REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:8109150426 DOC.DATE: 81/09/10 NOTARIZED: NO DOCKET #
FACIL:50-275 Diablo Canyon Nuclear Power Plant, Unit 1, Pacific Ga 05000275
50-323 Diablo Canyon Nuclear Power Plant, Unit 2, Pacific Ga 05000323
AUTH.NAME AUTHOR AFFILIATION
CRANE,P.A. Pacific Gas & Electric Co.
RECIP.NAME RECIPIENT AFFILIATION
MIRAGLIA,F.J. Licensing Branch 3

SUBJECT: Forwards itemized review of facility compliance w/requirements of 10CFR20,50 & 100.

DISTRIBUTION CODE: B001S COPIES RECEIVED:LTR 1 ENCL 40 SIZE: 79
TITLE: PSAR/FSAR AMDTS and Related Correspondence

NOTES:1 cy:J Hanchett (Region V).LPDR:2cys 05000275
1 cy:J Hanchett (Region V).LPDR:2cys. 05000323

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
ACTION:	A/D LICENSNG	1	0	LIC BR #3 BC	1	0
	LIC BR #3 LA	1	0	BUCKLEY,B. 04	1	1
INTERNAL:	ACCID EVAL BR26	1	1	AUX SYS BR 27	1	1
	CHEM ENG BR 11	1	1	CONT SYS BR 09	1	1
	CORE PERF BR 10	1	1	EFF TR SYS BR12	1	1
	EQUIP QUAL BR13	3	3	GEOSCIENCES 28	2	2
	HUM FACT ENG 40	1	1	HYD/GEO BR 30	2	2
	I&C SYS BR 16	1	1	I&E 06	3	3
	IE/EPDB 35	1	1	IE/EPLB 36	3	3
	LIC GUID BR 33	1	1	LIC QUAL BR 32	1	1
	MATL ENG BR 17	1	1	MECH ENG BR 18	1	1
	MPA	1	0	OELD	1	0
	OP LIC BR 34	1	1	POWER SYS BR 19	1	1
	PROC/TST REV 20	1	1	QA BR 21	1	1
	RAD ASSESS BR22	1	1	REAC SYS BR 23	1	1
	REG FILE 01	1	1	SIT ANAL BR 24	1	1
	STRUCT ENG BR25	1	1			
EXTERNAL:	ACRS 41	16	16	FEMA-REP DIV 39	1	1
	LPDR 03	2	2	NRC PDR 02	1	1
	NSIC 05	1	1	NTIS	1	1

MA 4

SEP 16 1981

TOTAL NUMBER OF COPIES REQUIRED: LTTR ~~52~~ 64 ENCL ~~51~~ 59

PACIFIC GAS AND ELECTRIC COMPANY

PG&E

P. O. BOX 7442 • 77 BEALE STREET, 31ST FLOOR, SAN FRANCISCO, CALIFORNIA 94106
TELEPHONE (415) 781-4211 TELECOPIER (415) 543-7813

ROBERT OHLBACH
VICE PRESIDENT AND GENERAL ATTORNEY

CHARLES T. VAN DEUSEN
PHILIP A. CRANE, JR.
HENRY J. LaPLANTE
JOHN B. GIBSON
ARTHUR L. HILLMAN, JR.
CHARLES W. THISSELL
DANIEL E. GIBSON
JACK F. FALLIN, JR.
JOSEPH I. KELLY
ASSISTANT GENERAL COUNSEL

GILBERT L. HARRICK
GLENN WEST, JR.
HOWARD V. GOLUB
JAMES O. LOGSDON
ROBERT L. BORDON
PETER W. HANSCHEN
RICHARD F. LOCKE
DAVID L. LUDVIGSON
WILLIAM H. EDWARDS
F. RONALD LAUPHEIMER
ROBERT R. RICKETT
DAVID J. WILLIAMSON
BRUCE R. WORTHINGTON

EDWARD J. McGANNEY
DAN GRAYSON LUBBOCK
BERNARD J. DELLASANTA
JOSHUA SAR-LEY
JOSEPH S. ENGLERT, JR.
ROBERT L. HARRIS
DOUGLAS A. OGLESBY
J. PETER BAUMGARTNER
JOHN N. FRYE
J. MICHAEL REIDENBACH
IVOR E. SAWSON
SHIRLEY A. WOO
SENIOR COUNSEL

DAVID W. ANDERSON
DIANA BERNHAUSEN
LEIGH S. CASSIDY
AUDREY DAINES
DONALD D. ERICKSON
PATRICK G. GOLDEN
PAULA Y. HAYNES
RICHARD C. JONES
HARRY W. LONG, JR.
JOHN R. LOW
ROBERT S. McLENNAN
RICHARD H. MOSS
SHIRLEY A. SANDERSON
JACK W. SHUCK
KENNETH YANG

NATHAN T. ANNANO
STEVEN P. BURKE
PAMELA CHAPPELLE
GARY P. ENGINAS
DAVID C. GILBERT
STEVEN F. GREENWALD
JUAN M. JAYO
MEREK E. LIPSON
JESSICA LORING
A. KIRK McKENZIE
RICHARD L. MEISS
ROBERT J. PETERS
JO ANN SHAFFER
LOUIS E. VINCENT

September 10, 1981

Mr. Frank J. Miraglia, Jr., Chief
Licensing Branch No. 3
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Re: Docket No. 50-275
Docket No. 50-323
Diablo Canyon Units 1 and 2

Dear Mr. Miraglia:

The attached information provides an itemized review of the Diablo Canyon Power Plant's compliance with the requirements of 10 CFR Parts 20, 50 and 100.

The review indicates that the Diablo Canyon Power Plant complies with the aforesaid requirements except in those specific cases where exemptions have been noted and approved by the Staff.

Kindly acknowledge receipt of this letter and return to me in the enclosed addressed envelope.

Very truly yours,

Philip A. Crane, Jr.

Attachment (40)

cc: Service List (w/enclosure)

B001
S 1/AD

TABLE OF CONTENTS

COMPLIANCE WITH APPENDIX A OF 10CFR50

(GENERAL DESIGN CRITERIA)

The General Design Criteria (GDC) provided in 10CFR50 Appendix A which were promulgated in 1967 were used as the design criteria for obtaining the Diablo Canyon construction permits. In 1971 a new set of General Design Criteria were promulgated by the then AEC. To be responsive to the NRC staff's requirement to evaluate the Diablo Canyon Power Plant design against present rules and regulations, PGandE has done the evaluation using the GDC promulgated in 1971. In the following discussion, the 1967 GDC which is related to the corresponding 1971 GDC is indicated.

GDC 1 - Quality standards and records

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 1. Systems, structures and components have been designed, fabricated, erected and tested to quality levels commensurate with their relationship to safety. The appropriate codes employed for various items have been supplemented where required. A quality assurance program consistent with the 10CFR50 Appendix B requirements has been employed and appropriate records have been and are being maintained directly by Pacific Gas and Electric Company or are under the Company's control.

Systems and components essential to the protection of the health and safety of the public are designed, fabricated, inspected and erected and the materials selected to the applicable provisions of recognized codes, good nuclear practice and to quality standards that reflect their importance. Discussions of applicable codes and standards as well as code classes are given in Table

3.2-1 of the FSAR for the major items and components. The Quality Assurance Program conforms with the requirements of 10CFR50 Appendix B, "Quality Assurance Criteria for Nuclear Power Plants." Details of the Quality Assurance Program are given in Chapter 17 of the FSAR.

Records of the design, fabrication, construction and testing of Class I components of the plant will be maintained by Pacific Gas and Electric Company or under its control throughout the life of the plant. Chapter 17 of the FSAR describes the procedures for keeping these records. Operating records to be maintained throughout the life of the plant are described in Chapter 13 of the FSAR.

The following sections of the FSAR relate to GDC 1:

Section 3.2.2	System Quality Group Classifications
Section 3.9	Mechanical Systems and Components
Section 5.2.1	Design Criteria, Methods, and Procedures
Section 13.6	Plant Records
Chapter 17	Quality Assurance

This criterion is related to 1967 GDC 1 and 5.

GDC 2 - Design basis for protection against natural phenomena

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 2. The systems, components and structures important to safety have been designed to accommodate without loss of capability the effects of the most severe natural phenomena

recorded for the site and surrounding area with appropriate combinations of postulated accidents and natural phenomena which include seismic events, tsunamis, lightning storms and strong winds. The importance of the safety functions of the various items has been considered.

The following sections of the FSAR relate to GDC 2:

Section 3.7	Seismic Design
Section 3.10	Seismic Design of Category I Instrumentation and Electric Equipment
Section 6.3.1	Seismic Requirements (Engineering Safety Features)

This criterion is related to 1967 GDC 2.

