Pacific Gas and Electric Company®

Michael A. Ginn
Manager
Emergency Planning

Diablo Canyon Power Plant
P.O. Box 56
Avila Beach, CA 93424

805.545.3446
Internal: 691.3446
Fax: 805.545.6265

November 18, 2019

PG&E Letter DCL-19-093
PG&E Letter DIL-19-013

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

10 CFR 50.54, 10 CFR 72.32

Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-82
Diablo Canyon Units 1 and 2
Docket No. 72-26, Materials License No. SNM-2511
Diablo Canyon Independent Spent Fuel Storage Installation
Emergency Plan Update

Dear Commissioners and Staff:

In accordance with 10 CFR 50.54(q)(5) and the requirements of 10 CFR 72.32, Pacific Gas and Electric Company (PG&E) is providing a summary of the analysis of changes to Emergency Plan (E-Plan). The revised E-Plan section and the associated enclosures are listed below:

- Enclosure 1 - Diablo Canyon Power Plant Emergency Plan Revision Numbers for Emergency Plan Sections and Appendixes
- Enclosure 2 - Summary of the Analysis of Changes to Emergency Plan Section 7, Revision 4.22, "Emergency Facilities and Equipment"
- Enclosure 3 - Emergency Plan Section 7, Revision 4.22, "Emergency Facilities and Equipment"

PG&E evaluated the changes for a reduction in effectiveness, as defined in 10 CFR 50.54(q), and concluded that the changes do not reduce the effectiveness of the E-Plan. The E-Plan continues to meet the requirements in Appendix E of 10 CFR 50 and the planning standards of 10 CFR 50.47(b). Therefore, prior NRC approval of the associated changes was not required.

This update does not contain any privacy and proprietary information in accordance with NRC Generic Letter 81-27, "Privacy and Proprietary Material in Emergency Plans."

PG&E makes no new or revised regulatory commitments (as defined by NEI 99-04) in this letter.

If there are questions regarding this update, please contact me at (805) 545-3446.

Sincerely,

for Mike Ginn

Michael A. Ginn
Emergency Planning Manager

armb/4743/51053443
Enclosures
cc/enc: William C. Allen, NMSS Project Manager
Scott A. Morris, NRC Region IV Administrator
Christopher W. Newport, NRC Senior Resident Inspector
Balwant K. Singal, NRC Senior Project Manager
Senior Emergency Preparedness Inspector (RGN-IV/DR)

Enclosure 1
PG&E Letter DCL-19-093
PG&E Letter DIL-19-013

DIABLO CANYON POWER PLANT EMERGENCY PLAN

Revision Numbers for Emergency Plan Sections and Appendixes

DIABLO CANYON POWER PLANT EMERGENCY PLAN

Doc. No.	Rev.	Title
E-Plan Coversheet	4.01	Emergency Plan
E-Plan Table of Contents	4.05	Table of Contents
E-Plan Section 1	4.08	Definitions and Abbreviations
E-Plan Section 2	4.05	Scope and Applicability
E-Plan Section 3	4.00	Summary of Emergency Plan
E-Plan Section 4	4.17	Emergency Conditions
E-Plan Section 5	4.18	Organizational Control of Emergencies
E-Plan Section 6	4.19	Emergency Measures
E-Plan Section 7*	**4.22**	**Emergency Facilities and Equipment**
E-Plan Section 8	4.16	Maintaining Emergency Preparedness
E-Plan Section 9	4.02	Recovery
E-Plan Section 10	4.03	References
E-Plan Appendix A	4.08	Procedures
E-Plan Appendix B	4.02	Offsite Agency Support Documents
E-Plan Appendix C	4.00	Non-Applicable NUREG-0654 Standards
E-Plan Appendix D	5.02	EAL Technical Basis Manual
E-Plan Appendix E	4.00	Evacuation Time Estimates
E-Plan Appendix F	4.07	ERO On-Shift Staffing Analysis Report
E-Plan Appendix G	4.02	Protective Action Recommendation (PAR) Strategy Bases

***Revised Document**

Summary of the Analysis of Changes to Emergency Plan Section 7, Revision 4.22, "Emergency Facilities and Equipment"

Change	Original Content (Rev 4.21)	Revised Content (Rev 4.22)	Description of Change
1	7.1.2.1 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.	7.1.2.1 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 with two sub-panels.	Modified content. Added in "with two sub-panels." Sub-panels were added to the Unit 1 and Unit 2 hot shutdown panels (HSDPs) as part of the National Fire Protection Association (NFPA) 805 project. **10 CFR 50.54(q) Effectiveness Evaluation 2019-13 documents the detailed analysis of this change.**
2	7.1.2.4 Chemical and Volume Control System N/A – added new content	7.1.2.4 Chemical and Volume Control System 23. Cold leg loop charging motor operated valve 8107 24. Cold leg loop charging motor operated valve 8108 25. Charging to loop 4 cold leg air operated valve 8146 26. Refueling water supply to charging pump suction header valve 8805A pressure indicator	Modified content. Added in four (4) new chemical and volume control system (CVCS) controls available at the HSDPs. These controls were added to the Unit 1 and Unit 2 HSDPs as part of the NFPA 805 project. **10 CFR 50.54(q) Effectiveness Evaluation 2019-13 documents the detailed analysis of this change.**
3	7.1.2.4 Containment Fan Coolers 1. Containment Fan Cooler transfer switch 2. Containment Fan Cooler control switch Containment Fan Cooler ON/OFF status	7.1.2.4 Containment Fan Coolers 1. Containment Fan Cooler transfer switch 2. Containment Fan Cooler control switch 3. Containment Fan Cooler ON/OFF status	Modified content. Editorial change to number the last item for consistency. **This change does not affect how the current Emergency Plan (E-Plan) meets any planning standard functions, elements, or site-specific commitments. No additional evaluation required.**
4	7.1.2.4 Makeup Water	7.1.2.4 Makeup Water	Modified content. Editorial change to number the last item for consistency.

