton, half ton, and three quarter ton pickup trucks at the plant site for general use and may be made available for use during an emergency.

2) Four-Wheel Drive Vehicles

   Four-wheel drive vehicles are provided for use at the plant site. These vehicles may be used by the radiological monitoring teams to obtain field measurements in rugged terrain.

7.7.13.2 Ambulance

Prior arrangements exist with local ambulance services in San Luis Obispo for onsite service. An agreement also exists for air ambulance service. The agreements include transportation of contaminated victims if required.

7.7.13.3 Offsite Company Vehicles

The Company has a fleet of automobiles and trucks in its San Luis Obispo service area which can be mobilized in an emergency if required.

7.7.13.4 Air Transportation

The Company has air transportation capability which is normally based in Oakland, California, and available for emergency use.

The Company also has access to a variety of charter aircraft and helicopter companies for emergency use, including transportation of contaminated victims using an enclosed type litter.

Finally, military helicopters may be available for emergency use. The closest one is at Vandenberg Air Force Base. These helicopters, capable of carrying three litters and four ambulatory persons, can be obtained through the San Luis Obispo County Sheriff's Watch Commander. These helicopters are available around the clock.

7.7.13.5 Other Modes of Transportation

The Company owns and maintains two marine crafts at the Diablo Canyon Power Plant. These vessels are available for personnel transport in the event road access is unavailable.

7.8 FIRST AID AND MEDICAL FACILITIES

The facilities for medical attention and personnel decontamination are located in the Building 102 Medical Facility immediately to the west side of the Turbine Building. Access to the Radiological Controls Areas (RCA) of the plant can be accomplished on foot or with the site emergency vehicle. Offsite ambulances can also readily access the Medical Facility or the RCA. Decontamination effluent generated at the Medical Facility is contained for proper disposal.

The DCPP Medical Facility provides routine occupational medical care as well as emergency care for sick or injured personnel. During normal business hours, a physician's assistant is in charge.

Emergency medical service is available 24 hours a day, seven days a week by registered nurses, trained EMTs, or paramedics.

7.8.1 Personnel Decontamination Facilities

A decontamination room is provided at Access Control on elevation +85' of the Auxiliary Building which has a sink and shower that drain to the liquid radwaste laundry collection tanks. Various decontamination aids are provided, such as brushes, skin decontamination soaps, rubber gloves, creams, wiping tissues, towels, etc. Monitoring instrumentation is readily available from the access control instrument storage.

7.8.2 First Aid Kits and Stretchers

Standard Company first aid kits and basket stretchers are placed at various locations throughout the plant.

7.8.3 Whole Body Counters

The plant has two computer-based whole body counters. The vertical model has an NaI detector. The other is an IGE bed counter, which if circumstances require, can be configured as a NaI bed counter.

7.9 CROSS REFERENCE TO NUREG-0654

NUREG 0654	DCPP Emergency Plan	NUREG 0654	DCPP Emergency Plan
C.1.a to c	7.2, 7.1.6.1	H.6.b	7.6.3, 7.6.4, 7.6.5, 7.6.6
C.3	7.5.5, 7.6.5, 7.6.6	H.6.c	7.5.8, 7.6.5, 7.6.6
C.4	7.6.5	H.7	0, 7.5.8, 7.6.3, 7.6.4
E.6	7.4	H.8	7.5.2
F.1.a	7.2.4, 7.2.7, 7.2.11	H.9	7.1.5.4
F.1.b	7.2.7, 7.2.11	H.10	7.1.5.4
F.1.c	7.2.7, 7.2.9, 7.2.11	H.11	7.1.7.4, 7.5.7, 7.5.8, 7.6.6, 7.7.3, 7.7.5, 7.7.6, 7.7.9, 7.8.1, 7.8.2
F.1.d	7.2.1, 7.2.2, 7.2.4, 7.2.5, 7.2.6, 7.2.11	H.12	7.1.4, 7.1.6, 7.6.6
F.1.e	7.2	I.2	7.5.10, 7.5.11
F.1.f	7.2	I.3.b	7.5.3, 7.5.4, 7.5.6, 0
F.2	7.2.7	I.4	0
F.3	7.1.5.4	I.5	7.5.2, 0
G.3.b	7.1.6	I.7	7.6.3, 7.6.4
H.1	7.1.4, 7.1.5	I.9	7.6.3, 7.5.8
H.2	7.1.6	I.10	0
H.5	7.5	J.10.a	0, 7.6.3, 7.6.4
H.5.a	7.5	J.10.c	7.4
H.5.b	7.5.3, 7.5.4, 7.5.5, 7.5.6, 0, 7.5.8, 7.5.11	K.5.a and b	7.8
H.5.c	7.5.4, 7.5.11	K.7	7.1.7, 7.8.1
H.5.d	7.5.9	L.2	7.8
H.6.a	7.6.1, 7.6.2	L.4	7.7.13