GDC 3 - Fire protection

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 3. Primary emphasis is directed at minimizing the risk of fire by use of materials which do not support combustion. A Fire Protection System is provided for controlling any fire which might originate in plant equipment. This system is described in section 9.5.1 of the FSAR. Detectors and alarms are included to alert the control room of the possibility of fire.

The probability of fires and explosions is minimized by extensive use of nonflammable and fire resistant materials, by physical isolation and protection of flammable fluids, by providing both automatic and manual fire extinguishing systems and by use of sensitive fire alarm systems.

Electrical insulation is made of fire retardant, self-extinguishing materials. All exposed electrical raceways are metal and have fire stops. Electrical conductors have adequate ratings and overcurrent protection to prevent breakdown or excessive heating.

Electrical equipment for safety systems is physically isolated from any potential source of external fire or explosion. Vital interconnecting circuits are located to avoid potential fire hazards as much as possible, with mutually redundant circuits placed in separate raceways.

Critical areas of the containment and the control room and areas which contain components of engineered safety features have detectors and alarms to alert the control room operator of the possibility of fire so that prompt action can be taken to prevent significant damage.

The following sections of the FSAR relate to GDC 3:

Section 7.7	Plant Control Systems - Control Room
Section 8.3.3	Analysis of A-C Power Systems (Electric Insulating Materials)
Section 9.5.1	Fire Protection System
Amendment 51	

This criterion is related to 1967 GDC 3.

GDC 4 - Environmental and missile design bases

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 4. The safety related systems, components and structures are designed to accommodate all normal or routine environmental conditions as well as those associated with postulated accidents. The designs include provisions to protect, where appropriate, those safety related items from environmental and physical effects resulting from component failures and specific credible outside events and conditions.

Use of conservative design methods, segregated routing of piping and wiring, provision of missile shield walls and use of engineered hangers and pipe restraints are incorporated in the design to accommodate dynamic effects of postulated accidents. The sources of missiles which might affect engineered safety features have been identified, and protective measures have been devised to minimize these effects.

The following sections of the FSAR relate to GDC 4:

Chapter 3	Design Criteria - Structures, Components, Equipment and Systems
Section 3.3	Wind Criteria and Tornado Design
Section 3.4	Water Level (Flood) Design Criteria
Section 3.5	Missile Protection Criteria
Section 3.11	Environmental Qualifications

This criterion is related to 1967 GDC 40.

GDC 5 - Sharing of structures, systems and components

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 5. Those structures, systems and components which are shared are designed in such a manner that plant safety is not impaired by the sharing. A list of shared systems and components is given in Section 1.2 of the FSAR.

The following sections of the FSAR relate to GDC 5:

Section 1.2	General Plant Description (List of Shared Systems and Components)

This criterion is related to 1967 GDC 4.

GDC 10 - Reactor design

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 10. Appropriate fuel margins are included in each design.

The reactor core with its related control and protection systems is designed to function throughout its design lifetime without exceeding acceptable fuel damage limits. Core design, together with reliable process and decay heat removal systems, provides for this capability under all expected conditions of normal operation with appropriate margins for uncertainties and anticipated transient situations, including the effects of the loss of reactor coolant flow, trip of the turbine generator, loss of normal feedwater and loss of all off-site power.

The reactor control and protection instrumentation systems are designed to initiate a reactor shutdown for any anticipated combination of plant conditions when necessary to assure a minimum DNB ratio equal to or greater than 1.30 and fuel center temperatures below the melting point of UO_2.

The following sections of the FSAR related to GDC 10.

Section 3.9	Mechanical Systems and Components
Section 4.2.1	Fuel
Section 4.2.2	Reactor Vessel Internals
Section 4.4.1	Design Bases
Section 5.3	Thermal Hydraulic System Design

This criterion is related to 1976 GDC 6.

GDC 11 - Reactor inherent protection

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 11. A negative reactivity coefficient is a basic feature of each design.

Prompt compensatory reactivity feedback effects are assured by the negative fuel temperature effect (Doppler effect) and by the non-positive operational limit on moderator temperature coefficient of reactivity.

The following sections of the FSAR relate to GDC 11:

Section 4.3	Nuclear Design

This criterion is related to 1967 GDC 8.

GDC 12 - Suppression of reactor power oscillations

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 12. The designs include provisions to detect and control those power oscillations which might exceed acceptable fuel design limits during operation.

Power oscillations of the fundamental mode are inherently eliminated by the negative Doppler and non-positive moderator temperature coefficients of reactivity.

Oscillations due to xenon spatial effects, in the radial, diametral and azimuthal overtone modes, are heavily damped due to the inherent design and due to the negative Doppler and non-positive moderator temperature coefficients of reactivity.

Oscillations due to xenon spatial effects, in the axial first overtone mode, may occur. Assurance that fuel design limits are not exceeded by xenon axial oscillations is provided as a result of reactor shutdown functions using the measured axial power imbalance as an input.

The following sections of the FSAR relate to GDC 12:

Section 4.3	Nuclear Design
Section 4.3.3	Evaluation
Chapter 7	Instrumentation and Controls

This criterion is related to 1967 GDC 7.

GDC 13 - Instrumentation and control

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 13. Appropriate instrumentation and control systems have been provided to monitor and control pertinent variables and systems over normal range of operation and postulated accident conditions.

Reactor, control rod, boron concentration, pressurizer pressure and level, feedwater, steam dump and turbine instrumentation and controls are provided to monitor and maintain variables within prescribed operating ranges. Reactor protection systems which receive plant instrumentation signals and automatically actuate alarms, inhibit control rod withdrawal, initiate load runback and/or shutdown the reactors as prescribed limits are approached or reached are also provided.

The following sections of the FSAR relate to GDC 13:

Section 4.3.5	Instrumentation Application
Section 4.4.5	Instrumentation Application
Section 5.6	Instrumentation Application
Section 6.3.5	Instrumentation Application
Chapter 7	Instrumentation and Controls

This criterion is related to 1967 GDC 12.

GDC 14 - Reactor coolant pressure boundary

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 14. The design, fabrication, erection and testing employed on each reactor coolant pressure boundary and the extensive quality control measures employed during each of the above phases assures that these pressure boundaries have extremely low probabilities of abnormal leakage, rapidly propagating failure, and gross rupture.

The Reactor Coolant System boundaries are designed to accommodate the system pressures and temperatures attained under all expected modes of plant operation, including all anticipated transients, and to maintain the stresses within applicable stress limits. The reactor coolant pressure boundary materials selection and fabrication techniques assure a low probability of gross rupture or significant leakage.

In addition to the loads imposed on the systems under normal operating conditions, abnormal loading conditions, such as seismic loading and pipe rupture, are also considered. The systems are protected from overpressure by means of pressure relieving devices as required by applicable codes.

Means are provided to detect significant uncontrolled leakage from any reactor coolant pressure boundary with indication in the control room.

Each Reactor Coolant System boundary has provisions for inspection, testing, and surveillance of critical areas to assess the structural and leaktight integrity. For each reactor vessel, a material surveillance program conforming to applicable codes is provided.

The materials of construction of the pressure retaining boundary of the Reactor Coolant System are protected from corrosion which might otherwise reduce the system structural integrity during its service lifetime by control of coolant chemistry.

The following sections of the FSAR relate to GDC 14:

Section 3.6	Criteria for Protection Against Dynamic Effects Associated with a Postulated Rupture of Piping
Section 3.7	Seismic Design
Section 5.2	Integrity of Reactor Coolant Pressure Boundary
Section 5.2.2	Overpressurization Protection
Section 5.4	Reactor Vessel and Appurtenances

This criterion is related to 1967 GDC 9.

GDC 15 - Reactor coolant system design

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 15. Each Reactor Coolant System design and associated pertinent systems includes sufficient margin to assure that the appropriate design limits of the reactor coolant pressure boundary are not exceeded during normal operation, including transients that are defined in Chapter 15 of the FSAR.

The following sections of the FSAR relate to GDC 15:

Section 3.9	Mechanical Systems and Components

Chapter 5	Reactor Coolant System
Section 5.2.2	Overpressurization Protection
Section 5.3	Thermal Hydraulic System Design
Section 5.4	Reactor Vessel and Appurtenances
Chapter 15	Accident Analyses

No direct correlation exists to the 1967 GDC for this criterion.

GDC 16 - Containment design

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 16. The reactor containment is a reinforced concrete structure with a steel liner which provides an essentially leak-tight barrier against the uncontrolled release of radioactivity to the environment under any postulated accident conditions.

The reactor containment is capable of withstanding the pressure buildup resulting from a major loss of coolant accident or steam line break. There is substantial margin between the highest pressure peak following major loss of coolant accident and the design pressure of the containment, providing assurance that the containment will maintain its function and integrity.

The following sections of the FSAR relate to GDC 16:

Section 3.8.2	Containment Structure
Section 6.2	Containment Systems

This criterion is related to 1967 GDC 10.