Change	Original Content (Rev 4.21)	Revised Content (Rev 4.22)	Description of Change
	1. Condensate Storage Tank level indicator Raw Water Reservoir level indicator	1. Condensate Storage Tank level indicator 2. Raw Water Reservoir level indicator	**This change does not affect how the current E-Plan meets any planning standard functions, elements, or site-specific commitments. No additional evaluation required.**
5	7.1.2.4 N/A – added new content	7.1.2.4 Reactor Coolant System 8. Hot Leg loop 4 pressure indicator 9. Hot Leg loop 4 wide range temperature indicator 10. Cold Leg loop 4 wide range temperature indicator	Modified content. Added in three (3) new reactor coolant system (RCS) indicators available at the HSDPs. These indicators were added to the Unit 1 and Unit 2 HSDPs as part of the NFPA 805 project. **10 CFR 50.54(q) Effectiveness Evaluation 2019-13 documents the detailed analysis of this change.**
6	7.1.4.3 The TSC structure is designed to Seismic Class I criteria.	7.1.4.3 The TSC structure is designed to the Hosgri seismic criteria.	Modified content. Updated the Technical Service Center (TSC) description of seismic design for the TSC from Class I to Hosgri to align with content of Section 7.1.4.1 of the E-Plan which states that the TSC structure is designed to the Hosgri seismic criteria. **10 CFR 50.54(q) Effectiveness Evaluation 2019-12 documents the detailed analysis of this change.**
7	7.1.4.3 Under accident conditions, the supply to the TSC is transferred to the Control Room pressurization system that maintains the TSC at a positive pressure.	7.1.4.3 Under accident conditions, the supply to the TSC is transferred to the Control Room pressurization system that maintains the TSC at a minimum positive pressure of 1/8" water gage.	Modified content. Added in "a minimum" and "of 1/8" water gage" to restore language from the safety evaluation report (SER) approved E-Plan that was previously removed. This change restores verbatim NRC approved language from the SER E-Plan to the current E-Plan. This change ensures all originally approved licensing requirements continue to

Change	Original Content (Rev 4.21)	Revised Content (Rev 4.22)	Description of Change
			be clearly documented. **This change does not affect how the current E-Plan meets any planning standard functions, elements, or site-specific commitments. No additional evaluation required.**
8	7.5.2.1 Site meteorological conditions are monitored continuously by the two on-site meteorological towers that are in close proximity to the plant structures. A primary 76-meter tower system is located about 200 meters 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 at the 10-meter and 76-meter levels; temperature at 10-meters; temperature difference (delta T) between 10-meter and 46-meter and between 10-meter and 76-meter levels; precipitation and dew point near the tower base; and 10-meter, 46-meter and 76-meter 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 the Unit 1 Transient Recording System (TRS). The Unit 1 TRS is interfaced to the Unit 1 Plant Process Computer (PPC). TRS transmits data to the PPC where they are archived and alarm processed.	7.5.2.1 Site meteorological conditions are monitored continuously by the two on-site meteorological towers that are in close proximity to the plant structures. A primary 76-meter tower system is located about 200 meters 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 at the 10-meter and 76-meter levels • Temperature at 10-meters, 46-meters, and 76-meters • Temperature difference (delta T) between 10-meter and 46-meter and between 10-meter and 76-meter levels • Precipitation and dew point near the tower base • 10-meter, 46-meter and 76-meter aspirator frequency Meteorological data at the primary site is recorded continuously on a multi-point recorder and digitized electronically at least once every two-seconds. A primary meteorological digital processor is located in the primary meteorological facility that communicates data to redundant meteorological computers located in the Technical Support Center (TSC) (FSAR 2.3.4). Fifteen-minute mean values are computed from the transmitted data by the	Modified content. Updated onsite met tower descriptions. **10 CFR 50.54(q) Effectiveness Evaluation 2019-14 documents the detailed analysis of this change.**

Change	Original Content (Rev 4.21)	Revised Content (Rev 4.22)	Description of Change
	Primary Met data are sent to the Unit 2 PPC via the backup Met tower computer (FSAR 2.3.3.7) and the Unit 2 TRS. The 15 minute values are also sent to the EARS Computer System, and select meteorological parameters to both unit's Emergency Response Data System (ERDS).	TSC meteorological computers. The redundant TSC meteorological computers provide data to redundant meteorological data servers which provide Unit 1 & 2 network communication of the 15 minute values to the Plant Data Network (PDN), the Emergency Assessment and Response System (EARS), the Plant Process Computers (PPC) and select meteorological parameters to the Emergency Response Data System (ERDS).	
9	7.5.2.1 A backup 60-meter tower system is located about 1.2 KM ESE of the primary tower with two levels of measurement at 10-meters and 60-meters. Measurement, reduction, storage, recording and transmission of backup tower data 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.).	7.5.2.1 A backup 60-meter tower system is located about 1.2 KM ESE of the primary tower with two levels of measurement at 10-meters and 60-meters. Measurement, reduction, storage, recording and transmission of backup tower data are continuous with and similar to that of the primary system. The backup Met system measures (FSAR 2.3.4): • Aspirator frequency. • Battery condition. • Temperature difference (delta T) between 10-meter and 60-meter	Modified content. Updated onsite met tower descriptions. **10 CFR 50.54(q) Effectiveness Evaluation 2019-14 documents the detailed analysis of this change.**
10	7.5.2.1 The backup Met computer is located in the TSC (FSAR 2.3.3.7.).	7.5.2.1 A backup meteorological digital processor is located in the backup meteorological facility that communicates data to redundant meteorological computers located in the TSC (FSAR 2.3.4).	Modified content Updated onsite met tower descriptions. **10 CFR 50.54(q) Effectiveness Evaluation 2019-14 documents the detailed analysis of this change.**
11	7.5.2.1 To minimize required battery capacity, further backup is provided by a spring-wound strip-chart with mechanically driven pens.	7.5.2.1 N/A – content removed	Removed content. Removed description of spring-wound strip chart. **10 CFR 50.54(q) Effectiveness Evaluation**