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8. MAINTAINING EMERGENCY PREPAREDNESS

The Diablo Canyon Power Plant emergency preparedness program consists of:

- Personnel training
- Participation in scheduled drills and exercises
- Regular emergency plan review and evaluation by company specialists and PG&E management.

The Senior Vice President, Generation and Chief Nuclear Officer, is the individual charged with overall authority and responsibility for emergency preparedness planning and training of Company emergency response personnel for DCPP. The administrative duties of managing the routine personnel training and updating the Plan, its appendices and the associated procedures is delegated through the VP Diablo Canyon Operations to the Emergency Planning Manager. The Emergency Planning Manager is assigned the collateral duty of offsite emergency planning coordination with local government agencies. In this capacity, he provides support to training programs involving non-company support agencies.

8.1 TRAINING OF PLANT STAFF PERSONNEL

Plant personnel participate in a program of lectures, demonstrations, written assignments, Computer Based Training, and drills designed to familiarize them with fire protection and emergency procedures, and radiation protection principles. First aid techniques are offered and made available to those site personnel requesting it. Except as noted, courses are conducted by qualified plant management personnel.

8.1.1 General Employee Training

All personnel receive instruction on the fundamentals of radiation protection, emergency signals and response, and site rules and regulations.

Additional instruction, as required based upon level of access, is provided in the basics of quality control, fire protection, industrial safety and contamination control, to those individuals who will be granted plant protected/vital areas access. Requalification is required on an annual basis for those individuals permitted protected/vital area access.

8.1.2 Emergency Plan Training

All permanent plant personnel attend general radiological emergency plan training, designed to familiarize them with the overall response to a radiological emergency at Diablo Canyon. This training includes descriptions of the emergency categories, emergency response organization, facilities, and extent of emergency response.

Personnel assigned to specific emergency response organization positions receive additional, specialized radiological emergency plan training. This instruction is advanced, task specific training, designed to provide each site emergency organization position with the skills/knowledge required for the performance of emergency response tasks.

The positions in the site emergency response organization include the following categories:

- Coordinators of the response organization (Site Emergency Coordinators)
- Personnel responsible for accident assessment (Radiological Advisor, Shift Technical Advisor) Radiological monitoring teams and radiological analysis personnel (Health Physics Technicians and Radiological Data Processors)
- Security (Security Advisor, Security Force)
- Repair and damage control/correctional action teams (Maintenance Coordinators, OSC Supervisor)
- Personnel responsible for transmission of emergency information and instructions (Liaison Advisor, Liaison Assistants, Agency Liaison)

Re-qualification is required on an annual basis for those personnel with specific assignments in the emergency response organization.

8.1.3 Emergency Operating Procedures

All plant operators above the level of Nuclear Control Operator, plus selected members of the engineering staff, receive training under the provisions of NRC licensing requirements. This instruction, provided in the Licensed Operator and Senior Operator Training and Retraining Programs, includes nuclear power fundamentals, plant systems, operating practice, procedures and experience and simulator training for normal, transient and emergency operation of the plant. Re-qualification is required on an annual basis.

8.1.4 Fire Protection

In addition to the general fire protection training provided to individuals as part of General Employee Training, members of the plant Fire Brigade receive instruction in fire fighting tactics, procedures and practical fire fighting (including actual fire fighting practice at an offsite facility) as part of the Fire Brigade Training Program, in accordance with FSAR Appendix 9.5H requirements.

8.1.5 First Aid and Accident Prevention

The first aid and accident prevention program is an integral part of Company activities at Diablo Canyon. First aid training includes cardiopulmonary resuscitation instruction for requesting plant employees. Accident prevention meetings are conducted on a continuing basis for plant employees. New employees receive an industrial safety orientation program.

8.1.6 Retraining

Retraining is required, on an annual basis, for those personnel with emergency response assignments. Participation in drills and exercise may satisfy some course retraining requirements if a person's performance is satisfactory.