GDC 17 - Electric power systems

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 17. This criterion has been implemented with the provision that the second off-site source is from the 500 kV system through the main transformers for each generating unit.

In the event of loss of normal power, emergency a-c power is supplied by five emergency diesel generators. Any four diesels are capable of supplying the ESF power requirements of one unit in an accident situation and to bring the other unit to the shutdown condition from full power.

The instrumentation and controls portions of the reactor protection systems are supplied initially from the station batteries and redundantly from the emergency diesel generators. A single failure will not prevent the systems from performing their safety function.

The off-site and on-site systems have sufficient independence, capacity, and testability to permit the functioning of these systems assuming a failure of a single active component in each power system.

The following sections of the FSAR relate to GDC 17:

Circuit protection devices are provided where required including 2 levels of protection against degraded grid conditions.

Chapter 8 Electric Power

This criterion is related to 1967 GDC 24 and 39.

GDC 18 - Inspection and testing of electric systems

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 18. The electric power system and equipment have provisions for periodic inspection and testing. Electric power equipment requiring testing has been provided with convenient and safe access for inspection, and with drawout features to permit removal of devices for testing and maintenance.

The following sections of the FSAR relate to GDC 18:

Chapter 8 Electrical Power

No direct correlation exists to the 1967 GDC for this criterion.

GDC 19 - Control room

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 19. A centralized control room common to both units contains the controls and instrumentation necessary for operation of both units under normal and accident conditions, including loss of coolant accidents. Adequate radiation protection is provided to assure that control room personnel are not subject to radiation exposures in excess of 10CFR20 limits for normal operation and 5 Rem under accident conditions. Provisions are made so that plant operators can readily

maintain the plant at hot shutdown condition from a location outside the control room. The control room ventilation system consists of a dual system providing a large percentage of recirculated air. In the event of fire in the control room, provisions are made for 100 percent outside air makeup operation. In the event of airborne radioactivity or chlorine outside the control room, provisions are made for operation with 100 percent recirculated air, with 20 percent passing through HEPA filters and charcoal banks. If long term occupancy is required under conditions of outside airborne activity, provisions are made for operation with 80 percent recirculated air and 20 percent outside air makeup through HEPA and charcoal filters. Electric power for control room ventilation is provided from the on-site emergency sources.

The following sections of the FSAR relate to GDC 19:

Section 6.4	Habitability Systems
Section 7.7	Plant Control Systems (Control Room)
Section 9.4	Air Condition, Heating, Cooling and Ventilation System
Section 11.0	Radioactive Waste Management
Section 12.1	Shielding
Section 15.4	Condition IV - Limiting Faults

This criterion is related to 1967 GDC 11.

Lighting is provided from electrical sources, plant normal AC, on-site emergency generator, station batteries and 8 hour wall mounted battery packs.

All lighting fixtures including the ceiling are seismically supported. The control room has undergone a human factor engineering review and modifications.

GDC 20 - Protection system functions

The Diablo Canyon Unit 1 and 2 protection system designs comply with Criterion 20. The systems will automatically actuate alarms, inhibit control rod withdrawal, initiate load runback, or shutdown the reactor as a result of anticipated operational occurrences. The systems will also sense accident conditions and initiate Engineered Safety Features (ESF) operation if required.

Operational limits for the core protection systems are defined by analyses of all plant operating and fault conditions requiring rapid rod insertion to prevent or limit core damage. The protection system design bases for all anticipated transients or faults are:

1. Minimum departure from nucleate boiling ratio (DNBR) shall not be less than 1.3.

2. Clad strain on the fuel element shall not exceed 1 percent.

3. Center melt shall not occur in the fuel elements.

The following sections of the FSAR relate to GDC 20:

Section 7.1.1	Identification of Safety Related Systems
Section 7.2	Reactor Trip System

This criterion is related to 1967 GDC 14 and 15.

GDC 21 - Protection system reliability and testability

The Diablo Canyon Unit 1 and 2 protection system designs comply with Criterion 21. Each protection system is comprised of redundant independent logic trains of high functional reliability capable of tolerating a single failure without loss of the protection function, or removal from service of a single failure without loss of the protection function, or removal from service of a single component or channel without loss of required minimum redundancy. Such testing will disclose failures or reduction in redundancy which may have occurred. Removal from service of any single channel or component does not result in loss of minimum required redundancy. For example, a two-of-three function becomes a one-of-two function when one channel is removed.

Independent end-to-end channel tests can be tested very rapidly by use of built in semi-automatic testers. Semiautomatic testers are built into each of the two logic trains in a protection system. These testers have the capability of testing the major part of the protection system very rapidly while the reactor is at power. Between tests, the testers continuously monitor a number of internal protection system points including the associated power supplies and fuses. Output of the monitors are logically processed to provide alarms for failures in one train and automatic reactor trip for failures in both trains. Self testing provision is designed into each tester.

The following sections of the FSAR relate to GDC 21:

Section 3.9	Mechanical Systems and Components
Section 4.3.4	Tests and Inspections

This criterion is related to 1967 19 and 25.

GDC 22 - Protection system independence

The Diablo Canyon Unit 1 and 2 protection system designs comply with Criterion 22. Independent, redundant, and separate subsystems have been provided. Extensive measurement, equipment, and location diversity is employed in each design. These design techniques are defenses against loss of the protective function through the effects of natural phenomena, normal operation, maintenance and testing.

Physical separation and electrical isolation of redundant channels and subsystems, functional diversity of subsystems, and safe failure modes are employed in each reactor's design as defenses against functional failure through exposure to common causative factors. The redundant logic trains, reactor trip breakers, and engineered safety feature actuation devices are physically separated and electrically isolated. Physically separate channel trays, conduits, and penetrations are maintained upstream from the logic elements and down stream of the actuation (output) devices of each train.

The protection system components have been qualified by testing under extremes of the normal environment. In addition, components are tested and qualified according to individual requirements for the adverse environment specific to their location which might result from postulated accident conditions.

The following sections of the FSAR relate to GDC 22:

Section 7.2.1 Description (Reactor Trip System)

This criterion is related to 1967 GDC 20 and 23.

GDC 23 - Protection system failure modes

The Diablo Canyon Unit 1 and 2 protection system designs comply with Criterion 23. Each system is designed with due consideration of the most probable failure modes of the components under various perturbations of energy sources and environment. Each trip channel is designed to trip on de-energization except where such action would result plant shutdown or create an unsafe condition. Loss of power, disconnection, open channel faults, and the majority of internal channel short circuit faults will cause a channel to go into its tripped mode. Components of each system are qualified by testing for the environments which might result from postulated accident conditions.

The following sections of the FSAR relate to GDC 23:

Section 7.2.2 Analysis

This criterion is related to 1967 GDC 26.

GDC 24 - Separation of protection and control systems

The Diablo Canyon Unit 1 and 2 protection and control system designs comply with the intent of Criterion 24. Failure of or removal from service of any single component or channel of either the protection system or the control system leaves intact a system satisfying the reliability, redundancy and independent requirements of the protection system. The protection system is separate and distinct from the control system.

The control system is dependent on the protection system in that control system signals are derived from protection system measurements where applicable. Interconnection is through isolation amplifiers which are classified as protection system components. The adequacy of system isolation has been verified by testing under the conditions of maximum credible faults.

The protection systems comply with the requirements of IEEE Standard 279-1971 "Criteria for Protection Systems for Nuclear Power Generation Stations" although construction permits for the Diablo Canyon units were issued prior to issuance of the 1971 version of the standard.

The following sections of the FSAR relate to GDC 24:

Section 7.2.1	Description (Reactor Trip System)

This criterion is related to 1967 GDC 22.

GDC 25 - Protection system requirements for reactivity control malfunctions

The Diablo Canyon Unit 1 and 2 designs comply with Criterion 25. Reactor shutdown with control shutdown rods is completely independent of control functions. The reactor trip breakers interrupt power to all full length rod drive mechanisms regardless of the status of existing control signals. The design is such that the reactor system can withstand accidental withdrawal of control groups or unplanned dilution of soluble boron without exceeding acceptable fuel design limits.

The following sections of the FSAR relate to GDC 25:

Section 4.3	Nuclear Design
Section 7.2.2	Analysis

This criterion is related to 1967 GDC 31.

GDC 26 - Reactivity control system redundancy and capability

The Diablo Canyon Unit 1 and 2 designs comply with Criterion 26. Two independent reactivity control systems of different design principles are provided for each reactor design. One of the systems uses control rods; the other system uses dissolved boron. The boron system is capable of maintaining the reactor core subcritical under cold conditions. The rod control system maintains a programmed average reactor temperature with scheduled and transient load changes; the boron system is capable of controlling the rate or reactivity change resulting from planned normal power changes including xenon burnout. The control rods are inserted by gravity.