Change	Original Content (Rev 4.21)	Revised Content (Rev 4.22)	Description of Change
			2019-14 documents the detailed analysis of this change.
12	7.5.2.1 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 off-site effects through manual calculation procedures in the event of failure of the automated assessment process.	7.5.2.1 In the event of failure of both the primary and backup electronic measurement systems, a portable weather instrumentation package is available for deployment. This instrumentation package is battery powered for independent operation and provides recording of wind speed, wind direction and ambient temperature, which can be used to estimate off-site effects through manual calculation procedures in the event of failure of the automated assessment process.	Modified content. Updated language to reflect actual capability for the tertiary met tower. **10 CFR 50.54(q) Effectiveness Evaluation 2019-15 documents the detailed analysis of this change.**
13	7.5.7 Typical Portable Count and Dose Rate Meters Used – Table Beta Gamma count rate meter, with the following detectors Range 0-600, 0-6000, 0-60,000 CPM	7.5.7 Typical Portable Count and Dose Rate Meters Used – Table Beta Gamma count rate meter, with the following detectors Range 0-600 CPM 0-6,000 CPM 0-60,000 CPM	Modified content. Editorial change to improve readability. **This change does not affect how the current E-Plan meets any planning standard functions, elements, or site-specific commitments. No additional evaluation required.**
14	7.5.7 Typical Portable Count and Dose Rate Meters Used – Table Count rate meter (RM-15) for use with GM probes listed above, and: Range 0-500, 0-5K, 050K, 0-500K CPM	7.5.7 Typical Portable Count and Dose Rate Meters Used – Table Count rate meter (RM-15) for use with GM probes listed above, and: Range 0-500 CPM 0-5,000 CPM 0-50,000 CPM 0-500,000 CPM	Modified content. Editorial change to improve readability. **This change does not affect how the current E-Plan meets any planning standard functions, elements, or site-specific commitments. No additional evaluation required.**
15	7.5.7 Typical Portable Count and Dose Rate Meters Used – Table	7.5.7 Typical Portable Count and Dose Rate Meters Used – Table	Modified content.

Change	Original Content (Rev 4.21)	Revised Content (Rev 4.22)	Description of Change
	Count rate meter (PRM-6) for use with GM probes listed above AC-3B-7 and SPA-3 probes Range 0-500, 0-5K 050K, 0-500K CPM	Count rate meter (PRM-6) for use with GM probes listed above AC-3B-7 and SPA-3 probes Range 0-500 CPM 0-5,000 CPM 0-50,000 CPM 0-500,000 CPM	Editorial change to improve readability. **This change does not affect how the current E-Plan meets any planning standard functions, elements, or site-specific commitments. No additional evaluation required.**
16	7.5.7 Typical Portable Count and Dose Rate Meters Used – Table Beta Gamma dose rate meter (HP 270 shielded hand probe) Range .1 →10K mR/hr (HP-270 probe 0-3000 mR/hr)	7.5.7 Typical Portable Count and Dose Rate Meters Used – Table Beta Gamma dose rate meter (HP 270 shielded hand probe) Range 0.1-10,000 mR/hr 0-3000 mR/hr (HP-270 probe)	Modified content. Editorial change to improve readability. **This change does not affect how the current E-Plan meets any planning standard functions, elements, or site-specific commitments. No additional evaluation required.**
17	7.5.7 Typical Portable Count and Dose Rate Meters Used – Table Portable REM Counter (PNR-4) Range 0-5,0-50,0-500,0-5000 mR/hr	7.5.7 Typical Portable Count and Dose Rate Meters Used – Table Portable REM Counter (PNR-4) Range 0-5 mR/hr 0-50 mR/hr 0-500 mR/hr 0-5000 mR/hr	Modified content. Editorial change to improve readability. **This change does not affect how the current E-Plan meets any planning standard functions, elements, or site-specific commitments. No additional evaluation required.**
18	7.5.7 Typical Portable Count and Dose Rate Meters Used – Table Teletector 6112 OR Equivalent (Johnson Extender, Telescan)	7.5.7 Typical Portable Count and Dose Rate Meters Used – Table Teletector 6112 OR Equivalent (Johnson Extender, Telescan)	Modified content. Editorial change to improve readability. **This change does not affect how the current E-Plan meets any planning**

Change	Original Content (Rev 4.21)	Revised Content (Rev 4.22)	Description of Change
	Range 0-2 mR/hr 0-50 mR/hr 0-2 R/hr 0-50 R/hr 0-1000 R/hr	Range 0-2 mR/hr 0-50 mR/hr 0-2 R/hr 0-50 R/hr 0-1000 R/hr	**standard functions, elements, or site-specific commitments. No additional evaluation required.**
19	7.5.7 Typical Portable Count and Dose Rate Meters Used – Table RO-2 or equivalent Range Dose rate: 0-5, 0-50, 0-500 mR/hr, 0-5R/hr	7.5.7 Typical Portable Count and Dose Rate Meters Used – Table RO-2 or equivalent Range 0-5 mR/hr 0-50 mR/hr 0-500 mR/hr 0-5 R/hr	Modified content. Editorial change to improve readability. Removed "Dose rate:" as it is implied in the units of measure. **This change does not affect how the current E-Plan meets any planning standard functions, elements, or site-specific commitments. No additional evaluation required.**
20	7.5.7 Typical Portable Count and Dose Rate Meters Used – Table RO-2A or equivalent Range 0-50, 0-500 mR/hr 0-5, 0-50 R/hr	7.5.7 Typical Portable Count and Dose Rate Meters Used – Table RO-2A or equivalent Range 0-50 mR/hr 0-500 mR/hr 0-5 R/hr 0-50 R/hr	Modified content. Editorial change to improve readability. **This change does not affect how the current E-Plan meets any planning standard functions, elements, or site-specific commitments. No additional evaluation required.**
21	7.5.8 Hospital Kit Contents Disposal Coveralls Dosimeter Charger Personnel Decon. Records (69-9392)	7.5.8 Hospital Kit Contents Disposable Coveralls N/A – content removed N/A – content removed	Modified content and removed content Editorial change to correct "Disposal" to "Disposable". Removed "Dosimeter Charger" from the kit contents as the type of dosimeters used now do not require a charger.