8.2 TRAINING OF OFFSITE PERSONNEL

8.2.1 Corporate Support Personnel

Corporate support personnel are assigned emergency functions which are extensions of their regular duties and minimal training is required. Where persons may be required to fulfill new or unique tasks, special training will be provided as discussed in the PG&E Corporate Emergency Plan.

8.2.2 Non-Company Support Agencies

The development of training programs for individuals from offsite agencies is primarily the responsibility of the agency involved. This is particularly true in their areas of technical competence. The Company provides supplemental training on radiation protection, offsite monitoring, and other topics related to the Emergency Plan for agencies that require and request it. Normally this training will be scheduled on an annual basis. Examples of these programs include:

1) Company personnel contact local support services personnel, such as the County Emergency Services Coordinator, Sheriff, Marian and French Hospitals, San Luis Ambulance, and the CDF/County Fire on an annual basis to reaffirm the arrangements of the Emergency Plan. The need for special training programs is discussed at these meetings.

2) Selected physicians at Marian and French Hospitals, as well as other selected local physicians are sent to the Radiation Emergency Assistance Center/Training Site (REAC/TS) courses in the handling of radiation accidents conducted by the Oak Ridge Associated Universities.

3) Company or contracted personnel conduct periodic training seminars in monitoring, decontamination, and other radiation protection topics for emergency room personnel at Marian and French Hospitals.

4) Department of Forestry fire fighting personnel that respond to emergencies at DCPP involving radiation hazards receive initial and annual training. The initial training includes radiation protection training and a tour to review plant layout and target hazards. Refresher training includes radiation protection training.

5) The Company assists the County Health Department to train personnel in the use of environmental radiological monitoring equipment and radiological dose assessments.

8.2.3 Public Education

Educational information is distributed to the public within the Basic Emergency Planning Zone (BEPZ) regarding warning procedures used in a major emergency and the protective actions that may have to be taken by the public.

1) An emergency planner describing warning procedures and protective actions is distributed annually to persons residing or doing business in the Basic Emergency Planning Zone. The planner contains information about the plant, radiation and its health effects. The planner is revised annually and distributed within the San Luis Obispo County telephone book. A separate pamphlet describing warning procedures and protective actions is included along with the telephone book distribution. The public is advised that the planner is available separately for those without phone books.

2) Siren information stickers are distributed to all businesses, hotels, motels and places of public assembly within the BEPZ. The stickers advise tuning your radio to one of the primary emergency alert system radio stations if a steady siren sounds for 3 to 5 minutes.

3) When requested, trained spokespersons present information on warning procedures and protective actions to civic and other groups throughout the Basic Emergency Planning Zone.

4) Information on warning procedures and protective actions are presented to key groups within the Basic Emergency Planning Zone.

   Those businesses and organizations accommodating transient populations are provided with siren information stickers. Signs telling what to do if sirens sound have been posted in parks and scenic locations within the BEPZ.

5) News media staffs (Editors, reporters, newsroom personnel, etc.) are offered special programs annually to acquaint them with the power plant and its characteristics, emergency plans, radiation and radioactive effects and points of contact for public information releases in an emergency.

6) Copies of printed material are available at the PG&E district office in the Basic Emergency Planning Zone, the PG&E Community Center, and the County Office of Emergency Services.

8.3 DRILLS AND EXERCISES

Periodic drills and exercises involving both onsite and offsite emergency organizations are conducted to provide assurance that a high level of familiarity with the Emergency Plan is maintained and to expose any weakness in its execution. Drills are conducted to maintain emergency response skills and to update skills when modifications to the Emergency Plan or equipment require. During drills, if appropriate, on-the-spot correction of incorrect performance is made and demonstration of the proper performance offered by the instructor.

The Vice President, Diablo Canyon Operations, along with other key supervisory personnel from both the plant staff and other participating offsite organizations, is responsible for planning and scheduling drills and exercises. Following the drill or exercise, observers and principal participants from all agencies involved will meet to critique emergency response. Whenever drills or exercises involve participation of offsite agencies, particular emphasis will be placed on the review of the coordination between the Onsite Emergency Organization and communication links and notification procedures of offsite emergency organizations.

8.3.1 Drills

A drill is a supervised instruction period aimed at testing, developing and maintaining skills in a particular operation. Specifically, drills are intended to test the capability to respond and perform assigned emergency functions. Drills can be combined for actual execution, i.e., a Medical Drill or Health Physics Drill may be combined with a Full-Scale Drill.