The reactors may be made subcritical by the rod cluster control assembly systems sufficiently fast to prevent exceeding acceptable fuel damage limits, under all anticipated conditions, with the most reactive rod control cluster assembly fully withdrawn.

The rod cluster control assembly system is capable of making and holding the core subcritical from all operating and hot shutdown conditions sufficiently fast to prevent exceeding acceptable fuel damage limits. The chemical shim control is also capable of making and holding the core subcritical, but at a slower rate, and is not employed as a means of compensating for rapid reactivity transients. The rod cluster control assembly system is, therefore, used in protecting each core from fast transients.

The following sections of the FSAR relate to GDC 26:

Section 4.2.3 Reactivity Control Systems

This criterion is related to 1967 GDC 27, 28 and 29.

<u>GDC 27 - Combined reactivity control systems capability</u>

The Diablo Canyon Unit 1 and 2 designs comply with Criterion 27. Appropriate reactivity margin is available for each unit under postulated accident conditions to assure that the capability to cool the core is maintained. This margin includes an allowance for the most reactive rod control cluster being stuck out of the core. The boron reactivity (chemical shim) control systems are capable of making and holding the core subcritical under any anticipated

conditions and with appropriate margin for contingencies. Normal reactivity shutdown capability is provided within two seconds following a trip signal by control rods. The chemical shim control system permits the necessary shutdown margin to be maintained during long-term xenon decay and plant cooldown.

The following sections of the FSAR relate to GDC 27:

Section 4.2.3	Reactivity Control Systems

This criterion is related to 1967 GDC 30.

GDC 28 - Reactivity limits

The Diablo Canyon Unit 1 and 2 designs comply with Criterion 28. For each unit, the maximum reactivity worth of control rods and the maximum rates of reactivity insertion employing both control rods and boron removal are limited to values which prevent rupture of the coolant pressure boundary or disruption of the core or internals to a degree which could impair the effectiveness of the ECCS.

The appropriate reactivity insertion rate for the withdrawal of rod cluster control assemblies (RCCA) and the dilution of the boric acid in the Reactor Coolant Systems are determined by safety analyses for the facility. The analysis includes appropriate graphs that show the permissible manual withdrawal limits and overlap of functions of the several RCCA banks as a function of power.

The following sections of the FSAR relate to GDC 28:

Section 4.2.3	Reactivity Control Systems
Chapter 15	Accident Analyses

This criterion is related to 1967 GDC 32.

GDC 29 - Protection against anticipated operational occurrences

The Diablo Canyon Unit 1 and 2 designs comply with Criterion 29. The protection and reactivity control systems for each plant are designed to assure an extremely high probability of fulfilling their intended functions. The design principles of diversity and redundancy coupled with a rigorous quality assurance program support this probability as does operating experience in plants using the same basic design.

The following section of the FSAR relate to GDC 29:

Section 4.2.3	Reactivity Control Systems
Section 7.2	Reactor Trip System

No direct correlation exists to the 1967 GDC.

GDC 30 - Quality of reactor coolant pressure boundary

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 30.

All Reactor Coolant System components are designed, fabricated, inspected, and tested in conformance with the ASME Boiler and Pressure Vessel Code, except for reactor coolant piping, which is B31.1 (1955) edition.

Leakage is detected by an increase in the amount of makeup water required to maintain a normal level in the pressurizer. The reactor vessel closure joint is provided with a temperature monitored leak-off between double gaskets.

Leakage into the reactor containment is drained to the reactor building sump where the level is monitored.

Leakage is also detected by measuring the airborne activity, temperature and humidity and the quantity of the condensate drained from each reactor containment fan cooler unit.

The following sections of the FSAR relate to GDC 30:

Chapter 5	Reactor Coolant System
Section 5.2.1	Design Criteria, Methods and Procedures
Section 5.2.4	Reactor Coolant Pressure Boundary Leakage Detection Systems
Section 5.3	Thermal Hydraulic System Design
Section 5.4	Reactor Vessel and Appurtenances

This criterion is related to 1967 GDC 16.

GDC 31 - Fracture prevention of reactor coolant pressure boundary

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 31. Each reactor coolant pressure boundary is designed so that, for all normal operating and postulated accident modes, the boundary behaves in a non-brittle manner and so that the probability of rapidly propagating failure is minimized. Service temperature and pressure; irradiation; cyclic loading; seismic, blowdown and thermal forces from postulated accidents; residual stresses; and code allowable material discontinuities have all been considered in the design, with appropriate margins for each.

Sufficient testing and analysis of materials employed in Reactor Coolant System components have been performed to assure that the required NDT limits specified in the criterion are met. Removable test capsules will be installed in the reactor vessel and removed and tested at various times in the plant lifetime to determine the effects of operation on system materials.

Close control is maintained over material selection and fabrication for the Reactor Coolant System. Materials exposed to the coolant are corrosion resistant stainless steel or Inconel. Materials testing consistent with 10CFR50 assure that only materials with adequate toughness properties are used.

The fabrication and quality control techniques used in the fabrication of the Reactor Coolant System are equivalent to those used for the reactor vessel. The inspections of reactor vessel, steam generators, pressurizer, pumps and piping are governed by ASME code requirements.

The following sections of the FSAR relate to GDC 31:

Chapter 5	Reactor Coolant System

The criterion is related to 1967 GDC 35.

GDC 32 - Inspection of reactor coolant pressure boundary

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 32. Each reactor coolant pressure boundary will be periodically inspected under the provisions of ASME Section XI.

The design of the reactor coolant pressure boundary provides the capability for accessibility during service life to the entire internal surface of the reactor vessel and certain external zones of the vessel including the nozzle to reactor coolant piping welds and the top and bottom heads. The reactor arrangement within each containment provides sufficient space for inspection of the external surfaces of the reactor coolant piping, except for the area of pipe within the primary shielding concrete. The inspection capability complements the leakage detection systems in assessing the pressure boundary component's integrity.

Monitoring of the NDTT properties of each core region plate, forging, weldment and associated heat treated zones are performed in accordance with ASTM-E-185 "Recommended Practice for Surveillance Tests on Structural Materials in Nuclear Reactors".

The material properties surveillance program includes not only the conventional tensile and impact tests, but also facture mechanics specimens. The observed shifts in NDTT of the core region materials with irradiation will be used to confirm the calculated limits to startup and shutdown transients.

To define permissible operating conditions below NDTT, a pressure range is established which is bounded by a lower limit for pump operation and an upper limit which satisfies reactor vessel stress criteria. To allow for thermal stresses during heatup or cooldown of the reactor vessel, and equivalent pressure limit is defined to compensate for thermal stress as a function of rate of change of coolant temperature. Since the normal operating temperature of the reactor vessel is well above the maximum expected NDTT brittle fracture during normal operation is not considered to be a credible mode of failure.

The following sections of the FSAR relate to GDC 32:

Section 5.2.5	Inservice Inspection Program
Section 5.4	Reactor Vessel and Appurtenances
Section 5.5	Component and Subsystem Design

This criterion is related to 1967 GDC 36.

GDC 33 - Reactor coolant makeup

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 33. The normal flow path for each Reactor Coolant System charging system can be used to assure appropriate makeup protection against small breaks.

The following sections of the FSAR relate to GDC 33:

Section 5.2.3	Material Consideration
Section 9.3	Process Auxiliaries

No direct correlation exists to the 1967 GDC.

GDC 34 - Residual heat removal

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 34. Each Residual Heat Removal System, consisting of two redundant trains of pumps and heat exchangers, has appropriate heat removal capacity to assure fuel protection. This system supplements the normal steam and power conversion system which is used for the first cooldown. The Auxiliary Feedwater System complements the Steam and Power Conversion System in this function. The systems together accommodate the single failure criteria.

The following sections of the FSAR relate to GDC 34:

Section 5.5.7	Residual Heat Removal Systems

No direct correlation exists to the 1967 GDC.

GDC 35 - Emergency core cooling

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 35. Appropriate core cooling systems have been designed for each plant so as to provide for the removal of core thermal loads and for the limiting of metal water reactions to

an insignificant level. Suitable redundancy is provided in core cooling systems. The charging accumulator and safety injection systems will accommodate a single active failure and still fulfill their intended safety function. The Residual Heat Removal System will accommodate a single passive or active failure and still fulfill its intended safety function.

By combining the use of passive accumulators with two centrifugal charging pumps, two safety injection pumps and two residual heat removal pumps, emergency core cooling is provided even if there should be a failure of any component in any system. In addition, there is a positive displacement charging pump, but it is not included in safety injection. The Emergency Core Cooling System employs a passive system of accumulators which do not require any external signals or source of power for their operation to cope with the short term cooling requirements of large reactor coolant pipe breaks. Two independent and redundant high pressure flow and pumping systems, each capable of the required emergency cooling, are provided for small break protection and to keep the core covered after the accumulators have discharged following a large break. These systems are arranged so that the single failure of any active component does not interfere with meeting the cooling requirements.