Change	Original Content (Rev 4.21)	Revised Content (Rev 4.22)	Description of Change
			Removed "Personnel Decon. Records (69-9392)" as it was replaced by "Radiation and Contamination Survey Sheet (Form 69-20786)". **This change does not affect how the current E-Plan meets any planning standard functions, elements, or site-specific commitments. No additional evaluation required.**

Emergency Plan Section 7, Revision 4.22,

"Emergency Facilities and Equipment"

Table of Contents

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 that has particular application in an emergency.

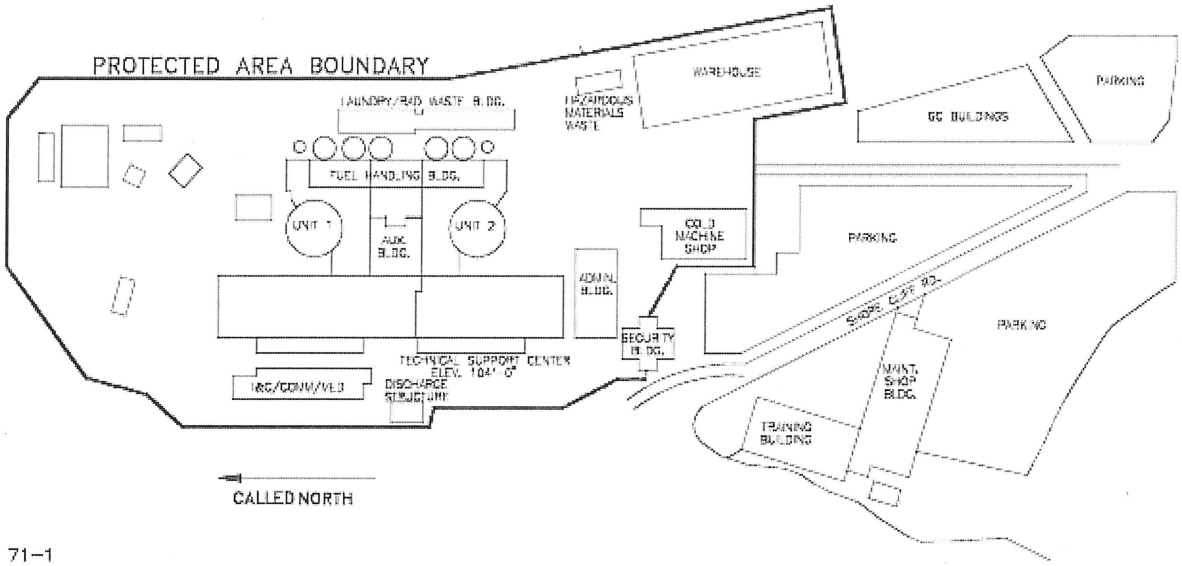
The Emergency Plan provides for a number of on-site and off-site facilities intended for use as accident management centers, and personnel staging and planning areas. These facilities are discussed briefly in the following paragraphs.

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.



71-1

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 on-site activities are directed from this location, and all communication with off-site 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 on-site activities will be transferred to the TSC. If the TSC is activated before the EOF, then the TSC will assume responsibilities for communications with off-site agencies until relieved by the EOF. The Control Room will then be headquarters of the on-site 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 and ventilation system is designed to limit post-accident doses to 5 rem TEDE for the duration of the accident.

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.