1) Communication Drills

   a) Communications with San Luis Obispo County Sheriff and California Office of Emergency Services response centers will be tested at least monthly.

      Routine telecommunication checks from the Control Room are conducted with the County Sheriff's office and State OES on a weekly basis in addition to the communications drill.

   b) Communications between the Plant, Corporate Response Centers and EOF, and field assessment teams will be tested annually.

2) Fire Drills

   Fire drills are conducted in accordance with FSAR Appendix 9.5H requirements.

3) Medical Emergency Drills

   A medical emergency drill involving a simulated contaminated individual who is transported by ambulance to a medical facility will be conducted annually.

4) Radiological Monitoring Drills

   A plant environs and radiological monitoring drill will be conducted annually. This drill will include collection and analysis of environmental sample media (e.g., water, vegetation, soil and air) and provisions for communication and record keeping.

5) Health Physics Drills

   a) Health Physics drills will be conducted semi-annually which involve response to and analysis of simulated elevated airborne and liquid samples and direct radiation measurements in the environment.

   b) Analysis of inplant samples and the use of the post-accident sampling system will be included in the Health Physics drills annually.

6) Ingestion Pathway Zone (IPZ) Drills

   At least every twelve years, an IPZ drill will be conducted with California State participation.

8.3.2 Exercises

1) An exercise is an event testing the integrated capability, and a major portion of the basic elements, existing within emergency preparedness plans and organizations.

2) Full-scale team drills that involve County and State participation meet the criteria for an "exercise" as defined in NUREG 0654. As such, they can also be used to meet the six-year requirements for off-hours and unannounced exercises.

3) A graded exercise will be conducted biennially. In the graded exercise, County personnel and resources will be mobilized to verify the adequate capability to respond to an accident scenario. The graded exercise will be critiqued by the NRC and FEMA sponsored observers / evaluators.

4) The scenario should be varied from year to year such that all major elements of the plans and preparedness organizations are tested within a six year period. This will include provisions for an off-hours exercise/drill. The exercises/drills will be run under various weather conditions. Some exercises/drills will be unannounced.

8.3.3 Scenario Development

Scenarios for exercises and drills are to be varied to cover all elements of the plans and their implementing procedures and to exercise the preparedness organization. Federal documents provide guidance on the time-of-day, weather, frequency, free-play flexibility and pre-announcement criteria to be imposed. They also require exercise scenarios to be submitted to FEMA (when applicable) and the NRC for prior approval. In any event, these parameters are to be established through concurrence with the reviewers prior to the exercise or drill. As a minimum, each event scenario text shall include the following:

1) The basic objectives of each drill and exercises and appropriate evaluation criteria;

2) The dates, time period, places and participating organizations;

3) The simulated events;

4) A time schedule of real and simulated initiating events;

5) A narrative summary describing the conduct of the exercises or drills to include such things as simulated casualties, offsite fire department assistance, rescue of personnel, use of protective clothing, deployment of radiological monitoring teams, and public information activities and,

6) A description of the arrangements for and advance materials to be provided to official observers.

Scenarios are to be developed by the Company in conjunction with the County authorities. In each case, they are to be developed and administered by third parties to the actual exercise. Scenarios for exercises which are to receive FEMA evaluation and approval require prior approval by the Federal Regional Advisory Committee (RAC), Region IX.

8.4 EMERGENCY PLAN AND PROCEDURES

8.4.1 Review and Updating

The DCPP Emergency Plan is reviewed and updated annually. The intent of the review is to update and improve the plan based on plant changes, drills and exercises results, and assess onsite capabilities. Based on that review, the associated implementing procedures are updated as necessary. Following any revisions to the Emergency Plan, all participating agencies in the total emergency organization which are affected by the revisions are apprised of the changes through the distribution provided by the document control system. The Emergency Planning Manager maintains documentation substantiating the annual review and updating.

In addition, independent audits of the various aspects of the emergency preparedness program are conducted every twelve months. The independent audit includes, but is not limited to, the Emergency Plan, implementing procedures, training, readiness testing, equipment, and interfaces with state and local organizations. The results are considered by management in modifying aspects of the plan. Audit documentation is maintained according to the DCPP Quality Assurance Program requirements, as specified in Program Directive AD10.

8.4.2 Document Control

The Emergency Plan is included in the plant manual, Volume 11. Revisions to the plan will be controlled and distributed by the plant staff in accordance with plant document control procedures. This process requires review by the Plant Staff Review Committee (PSRC) and approval of the vice president and general manager. Changes will be issued periodically in the same manner to incorporate important modifications and information pending the issuance of a new revision.