The following sections of the FSAR relate to GDC 35:

Section 6.3	Emergency Core Cooling System
Chapter 15	Accident Analyses (Reactor Coolant System Pipe Rupture)

This criterion is related to 1967 GDC 44.

GDC 36 - Inspection of emergency core cooling system

The Diablo Canyon Unit 1 and 2 designs conform to Criterion 36. They provide for inspection of the emergency core cooling branch line connections to the Reactor Coolant System for each plant in accordance with the provisions of ASME Section XI. These are the areas of principle stress in the system due to temperature gradients. The remainder of the systems will be verified as to integrity and functioning by means of periodic testing as described in the Technical Specifications.

Design provisions facilitate access to the critical parts of the reactor vessel internals, injection nozzles, pipes, and valves for visual or nondestructive inspection.

The components outside the containment are accessible for leak tightness inspection during operation of the reactor.

The following sections of the FSAR relate to GDC 36:

Section 6.3.4	Tests and Inspections

This criterion is related to 1967 GDC 45.

GDC 37 - Testing of emergency core cooling system

The Diablo Canyon Unit 1 and 2 designs conform to Criterion 37. Periodic tests will demonstrate the integrity, operability, and performance of each active component. Each system as a whole, and the entire operational sequence of actuation, power transfer, and cooling water operation will be tested in several phases rather than in one phase during periodic testing.

The design provides for periodic testing of both active and passive components of the Emergency Core Cooling System for operability and functional performance.

Preoperational performance tests of the components were performed in the manufacturer's shop. Initial system flow tests demonstrate proper functioning of the system. Thereafter, periodic tests demonstrate that components are functioning properly.

Each active component of the Emergency Core Cooling System may be individually actuated on the normal power source at any time during plant operation to demonstrate operability. The centrifugal charging/high head safety injection pumps are part of the Chemical and Volume Control System (CVCS), which is in continuous operation during plant operation. The test of the safety injection pumps employs the minimum flow recirculation test line which connects back to the refueling water storage tank. Remote operated valves are exercised and actuation circuits tested. The automatic actuation circuitry, valves and pump breakers also may be checked during integrated system tests performed during a scheduled outage of the Reactor Coolant System.

Design provisions include special instrumentation, testing and sampling lines to perform the tests during plant shutdown to demonstrate proper automatic operation of the Emergency Core Cooling System. A test signal is applied to initiate automatic action and verification is made that the safety injection pumps attain required discharge heads. The test demonstrates the operation of the valves, pump circuit breakers, and automatic circuitry. In addition, the periodic recirculation to the refueling water storage tank can verify the Emergency Core Cooling System delivery capability. This recirculation test includes all but the last valve which connects to the reactor coolant piping.

The design provides for capability to test initially, to the extent practical, the full operational sequence up to design conditions, including transfer to alternate power sources for the Emergency Core Cooling System, to demonstrate the state of readiness and capability of the system. This functional test is performed with the water level below the safety injection signal set point in the pressurizer and with the Reactor Coolant System initially cold and at low pressure. The Emergency Core Cooling System valving is set to initially simulate the system alignment for plant power operation.

The functioning of the accumulators is checked by closing the stop valve, raising the pressure in the tank and then opening the stop valve and observing the rising pressurizer level and accumulator level. The rising water level in the pressurizer provides indication of system delivery.

The following section of the FSAR relate to GDC 37:

Section 6.3.4 Tests and Inspections

This criterion is related to 1967 GDC 46, 47 and 48.

GDC 38 - Containment heat removal

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 38. Two diverse heat removal systems, each composed of redundant components, are provided. These are the containment spray system (2 - 100% capacity pumping systems) and the containment fan cooler system (5 units provided, 3 required for accident heat removal).

The design cooling rates of these two systems at the containment design pressure and temperature conditions are the same. The heat removal capability of either system is sufficient to reduce the containment pressure following an accident.

The following sections of the FSAR relate to GDC 38:

Section 6.2	Containment Systems

This criterion is related to 1967 GDC 52.

GDC 39 - Inspection of containment heat removal system

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 39 except for limited areas. The fan cooler units are continually operating (4 out of 5) and are rotated in service to provide continuous verification of operability and integrity. Access for routine maintenance and inspection has been provided.

The containment spray system integrity will be verified by means of periodic testing as described in the Technical Specifications. Access has been provided for routine maintenance and inspections except for the spray ring headers. Provisions have been made to smoke test the spray ring headers and nozzles periodically.

These smoke tests in conjunction with other inspections and tests constitute an inspection that assures the integrity and capability of the system.

Where practicable, all active components and passive components of the Containment Cooling System are inspected periodically to demonstrate system readiness. The pressure containing systems are inspected for leaks from pump seals, valve packing, flanged joints and safety valves. During operational testing of the containment spray pumps, the portions of the system subjected to pump pressure are inspected for leaks.

The following sections of the FSAR relate to GDC 39:

Section 6.2	Containment Systems

This criterion is related to 1967 GDC 58.

GDC 40 - Testing of containment heat removal system

The Diablo Canyon Unit 1 and 2 designs conform to Criterion 40. Periodic tests will demonstrate the integrity, operability, and performance of the containment heat removal systems.

To the extent practicable, active components of the containment fan coolers are given preoperational performance tests after installation. Since these coolers are in use during normal operation, they are continually subjected to operational tests. The same is true of the component cooling water system which supplies the cooling water for the fan coolers. Each unit can be isolated during plant operation and subjected to a leak test to determine that the leak tight integrity of the component cooling water circuit of the unit has not been lost.

Similarly, active components in the Containment Spray System are given preoperational performance tests after installation. Periodic tests demonstrate that components are functioning properly. Tests are performed after any component maintenance.

Permanent test lines for all the containment spray loops are located so that all components up to the isolation valves at the containment can be tested.

The air test lines for checking that spray nozzles are not obstructed are connected upstream of the isolation valves. Airflow through the nozzles is monitored by telltale devices attached to each nozzle or by the use of a smoke generator. The design provides for capability to test, to the extent practical, the full operational sequence for the Containment Spray System and the containment fan coolers to demonstrate the state of readiness for those sections of the systems not normally functioning during plant operation.

The following sections of the FSAR relate to GDC 40:

Section 6.2 Containment Systems

This criterion is related to 1967 GDC 59, 60 and 61.

GDC 41 - Containment atmosphere cleanup

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 41. The containment spray system, containment fan coolers, and containment purge (Post LOCA) provide controls on and means for reduction of fission products and other substances.

A second purpose served by the Containment Spray System is to remove radioactive iodine from the containment atmosphere should these fission products be released in the event of an accident. The system is designed to deliver enough sodium hydroxide mixed with the spray water from the refueling water storage tank to provide a 0.6 weight percent caustic in approximately 1.7 weight percent boric acid when mixed with the other sources of water in the containment recirculation sump.

Hydrogen recombiners have been provided inside the containment to control the concentration of hydrogen in the containment following postulated accidents. In addition penetrations have been provided to accommodate external recombiner.

The following sections of the FSAR relate to GDC 41:

Section 6.2.3 Containment Air Purification and Cleanup Systems

No direct correlation exists to the 1967 GDC.

GDC 42 - Inspection of containment atmosphere cleanup systems

The Diablo Canyon Unit 1 and 2 designs conform with the intent of Criterion 42.

The Containment Spray System, utilizing sodium hydroxide, serves as the air cleanup system. Where practical, all components of the Containment Spray System are inspected periodically to demonstrate system readiness. Special attention is given to critical parts such as pipes, pumps, nozzles and storage facilities for sodium hydroxide. The HEPA filters are periodically inspected.

The following sections of the FSAR relate to GDC 42:

Section 6.2.3	Containment Air Purification and Cleanup Systems

This criterion is related to 1967 GDC 62.

GDC 43 - Testing of containment atmosphere cleanup systems

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 43. Periodic tests will demonstrate the integrity, operability, and performance of the containment atmosphere cleanup systems.

The Containment Spray System, utilizing sodium hydroxide, serves as the air cleanup system. The active components in the Containment Spray System are

given preoperational performance tests after installation. Permanent test lines for all containment spray loops are located so that all components up to the isolation valves at the containment may be tested. The nozzles are tested by airflow which is monitored either by telltale devices attached to each nozzle or by the use of a smoke generator. The fan coolers are normally in use, which provides a check on the operability of the system.

The following sections of the FSAR relate to GDC 43:

Section 6.2.3	Containment Air Purification and Cleanup Systems

This criterion is related to 1967 GDC 63, 64 and 65.