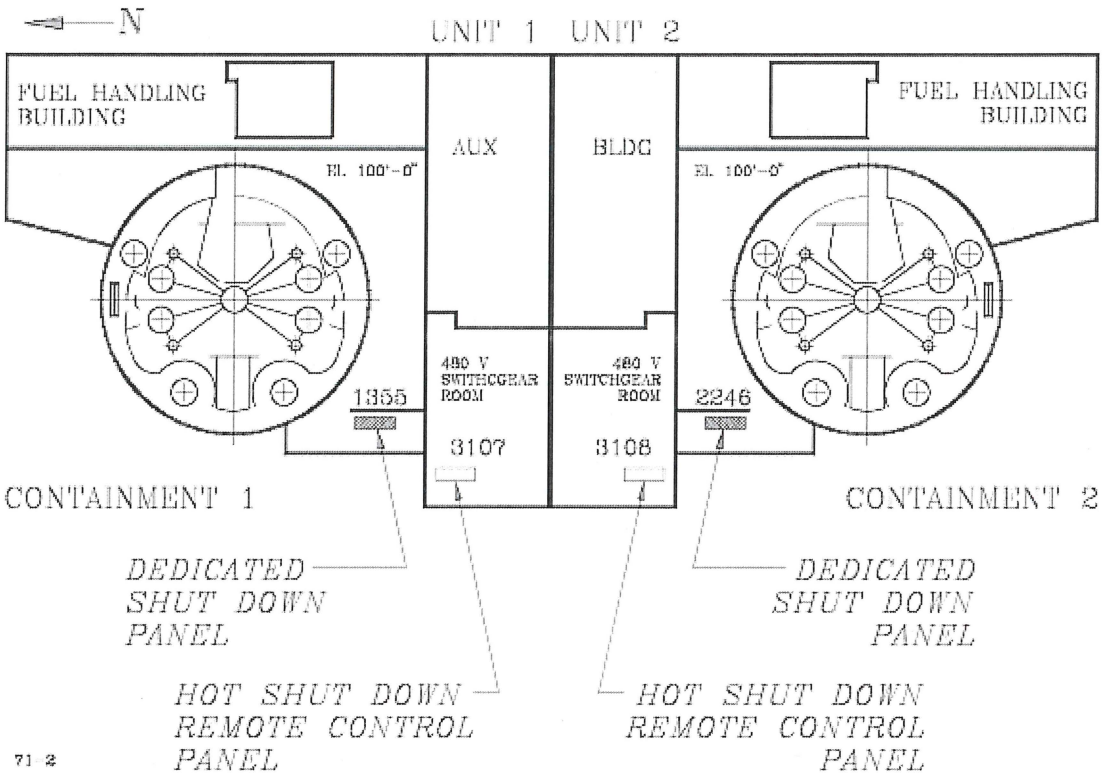
7.1.1.4 Special Equipment

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 with two sub-panels.



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 off-site 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
23. Cold leg loop charging motor operated valve 8107
24. Cold leg loop charging motor operated valve 8108
25. Charging to loop 4 cold leg air operated valve 8146
26. Refueling water supply to charging pump suction header valve 8805A 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
8. Hot Leg loop 4 pressure indicator
9. Hot Leg loop 4 wide range temperature indicator
10. Cold Leg loop 4 wide range temperature indicator

Steam Generators

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

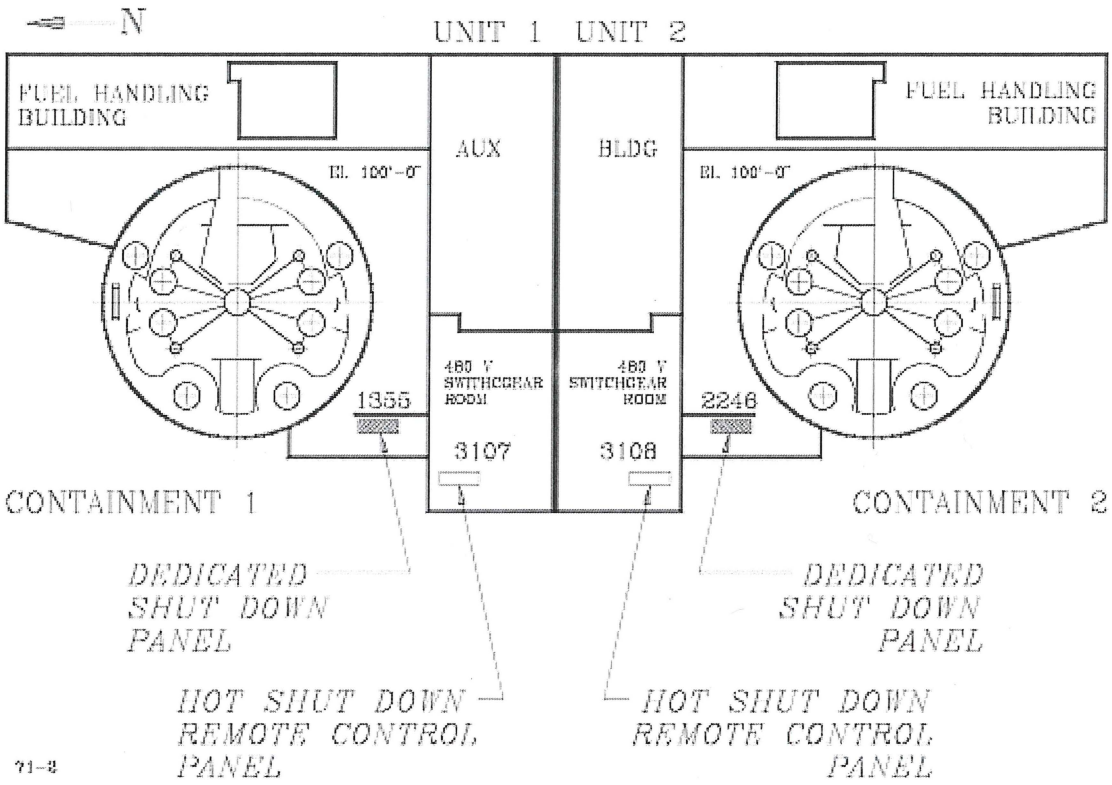
Other

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 off-site 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	3.	RCS Loop 4 pressure indicator
2.	RCS Loop 1 Temperature selector switch	4.	Pressurizer level indicator
Chemical and Volume Control System			
1.	Auxiliary spray valve transfer switch		
2.	Auxiliary spray valve control switch		

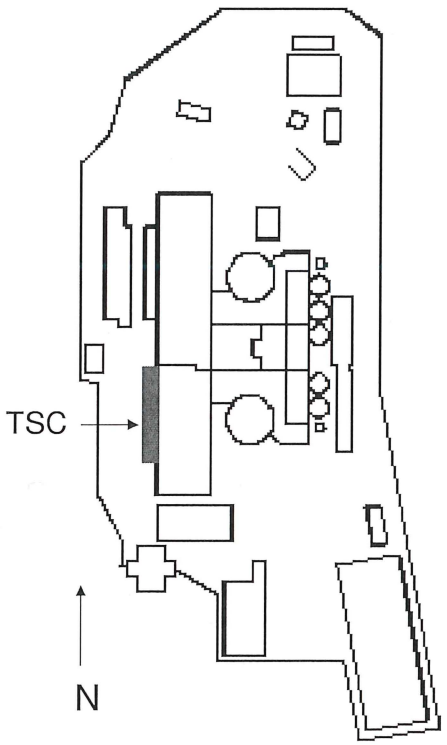
7.1.4 Technical Support Center (TSC)

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. The TSC is sized to accommodate a minimum of 20 company and 5 NRC personnel. 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 off-site.