Documentation of the activities required for emergency plan maintenance shall be in accordance with the standard practices defined by the Administrative Procedures, Volume 1 of the Plant Manual.

Changes and revisions will be issued to holders of Controlled Copies according to the distribution list maintained by Procedure Services.

8.5 IMPLEMENTING PROCEDURES

Each new Emergency Plan implementing procedure or procedure revision shall be reviewed, approved, maintained, and rescinded in accordance with plant administrative procedures.

Approval of new Emergency Plan implementing procedures or revisions shall be by the Vice President, Diablo Canyon Operations or his designee. If approved by a designee, the designee shall be knowledgeable in the procedure's subject area and shall meet the experience requirements of ANSI/ANS 3.1-1978 for Plant Managers.

8.5.1 Temporary Changes to Procedures

Temporary changes to Emergency Plan implementing procedures may be made in accordance with plant administrative procedures.

8.6 LETTERS-OF-AGREEMENT

Local participating emergency organizations with which a letter-of-agreement has been signed will be contacted on an annual basis to certify continuing support of the agreement. Emergency support organizations that have an approved contract will be contacted prior to contract expiration. Contracts will be reviewed on an annual basis to ensure they are current.

In general, letters-of-agreements are appropriate for organizations that are expected to respond in a declared state of emergency. To be specific, if the DCPP Emergency Response Plan or any of it's appendices identifies an organization from which a particular service or response is required, then documentation must exist that there is prior recognition by both parties that a prompt, effective response will be initiated. Concurrently, documentation must clearly point out the degree of emergency preparedness that response organization must continuously maintain in order to be capable of carrying out the obligation when the mobilization request occurs.

The letter-of-agreement should have as a primary purpose the identification of points of contact and telephone numbers for requesting assistance and verifying requests.

8.7 OFFSITE AGENCY SUPPORT DOCUMENTS

1) Offsite agency support documents shall be maintained. These documents may include Emergency Response Plans from agencies such as:
   - San Luis Obispo County
   - State of California
   - Westinghouse
2) Other documents may include Emergency Procedures or Protocols form agencies such as:
   - French Hospital
   - INPO
   - U.S. Coast Guard

3) Changes to Offsite agency support documents are not controlled by Diablo Canyon and do not necessarily constitute a change to the Diablo Canyon Emergency Plan.

4) Changes to Offsite agency support documents will be reviewed for impact to the Diablo Canyon Emergency Plan.

8.8 EMERGENCY EQUIPMENT AND SUPPLIES

To ensure the availability and operational readiness of emergency equipment and supplies, provisions have been made for performing periodic maintenance, calibration and inventory checks of the equipment. Equipment that is only used in the event of an emergency, such as emergency kits, is inspected on a quarterly basis and after each use in compliance with procedures. Sufficient reserves exist to replace equipment removed from emergency kits for calibration or repair. Other equipment which is used during normal plant operation and may be used in an emergency, such as radiation detection instruments and communications networks, is included in plant surveillance testing and preventive maintenance programs. Additionally, inventories of expendable supplies are maintained in an onsite warehouse and are replenished when minimum levels are reached, thus maintaining an adequate supply at all times.

8.9 CROSS REFERENCE TO NUREG-0654

NUREG 0654	DCPP Emergency Plan	NUREG 0654	DCPP Emergency Plan
A.3	8.6	N.3.a to f	8.3.3
B.9	8.6	N.4	8.3.2
F.3	8.8, 8.3.1	N.5	8.3.2
G.1.a to d	8.2.3	O.1	8.1, 8.2
G.2	8.2.3	O.1.a	8.2.2
G.5	8.2.3	O.2	8.1, 8.3
H.9	8.8	O.3	8.1.5
H.10	8.8	O.4.a to j	8.1, 8.2, 8.2.2
L.2	8.1.5	O.5	8.1, 8.2, 8.2.2
N.1.a and b	8.3.2	P.1	8.1, 8.2, 8.2.2
N.2.a	8.3.1	P.2	8.1
N.2.b	8.1.4, 8.3.1	P.4	8.4
N.2.c	8.3.1	P.5	8.4
N.2.d	8.3.1	P.9	8.4.1
N.2.e	8.3.1	P.10	8.4

9. RECOVERY

This section provides guidance for the operational Recovery Phase following plant emergency declaration and response but prior to the return to normal operations. The emergency phase, in which an Emergency Classification Level (ECL) is declared at the Alert classification or higher, is addressed by the G-series and EF-series Emergency Plan Implementing Procedures. When the emergency is terminated and the plant no longer requires an Alert or higher emergency classification for the purposes of offsite notification, there may still remain recovery tasks to be performed outside of normal operations. This section addresses this transitional Recovery Phase.