GDC 44 - Cooling water

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 44. A Class I Component Cooling Water System is a closed system provided to transfer heat from reactor coolant, engineered safety features and the containment to the Class I Auxiliary Saltwater System. The latter system discharges to the Pacific Ocean, which is the ultimate heat sink.

The following sections of the FSAR relate to GDC 44:

Section 9.2.1	Auxiliary Saltwater System
Section 9.2.2	Component Cooling Water System
Section 9.2.3	Service Cooling Water System

No direct correlation exists to the 1967 GDC.

GDC 45 - Inspection of cooling water system

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 45. The component cooling water pumps, heat exchangers, associated valves, large piping and instrumentation are located outside the containment and are, therefore, accessible for maintenance and inspection during power operation. Three pumps are provided, making it possible to remove one pump from service while providing full system capability.

The following sections of the FSAR relate to GDC 45:

Section 9.2.1	Auxiliary Saltwater System
Section 9.2.2	Component Cooling Water System

No direct correlation exists to the 1967 GDC.

GDC 46 - Testing of cooling water system

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 46. System design permits testing of the cooling water system during plant shutdown. The system is pressurized during power operation. The emergency control functions can be tested out to the final actuated device.

The following sections of the FSAR relate to GDC 46:

Section 13.5 Plant Procedures

No direct correlation exists to the 1967 GDC.

GDC 50 - Containment design basis

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 50. The containment structure has been designed with sufficient margins.

The containment, including access opening and penetrations, has a design pressure of 47 psig. The greatest transient peak pressure associated with a postulated rupture of the piping in the Reactor Coolant System and the calculated effects of metal-water reaction does not exceed this value. The containment is strength tested at 54 psig.

The reactor containment structure and penetrations, with the aid of containment heat removal systems, are designed to limit below 10CFR100 values, radiation doses resulting from leakage of radioactive fission products from the containment under those conditions that would result from the largest credible energy release following a loss of coolant accident, including a margin to cover the effects of metal-water or other undefined energy sources.

The following sections of the FSAR relate to GDC 50:

Section 6.2.1 Containment Functional Design

This criterion is related to 1967 GDC 49.

GDC 51 - Fracture prevention of containment pressure boundary

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 51. The concrete containment structure is not susceptible to low temperature brittle fracture. The independence of the reinforcing steel minimizes the possibility of rapidly propagating fracture. The steel liner is not directly exposed to the temperature of the exterior environs.

The selection and use of containment structure materials comply with the applicable codes and standards.

The NDT is assured by specifying test temperatures and minimum acceptance values for Charpy impact tests as part of the material requirements. Mill test reports, showing the Charpy impact test results, are provided as documentation.

The design 24-hour mean-low ambient temperature is 30°F. This is 30°F above the NDT of 0°F or lower for containment penetrations which are exposed to the external environment.

The concrete containment structure is not susceptible to a low temperature brittle fracture.

The containment liner is enclosed within the containment structure and thus not directly exposed to the temperature of the environs. The containment liner temperature during operating is between 60°F and 120°F, which is more than 30°F above the NDTT of 20F for the liner material.

The following sections of the FSAR relate to GDC 51:

Section 3.8.2 Containment Structure

This criterion is related to 1967 GDC 50.

GDC 52 - Capability for containment leakage rate testing

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 52. The containment design will accommodate both initial strength testing at 1.15 times design pressure and periodic leakage rate testing. The containment is provided water testable weld channels and penetrations so that sensitive leakage rate tests can be made of those areas where leakage may occur.

The containment structure design permits preoperational leakage rate tests, including an integrated leakage rate test of the containment structure and leakage rate rest of the penetrations and weld channels.

The integrated leakage rate test, verifies that the structure leakage rate is less than the allowable value. The sensitive leakage rate test is performed by pressurizing the double penetrations, the spaces between resilient seals on penetrations, and the weld channels at slightly above design pressure. This test is conducted with the containment structure at atmospheric pressure.

The integrated leakage rate test and the leakage rate test demonstrate the integrity of the double leakage barriers provided by the penetrations and the overall integrity of the containment structure. The criterion for acceptance

is that the measured leakage rate be less than 0.10 percent of the containment free volume per day.

The following sections of the FSAR relate to GDC 52:

Section 3.8.2 Containment Structure

This criterion is related to 1967 GDC 54 and 55.

GDC 53 - Provisions for containment testing and inspection

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 53. The containment design includes provision for inspection and testing of penetrations, liner plate areas and areas of seals and expansion bellows.

All penetrations are provided with a volume that can be pressurized to test for leak tightness. There are three configurations used: (1) weld channels over the penetration welds; (2) an annular space between the penetration insert and the sleeve, which is sealed at both ends; and (3) double resilient seals with a gap between.

The following sections of the FSAR relate to GDC 53:

Section 3.8.2 Containment Structure

This criterion is related to 1967 GDC 56.

GDC 54 - Piping systems penetrating containment

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 54. The containment piping design provides for a double barrier near the containment penetration in those fluid systems which are not required to function following a design basis event. All piping systems penetrating the containment are provided with test vents and test connection or have other provisions to allow periodic leakage testing. Those automatic isolation valves that do not restrict normal plant operation are periodically tested to assure operability.

The following sections of the FSAR relate to GDC 54:

Section 6.2.4	Containment Isolation Systems

This criterion is related to 1967 GDC 57.

GDC 55 - Reactor coolant pressure boundary penetrating containment

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 55.

The following sections of the FSAR relate to GDC 55:

Section 6.2.4	Containment Isolation System

No direct correlation exists to the 1967 GDC.

GDC 56 - Primary containment isolation

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 56.

At least two barriers are provided between the atmosphere outside the containment and the containment atmosphere, the Reactor Coolant System, or closed systems which are assumed vulnerable to accident forces.

Redundant valving is provided for piping that is open to the atmosphere and connects to the Reactor Coolant System or is open to the containment atmosphere.

The following sections of the FSAR relate to GDC 56:

Section 6.2.4	Containment Isolation System

This criterion is related to 1967 GDC 53.

GDC 57 - Closed system isolation valves

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 57. Each line that penetrates the reactor containment in each unit and is neither part of the reactor coolant pressure boundary nor connected directly to the containment atmosphere has at least one containment isolation valve located outside the containment as close to the containment as practical, the Residual Heat Removal System pump suction lines excepted.

The following sections of the FSAR relate to GDC 57:

Section 6.2.4	Containment Isolation Systems

This criterion is related to 1967 GDC 53.

GDC 60 - Control of release of radioactive materials to the environment

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 60. An extensive treatment system has been incorporated in the design for processing liquid wastes. Gaseous wastes are processed by appropriate holdup and filtering. Solid wastes are solidified (except for clothing, paper, etc.) and placed in 55 gallon drums for eventual disposition in licensed burial grounds. The containment atmospheres, the plant vents, and the Liquid and Gaseous Waste Systems effluents are monitored for radioactivity concentration during all operations.

Waste handling systems are incorporated in each facility design for processing and/or retention of normal operation radioactive wastes with appropriate controls and monitors to assure that releases do not exceed a few percent of the limits of 10CFR20. The facilities are also designed with provisions to prevent radioactivity release during accidents from causing exposures in excess of the guideline levels specified in 10CFR100.

The following sections of the FSAR relate to GDC 60:

Section 11.2	Liquid Waste Systems
Section 11.3	Gaseous Waste Systems

This criterion is related to 1967 GDC 17.

GDC 61 - Fuel storage and handling and radioactivity control

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 61.

The associated ventilation equipment includes charcoal filtration which minimizes radioactive material release associated with a postulated fuel handling accident.

The spent fuel area is enclosed, and maintained under negative pressure. All ventilation air is passed through HEPA filters prior to being released to the plant vent. In the event of an accident, high activity would be detected by the radiation monitor and the exhaust air would be diverted through charcoal filters. The radioactive wastes drumming station is continuously monitored. Accidents in this area will be restricted to liquid spills which will be collected in the waste system.

A combination of shielding and equipment automation has been incorporated into the design of the waste storage facilities to enable effective operation while assuring that requirements of 10CFR20 are met.

The following sections of the FSAR relate to GDC 61:

Section 9.1	Fuel Storage and Handling
Section 9.4.2	Auxiliary Building (Ventilation)
Section 9.4.4	Fuel Handling Area (Ventilation)

This criterion is related to 1967 GDC 68 and 69.

GDC 62 - Prevention of criticality in fuel storage and handling

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 62. Fuel storage and transfer systems are configured to prevent criticality.

The spent fuel storage racks are designed so that it is impossible to insert assemblies in other than the prescribed locations. Borated water is used to fill the spent fuel storage pool at a concentration to match that used in the reactor cavity and refueling canal during refueling operations. The fuel is stored vertically in a array with sufficient center-to-center distance between assemblies to assure $k_{eff} \leq 0.90$ even if unborated water is used to fill the pool.