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.

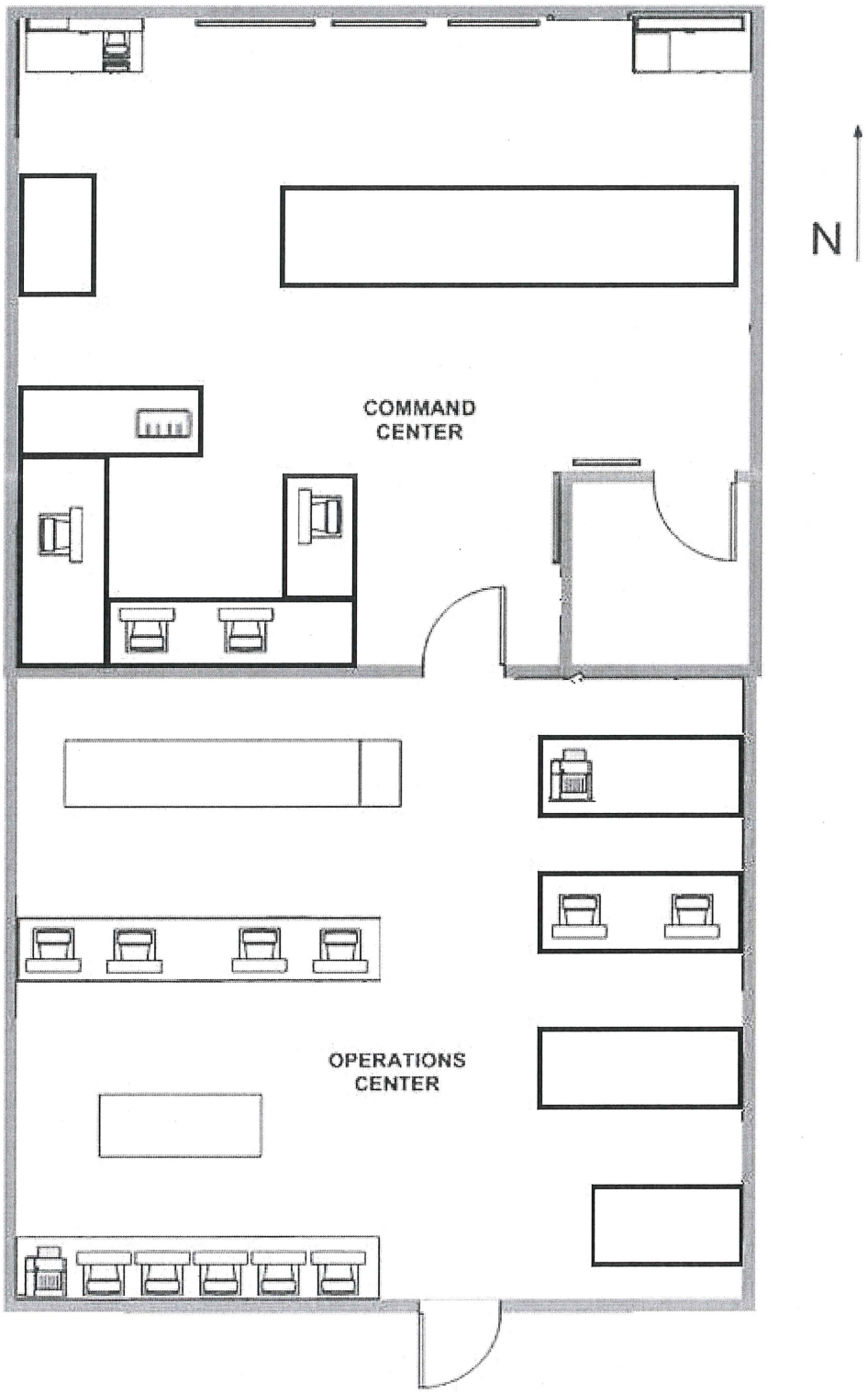
6) Laboratory (Radiological Counting Room)

   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.