9.1 RECOVERY PHASE

The Recovery Phase commences at the time at which an emergency at the Alert or higher level has been terminated (either de-escalated to a UE or to no ECL), but before the plant has returned to normal operations. In order to enter the Recovery Phase, the plant should be in a stable condition and any real or potential radioactive releases limited to less than license limits without the likelihood of again increasing beyond those limits. There should be little probability that the accident will recur or that a new, declarable event (Alert or higher) occur as a result of the previous emergency or response actions. The emergency phase goals of the Emergency Response Organization (ERO) for events at the Alert or higher level include the list below. Upon entering the Recovery Phase, these goals should have been mostly or wholly attained.

1) Bring the plant to a stable condition.

2) Mitigate any real or potential radioactive releases.

3) Minimize hazards to plant personnel.

4) Work with offsite agencies to minimize hazards to the public.

During the Recovery Phase, while the Recovery Manager is still in control, management of the event is shifting from Emergency Response Organization as augmented by the incident Technical Review Group, Event Investigation Team, and, as necessary, the Outage Coordination Center. Use is made of these normal programs of widespread familiarity that deal with non-emergency operational problems in order to maximize the efficiency and effectiveness of the transition phase and minimize potential confusion and error.

The Recovery Phase is in turn terminated by declaration of the Recovery Manager, generally at the time he determines normal operational programs are sufficient to close out the event, and his continuous personal control is no longer required at or near the site. The Recovery Phase goals for returning the plant to normal operations should include the following:

1) Terminate the emergency declaration.

2) Determine which ERO positions will initially be retained in the Recovery Phase.

3) Initiate the NCR process, including the Event Response Plan as a blueprint for Recovery activities.

4) Activate the Outage Coordination Center for significant plant material restoration.

5) Complete the transition to fully normal plant (non-ERO) management.

6) Assist the State as requested to determine population dose.

9.2 EXTRAORDINARY EVENT RECOVERY

In the more probable accident scenarios, the Recovery Phase would be expected to begin upon the termination of the emergency phase (downgrade of an event from the Alert level or above to an NUE or to no ECL).

However, there is a possibility in the case of an extraordinary event that the Recovery Phase start may be appropriate while the plant still technically exceeds the criteria for an Alert or higher ECL, due to plant conditions or release (or potential release) status.

In such cases, the Recovery Manager may start the Recovery Phase, either concurrent with or after terminating the emergency phase for offsite notification purposes, as agreed with the County, State and NRC authorities.

9.3 RESPONSIBILITY AND ORGANIZATION

1) The Recovery Manager (RM) shall determine when the emergency event shall be terminated (downgraded to a UE or to no ECL). As appropriate in the case of an extraordinary event, the RM shall determine (as agreed by County, State and NRC officials) when the Recovery Phase should be commenced prior to the end of the emergency phase, or when the emergency phase may be terminated for offsite notification purposes and the Recovery Phase begun, though the plant is technically in an ECL at the Alert or higher level. The RM (SEC) shall then direct the activities of the Recovery organization until he declares the Recovery Phase complete. At this time his position will be deactivated and general site area control will revert to the Plant Manager, and the use of Emergency Plan Implementing Procedures (EPIPs) will no longer be necessary to close out the event.

2) The Recovery Organization will consist of the normal plant management organizations as assisted by the event-related Technical Review Group, Event Investigation Team and Outage Coordination Center and as overlaid by remaining elements of the Emergency Response Organization determined necessary by the Recovery Manager. These ERO positions will in time be deactivated prior to the RM declaring the Recovery Phase complete.

3) The structure and function of corporate positions during the Recovery Phase in the PG&E Emergency Operations Center (General Office) are addressed in the Corporate Emergency Plan.

9.4 CROSS REFERENCE TO NUREG-0654

NUREG 0654	DCPP Emergency Plan	NUREG 0654	DCPP Emergency Plan
B.7.a to d	9	M.3	9.1
M.1	9	M.4	9.16)
M.2	9.1		

10. REFERENCES

1) Nuclear Regulatory Commission, Emergency Planning, Final Rule, Title 10, Part 50 of the Code of the Federal Register (10 CFR 50), Appendix E, August 19, 1980.

2) Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, NUREG-0654/FEMA-REP-1, Rev. 1, 10/80.

3) Final Safety Analysis Report (FSAR), Diablo Canyon Power plant.

4) Evacuation Times Assessment Transient and Permanent Population from Various Areas Within the Plume Exposure Pathway Emergency Planning Zone, Wilbur Smith and Associates, September 2002.

5) Manual of Protective Action Guides and Protective Actions for Nuclear Accidents, EPA-400-R-92-001, Environmental Protection Agency (EPA), October 1991.

6) Memoranda-of-Understanding (MOU) between the NRC and FEMA, Federal Register Vol. 45, Number 243, April 18, 1985/Notices.

7) Federal Radiological Emergency Response Plan, November 8, 1985.

A. PROCEDURES

This appendix lists:

- Procedures that implement the Diablo Canyon Emergency Plan.
- Cross-reference of Diablo Canyon Emergency Planning Procedures to the NUREG-0654 planning standards.

A.1 EMERGENCY PLAN IMPLEMENTING PROCEDURES

Radiation Protection & Assessment (Immediate Operator Response)

EP R-2	Release of Airborne Radioactive Materials Initial Assessment
EP R-3	Release of Radioactive Liquids

General

EP G-1	Emergency Classification and Emergency Plan Activation
EP G-2	Activation and Operation of the Interim Site Emergency Organization
EP G-3	Notification of Offsite Agencies and Emergency Organization Personnel
EP G-4	Personnel Assembly, Accountability and Site Access Control During Emergencies
EP G-5	Evacuation of Nonessential Site Personnel

Training

OM10.ID3	Emergency Plan Training
OM10.DC1	Emergency Preparedness Drills and Exercises

Organization

EP OR-3	Emergency Recovery

Equipment and Facilities

EP EF-1	Activation and Operation of the Technical Support Center
EP EF-2	Activation and Operation of the Operational Support Center
EP EF-3	Activation and Operation of the Emergency Operations Facility
EP EF-4	Activation of the Mobile Environmental Monitoring Laboratory
EP EF-9	Back-up Emergency Response Facilities
EP EF-10	Activation and Operation of the Joint Media Center

Radiation Protection & Assessment

EP RB-1	Personnel Dosimetry
EP RB-2	Emergency Exposure Guides
EP RB-3	Stable Iodine Thyroid Blocking
EP RB-4	Access to and Establishment of Controlled Areas Under Emergency Conditions
EP RB-5	Alternate Personnel Decontamination Facilities

Radiation Protection & Assessment (Immediate Operator Response)

RB-8	Instructions for Field Monitoring Teams
RB-9	Calculation of Release Rate
RB-10	Protective Action Guidelines
RB-11	Emergency Offsite Dose Calculations
RB-12	Plant Vent Iodine and Particulate Sampling During Accident Conditions
RB-14	Core Damage Assessment Procedure
RB-15	Post Accident Sampling System

A.2 CROSS REFERENCE OF PROCEDURES TO NUREG-0654

NUREG 0654	PROCEDURES	NUREG 0654	PROCEDURES
A.1.d	G-2, EF-1, EF-3	F.2	EF-3, M-13
A.4	G-2, EF-1, EF-3	F.3	OM10.DC1
B.1	G-2, G-3	G.1.a to d	OM10
B.2	G-2	G.2	OM10
B.3	G-2, EF-1, EF-3	G.3.a	EF-10
B.4	G-3, EF-1, EF-3, RB-10	G.3.b	EF-3, EF-10
B.5	G-2, G-3, EF-1, EF-2 EF-3, EF-4, EF-10	G.4.a	EF-3, EF-10
B.6	G-2, G-3, EF-1, EF-3	G.4.b	EF-10
B.8	EF-1, EF-3	G.4.c	EF-10
B.9	EF-1, EF-3	G.5	OM10.DC1
C.1.a - c	G-2, EF-1, EF-3	H.1	EF-1, EF-2
C.2.b	EF-3	H.2	EF-3
C.3	EF-4	H.4	G-2, EF-1, EF-2, EF-3
C.4	EF-1, EF-3	H.5	OM10.DC3
D.1 & D.2	G-1	H.5.a	M-4, M-5
E.1	G-3	H.5.b	R-2, R-3, RB-8, RB-12, RB-15
E.2	G-2, G-3	H.5.c	RB-14
E.3	G-3, RB-10	H.6.a	M-4, M-5
E.4.a to n	G-3, RB-10 EF-1, EF-3	H.6.b	R-2, R-3, RB-1, RB-8, RB-12, RB-15, MT-34
E.6	G-3	H.6.c	RB-8, EF-4
E.7	EF-10	H.7	EF-4
F.1.a	G-3	H.8	RB-11
F.1.b	G-3	H.9	EF-2
F.1.c	G-3	H.10	EP MT-21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 33, 35, 38, 39, 43,50, RCP EM-16
F.1.d	G-2, G-3, EF-1, EF-3, RB-8	H.11	RB-8, M-13, MT-23
F.1.e	G-2, G-3, EF-1, EF-3	H.12	EF-4, RB-8
F.1.f	G-3, EF-1, EF-3	I.1	G-1