The following sections of the FSAR relate to GDC 62:

Section 9.1	Fuel Storage and Handling

This criterion is related to 1967 GDC 66.

GDC 63 - Monitoring fuel and waste storage

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 63. Failure in the spent fuel pool cooling system and high radiation level in the spent fuel pool or radioactive waste areas are alarmed locally and in the control room.

The ventilating systems removing the air from the fuel handling area are provided with charcoal filter systems for use in event of accidental releases of radio-iodines, and plant vents are monitored for activity during all operations.

The spent fuel pool cooling system is equipped with adequate instrumentation for normal operation. Water temperatures in the pool and at the outlet of the heat exchanger are indicated locally, and high pool temperature is alarmed in the control room.

The following sections of the FSAR related to GDC 63:

Section 11.4	Process and Effluent Radiological Monitoring Systems

This criterion is related to 1967 GDC 18.

GDC 64 - Monitoring radioactivity releases

The Diablo Canyon Unit 1 and 2 designs conform with Criterion 64. The containment atmospheres, the plant vents, and waste effluents are monitored for radioactivity concentration during all operations.

The following sections of the FSAR relate to GDC 64:

Section 11.4	Process and Effluent Radiological Monitoring Systems

This criterion is related to 1967 GDC 17.

COMPLIANCE WITH 10CFR100

100.1 This section does not impose obligations on applicants or licensees that must be specifically addressed.

100.2 This regulation is explanatory. DCPP is not novel in design and is not unproven as a prototype or pilot plant.

100.3 This section does not impose obligations on applicants or licensees that must be specifically addressed.

100.10 The factors listed related to both the design of the DCPP and the site have been provided in the application. Site specifics, including seismology, meteorology, geology, and hydrology, are presented in Chapter 2 of the FSAR. The exclusion area, low population zone, and population center distance are provided and described. The FSAR also describes the characteristics of reactor design and operation.

100.11 In Section 2.1 of the FSAR the exclusion area, low population zone, and population center distance are established. The accident analysis provided in the FSAR (Chapter 15) indicates that offsite doses resulting from postulated accidents would not exceed the criteria provided in this section 100.11 of the regulation.

Appendix A 10CFR100	The seismic and geologic aspects of the DCPP site have been litigated by both the Atomic Safety and Licensing Board and the Atomic Safety and Licensing Appeals Board and the evaluation of the seismic design and siting criteria of DCPP were found acceptable.

COMPLIANCE WITH 10CFR50

The following sections of 10CFR50 do not impose obligations on applicants or licensees that must be specifically addressed. 50.1, 50.2, 50.3, 50.4, 50.12, 50.13, 50.20, 50.21, 50.22, 50.23, 50.30, 50.31, 50.32, 50.39, 50.41, 50.42, 50.43, 50.50, 50.52, 50.56.

50.10 & 50.11	These regulations specify the various activities that may not be undertaken without a license issued by the NRC. PGandE will not conduct any of these activities without obtaining the appropriate NRC license.
50.33	This regulation requires the license application to contain certain general information, such as an identification of the applicant, information about the applicant's financial qualifications, and a list of regulatory agencies with jurisdiction over the applicant's rates and services. This information was provided by PGandE in the construction permit and operating license applications.
50.33a	This regulation requires applicants for construction permits to submit information required for antitrust review. PGandE was exempt from antitrust review.

50.34(a) This regulation governs the contents of the Preliminary Safety Analysis Report and relates to the construction permit stage and is not relevant for the operating license stage.

50.34(b) PGandE prepared and submitted a Final Safety Analysis Report (FSAR) which addressed the required information in the FSAR chapters noted below:

(1) site evaluation factors - Chapter 2

(2) structures, systems, and components - Chapters 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, and 15

(3) radioactive effluents and radiation protection - Chapters 11 and 12

(4) design and performance evaluation - ECCS performance is discussed and shown to meet the requirements of 10CFR50.46 in Chapters 6 and 15.

(5) results of research programs - any such results have been included in the FSAR in appropriate sections.

(6) (i) organizational structure - Chapter 13

(ii) managerial and administrative controls - Chapters 13 and 17. Chapter 17 discusses compliance with the quality assurance requirements of Appendix B.

(iii) plans for preoperational testing and initial operations - Chapter 14

(iv) plans for conduct of normal operations - Chapter 13 and 17. Surveillance and periodic testing is specified in the Technical Specifications.

(v) plans for coping with emergencies - Emergency Planning (Chapter 13) and the PGandE Emergency Response Plan.

(vi) Technical Specifications - prepared in conjunction with the Staff (Chapter 16)

(vii) not applicable as the operating license application was filed prior to February 5, 1979

(7) technical qualifications - Chapter 13

(8) operator requalification program - Section 13.2.2 of the FSAR. Also submittals related to NUREG-0737.

50.34(c)	A physical security program was prepared and is implemented at the Diablo Canyon Power Plant.
50.34(d)	A safeguards contingency plan was prepared by PGandE and submitted to the NRC.
50.34(a)	This regulation relates to the construction permit stage rather than the operating license stage.
50.35	This regulation relates to the construction permit stage rather than the operating license stage.
50.36	Technical Specifications have been prepared and are in the final review stage with the NRC. The Technical Specifications include the following categories: (1) safety limits and limiting safety settings, (2) limiting conditions for operation, (3) surveillance requirements, (4) design features, and (5) administrative controls.
50.36(a)	Technical Specifications on effluents from DCPP have been prepared and reviewed by the NRC Staff. These Technical Specifications will be incorporated as part of the operating license for DCPP.
50.37	Both the application for a construction permit and for an operating license indicate PGandE will not permit any individual to have access to Restricted Data until the Civil Service Commission shall have made an investigation and report favorably with respect to the investigation.

50.38 The application for both a construction permit and an operating license indicates PGandE is not owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government.

50.40 This regulation provides considerations to "guide" the Commission in granting licenses as follows:

50.40(a) The basis for PGandE's assurance that the NRC regulations will be complied with an that the public health and safety will not be endangered is contained in this regulation evaluation in conjunction with the license application and the correspondence related to the application which has been submitted to the NRC over the years supporting the application. In addition, the plant design and construction has been reviewed by the PGandE staff, the NRC staff, the ACRS and the NRC licensing boards in extensive public hearings.

50.40(b) PGandE technical and financial qualification have been reviewed and found adequate.

50.40(c) The information provided in the FSAR and related correspondence in conjunction with the intensive review process by PGandE, the NSSS vendor and the NRC provide assurance that granting a license to PGandE will not be inimical to the health and safety of the public. The

security plan provided by PGandE and its subsequent review and acceptance by the NRC in conjunction with the fact that PGandE is not controlled by agents of foreign countries provides assurance that granting a license to PGandE will not be inimical to the common defense and security of the public.

50.40(d) PGandE submitted Environmental Reports pursuant to Appendix D of 10CFR50 which were reviewed and accepted by the NRC Staff. This compliance with Appendix D meets the intent of 10CFR51 and is, therefore, acceptable.

50.44 The Diablo Canyon Power Plant has a combustible gas control system which is described in section 6.2.3 of the FSAR. The system is designed to maintain the hydrogen concentration in containment at a safe level following a LOCA. The system meets the positions of NUREG-0737 and NUREG-0660.

50.45 Pertains to construction permits - not applicable.

50.46 FSAR Section 6.3 describes the emergency core cooling system. The methods used to analyze ECCS performance following the course of an accident and the results of the loss-of-coolant accident analyses presented in FSAR Section 15.4.1 demonstrate conformance with 50.46.

50.47 As indicated in Supplement 12 of the DCPP SER (NUREG-0675), the Emergency Plan prepared for DCPP was found acceptable by the NRC Staff and the FEMA/NRC Steering Committee to be used during low power testing on an interim basis.

50.48 PGandE has prepared and submitted a fire protection analysis which addresses Appendix A to Branch Technical Position BTP-APCSB 9.5-1 and the required portions of 10CFR50 Appendix R (specifically sections III.G., III.J., and III.O) all of which have been approved by the NRC Staff.

50.51 This regulation specifies the maximum duration of licenses. Compliance will be affected by the Commission's writing the license so as to comply.

50.53 The operation of Diablo Canyon Power Plant will be within the United States and subject to the jurisdiction of the United States as implied in the operating license application.

50.54 This regulation specifies certain conditions that are generally incorporated in each license issued by the NRC. PGandE will comply with the conditions incorporated in the operating license.