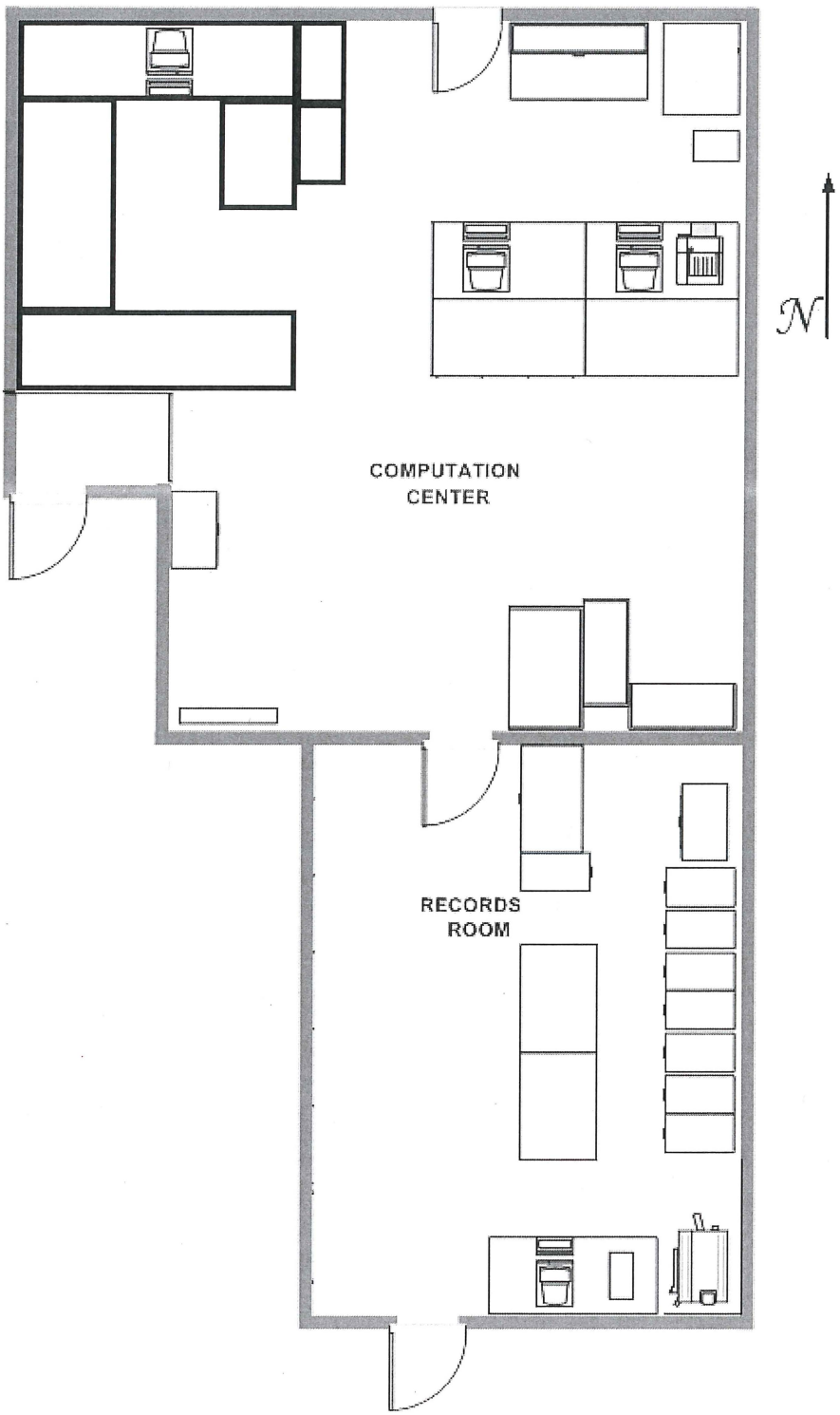
   It is equipped with a multi-channel gamma ray spectroscopy system using a high-resolution intrinsic germanium detector.

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



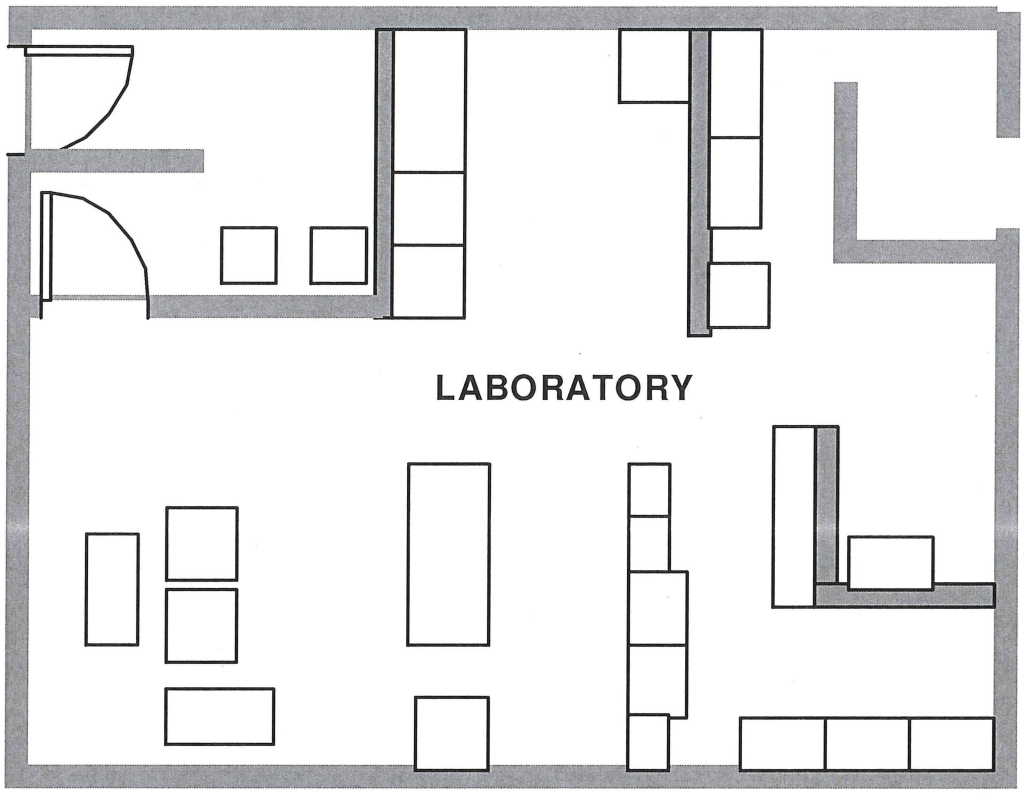
(Continued Next Page)

TSC Continued



(Continued Next Page)