NUREG 0654	PROCEDURES	NUREG 0654	PROCEDURES
I.2	R-2, RB-9, RB-11, RB-14 RB-15	L.1	M-13, MT-23
I.3.a	R-2, R-3, RB-9, RB-11	L.2	M-13
I.3.b	RB-9, RB-11	L.4	M-13
I.4	RB-9, RB-11	M.1	OR-3
I.5	EF-1, EF-3, RB-9, RB-11	M.2	OR-3
I.6	R-2, RB-9, RB-11	M.3	OR-3
I.7	EF-4, RB-8	M.4	RB-11, OR-3
I.8	EF-4, RB-8	N.1.a and b	OM10.DC1
I.9	EF-4, RB-8	N.2.a	OM10.DC1
I.10	RB-8, RB-9, RB-10, RB-11	N.2.b	OM10.DC1
J.1.a to d	G-2, G-4, EF-1	N.2.c	OM10.DC1
J.2	G-5	N.2.d	OM10.DC1
J.3	G-5	N.2.e	OM10.DC1
J.4	G-5, RB-5	N.3.a to f	OM10.DC1
J.5	G-4	N.4	OM10.DC1
J.6.a	EF-1, EF-2, EF-9	N.5	OM10.DC1
J.6.b	EF-1, EF-2, EF-9	0.1	OM10.ID3
J.6.c	RB-3	0.1.a	OM10.ID3
J.7	G-3, RB-10	0.1.b	OM10.ID3
J.8	RB-10	0.2	OM10.ID3
J.10.a	RB-10, G-5	0.3	OM10.ID3
J.10.b	RB-10	0.4.a to j	OM10.ID3
J.10.c	RB-10, G-4, G-5	0.5	OM10.ID3
J.10.m	RB-10	P.1	OM10
K.1.a to g	RB-2	P.2	OM10
K.2	RB-2	P.3	OM10.ID2
K.3.a and b	RB-1	P.4	OM10.ID2
K.5.a and b	RB-5, RB-6	P.5	OM10.ID2
K.6.a to c	RB-4, RB-5	P.9	OM10
K.7	RB-5	P.10	MT-25

A.3 CROSS REFERENCE TO NUREG-0654

This appendix implements NUREG-0654 Part II, P.7.

B. OFFSITE AGENCY SUPPORT DOCUMENTS

The following plans and procedures, which relate to response to an emergency at Diablo Canyon, are provided by the associated offsite agencies. These documents are maintained by Emergency Planning. These documents are reviewed for any impact to the Diablo Canyon Emergency Plan.

- San Luis Obispo County / Cities Nuclear Power Plant Emergency Response Plan
- State of California Nuclear Power Plant Emergency Response Plan
- Westinghouse Electric Company Emergency Response Plan
- Diablo Canyon Power Plant Emergency Response Plan Implementing Procedures Listing
- French Hospital Emergency Response Plan
- Federal Radiological Emergency Response Plan
- Institute of Nuclear Power Operation INPO's Role in an Emergency
- U.S. Coast Guard Procedures to be Followed Upon Notification of an Emergency at Diablo Canyon Nuclear Power Plant

This appendix implements NUREG-0654 Part II, C.1.a, C.1.b, and C.1.c.

The following NUREG-0654 Part II planning standards are not applicable to the Diablo Canyon Emergency Plan.

- A.2.a
- A.2.b
- C.2.a
- D.3
- D.4
- E.5
- H.3
- I.11
- J.9
- J.10. d to l
- J.11
- J.12
- K.4
- L.3
- O.1.b