TSC Continued



7.1.4.2 Emergency Function

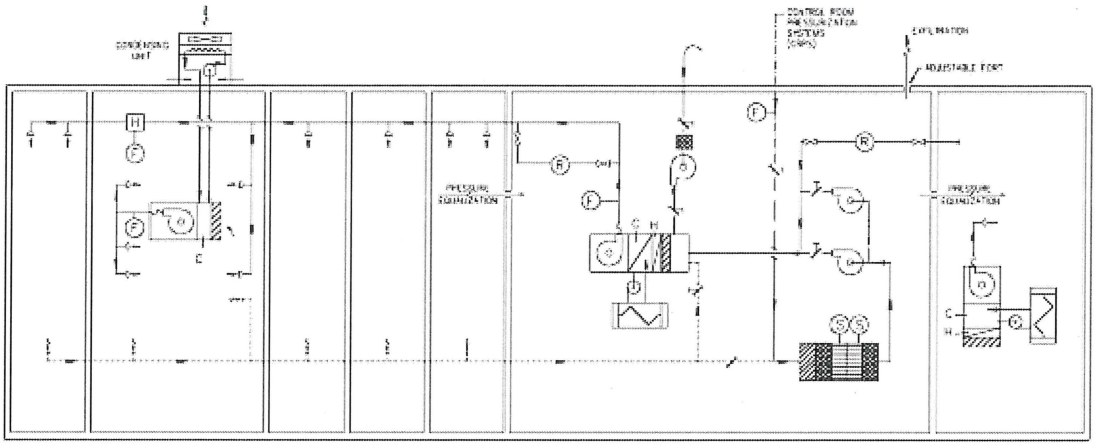
The TSC when activated serves as the headquarters for the Site Emergency Coordinator, Operations Advisor, Radiological Advisor, Agency/ENS Communicator, and Engineering Advisor and their staffs throughout an emergency. Provisions have also been made for the establishment of an on-site NRC emergency team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

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

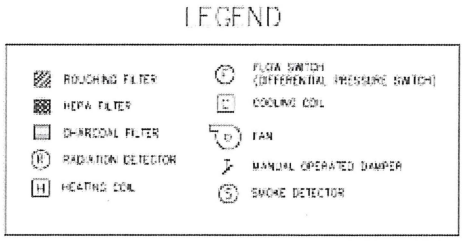
7.1.4.3 Habitability Objectives

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 and ventilation system is designed, consistent with the criteria for the Control Room, to limit post-accident doses inside the TSC to 5 rem TEDE for the duration of the accident, provided normal ventilation is switched to emergency ventilation within 2 hours of the onset of a radiological release from a design basis accident. The TSC structure is designed to the Hosgri seismic criteria.

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



TECHNICAL SUPPORT CENTER HVACS



Under accident conditions, the supply to the TSC is transferred to the Control Room pressurization system that maintains the TSC at a minimum positive pressure of 1/8" water gage. 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.

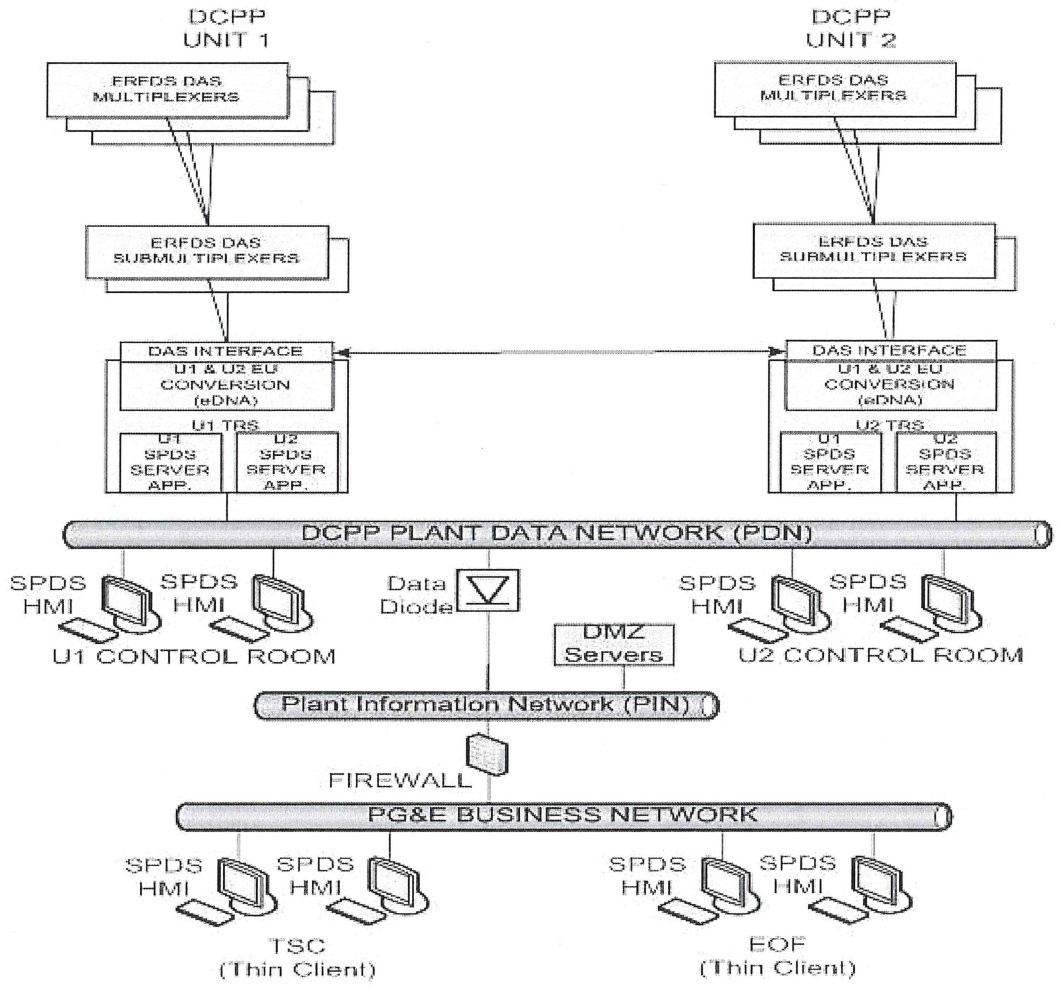
7.1.4.4 Special Equipment

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.



2) 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 Virtual Private Network (VPN). Activation of this system occurs at an Alert or higher emergency classification.

3) Communication

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

4) Radiological Analysis

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

5) 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.

6) Transient Recording System

The ERFDS recall functionality is provided by the main plant historian hosted on the DMZ servers. The ERFDS data is available on at least two (2) display computers in the TSC.

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)