50.55	This regulation provides discussion of construction permits and is not relevant for operating license's.
50.55a(a)(1)	The FSAR and Technical Specifications provide discussion relating to the design, fabrication, construction, testing and inspection of structures, systems and components important to safety. Chapter 17 discusses Quality Assurance, Chapter 14 and the Technical Specifications discuss testing and inspection aspects. Chapters 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 and 15 discuss the design aspects of various structures, systems and components.
50.55a(a)(2)	General introductory paragraph for paragraphs (c) through (i) of this regulation.
50.55a(b)(1) 50.55a(b)(2)	These paragraphs provide guidance related to the accepted Edition and Addenda of Section III and XI of the ASME B&PV Code.
50.55a(c)	The reactor vessel design and fabrication was done in accordance with Section III of the ASME B&PV Code Class A. Unit 1 and 2 purchase orders were placed March 27, 1967 and November 20, 1968 respectively. For this regulation, the applicable ASME code requirements are the 1965 edition for Unit 1 through the Summer 1966, Addenda and the 1968 edition for Unit 2. Information is provided in Section 5.2 of the FSAR.

50.55a(d)	Reactor Coolant system piping meets the requirements of ASA B31.1 as stated in this regulation. Information is provided in Chapter 5 of the FSAR.
50.55a(e)	The reactor coolant pumps meet the requirement of Section III of the 1965 ASME B&PV code and are Class A. Information is provided in Chapter 5 of the FSAR.
50.55a(f)	Valves are designed and fabricated in accordance with ASA B16.5, MSS-SP-66 and the ASME B&PV Code, Section III various years.
50.55a(g)	In Supplement 13 of the Diablo Canyon Safety Evaluation Report (NUREG-0675) the NRC Staff found that PGandE's request to use Section XI of the ASME B&PV code, 1977 edition, including summer 1978 Addenda as the applicable code to be satisfactory.
50.55a(h)	The protection systems meet the requirements of IEEE-279 as indicated in Chapter 7 of the FSAR.
50.55a(i)	Section 5.4 of the FSAR discusses irradiation surveillance program. See the discussion in this submittal on Appendices G and H of 10CFR50.
50.55b	This regulation has been revoked. 43 Fed. Reg. 4977.

50.57(a) This regulation requires the Commission to make certain findings before the issuance license. No applicant obligation.

(1) Construction of the facility has been substantially completed in conformity with the construction permit and the application as amended. Conformance of the facility to the NRC rules and regulations and the Act, as implemented by the regulations, has been demonstrated by the application.

(2) The Technical Specifications and resulting operating procedures provide assurance that the unit will operate in conformity with the application as amended and with the rules and regulations.

(3) The application demonstrates that the facility can be operated without endangering the health and safety of the public and in compliance with the regulations, as noted above.

(4) The application demonstrates that PGandE is technically and financially qualified to operate the unit.

(5) The applicable provisions of 10CFR140 have been satisfied. Additional action will be initiated when an operating license is received.

(6) The Security Plan assures that special nuclear material is being appropriately safeguarded. The application demonstrates that the operation of the unit will not be inimical to the health and safety of the public.

50.57(b) The license, when issued, will contain appropriate conditions to assure that items of construction or modification are completed on a schedule acceptable to the Commission. PGandE will comply with the conditions of the license.

50.57(c) PGandE has requested a low power (5% of full power) license for the purpose of testing.

50.58 This regulation provides for the review and report of the Advisory Committee on Reactor Safeguards. The ACRS has reviewed the operating license application for DCPP in accordance with its usual practice and PGandE has responded to all concerns.

50.59 This regulation provides for the licensing of certain changes, tests, and experiments at a licensed facility. Technical Specifications and PGandE procedures provide implementation of this regulation.

50.70 The Commission has assigned resident inspectors to the DCPP. PGandE has provided office space in accordance with the requirements of this section. PGandE permits access to the station to NRC inspectors in accordance with 10CFR50.70(b)(3).

50.71 Records are and will be maintained in accordance with the requirements of sections (a) through (e) of this regulation and any license requirements. Section (e) requires that the FSAR be updated within 24 months of either July 22, 1980, or the date of issuance of the operating license, whichever is later and annually thereafter. PGandE will make such updates.

50.72 Notification of significant events to the NRC will be made in accordance with the requirements in this regulation.

50.78 No request from the NRC related to the implementation of IAEA safeguards has been made to PGandE, therefore, this section is not applicable to the DCPP.

50.80 This regulation provides that licenses may not be transferred without NRC consent. No application for transfer of a license is involved in the DCPP proceeding.

50.81	This regulation permits the creation of mortgages, pledges, and liens on licensed facilities, subject to certain provisions. PGandE licensed facilities are not mortgaged, pledged, or otherwise encumbered as those terms are used in this regulation.
50.82	This regulation provides for the termination of licenses. It does not apply to DCPP because PGandE has not requested the termination of a license.
50.90	This regulation governs applications for amendments to licenses. Future requests for license amendments will be made in accordance with these requirements.
50.91	This regulation provides guidance to the NRC in issuing license amendments. No applicant obligation.
50.100 50.101 50.102 50.103	These regulations govern the revocation, suspension, and modification of licenses by the Commission under unusual circumstances. No such circumstances are present in the DCPP proceeding, and these regulations are not applicable.
50.109	This regulation specifies the conditions under which the NRC may require the backfitting of a facility. This regulation imposes no specific obligations on a licensee unless the NRC proposes a backfitting requirement, and so this regulation is not applicable.

50.110 This regulation governs enforcement of the Atomic Energy Act, the Energy Reorganization Act of 1974, and the NRC's regulations and orders. No enforcement action is at issue in the DCPP proceeding, and so this regulation is not applicable.

COMPLIANCE WITH APPENDICES OF 10CFR50

Appendix B

Chapter 17 of the FSAR describes in detail the provisions of the quality assurance program which has been implemented to meet all applicable requirements of Appendix B.

Appendix C

PGandE supplied information relating to financial qualification in both the construction permit and operational license applications, in addition to updated letters submitted June 24, 1978 and August 24, 1978. This information was found acceptable to the NRC as noted in supplement 8 to the SER.

Appendix D

PGandE responded to Appendix D to 10CFR50 in its application and the submittal meets the intent of 10CFR51 which has superseded Appendix D to 10CFR50.

Appendix E

As indicated in Supplement 12 of the DCPP Safety Evaluation Report (SER) (NUREG-0675), the Emergency Plan prepared for DCPP was found acceptable by the NRC Staff and the FEMA/NRC Steering Committee to be used during low power testing on an interim basis. PGandE's Emergency Plan will be in compliance with the requirement of Appendix E of 10CFR50 prior to full power operation of the DCPP.

Appendix F	Not applicable to nuclear power plants
Appendix G	PGandE requested exemptions from sections III.C.2 and IV.A.4 of Appendix G as Appendix G was not promulgated at the time of the reactor vessel fabrication. In supplement 9 to the DCPP SER (NUREG-0675) the NRC granted exemption from the two referenced sections and indicated that sufficient information has been provided to demonstrate that the safety objective of Appendix G has been achieved.
Appendix H	The NRC Staff review of the PGandE Submittal relating to Appendix H found that the requirements of Appendix H except for II.B for Unit 1 have been met. The NRC in Supplement 9 to the DCPP SER (NUREG-0675) stated that based on an evaluation of the information provided by PGandE an exemption from Section II.B for Unit 1 is justified.
Appendix I	Chapter 12 of the FSAR provides information relating to design objectives for meeting the criteria "as low as is reasonably achievable".
Appendix J	PGandE procedures meet the requirements of this Appendix except for airlock testing. Exemptions to this portion of Appendix J as approved by the NRC Staff are provided in Supplement 9 to the DCPP SER (NUREG-0675). The procedures

are described in the Technical Specifications. The containment has been leak tested using the requirements of this Appendix.

Appendix K — This Appendix specifies features of acceptable ECCS evaluation models. The analysis for DCPP has been conducted using a model which has been accepted by the NRC staff as meeting the requirements of this Appendix.

Appendix L — This Appendix covers information requested by the Attorney General for anti-trust review of license applications. DCPP was exempted from anti-trust review because of its statement of commitments filed in the Federal Register, 41FR20225 May 17, 1976.

Appendix M — This Appendix covers standardization of design and is not applicable to DCPP.

Appendix N — This Appendix covers standardization of nuclear power plant designs and is not applicable to DCPP.

Appendix O — This Appendix covers standardization of design and is not applicable to DCPP.

Appendix P — This Appendix is proposed and it applies to fuel processing plants. Accordingly, it is not applicable to DCPP.

Appendix Q	This Appendix governs preapplication early review of site suitability issues and is not applicable to DCPP.
Appendix Q (Proposed)	This Appendix is proposed and it would apply to fuel reprocessing plants, not power reactors.
Appendix R	The DCPP meets the applicable portions of Appendix R related to fire protection. The NRC Staff found the fire protection program acceptable as noted in Supplement 13 of the SER (NUREG-0675).

COMPLIANCE WITH 10CFR20

20.1(a) The regulations of this section do not impose obligations on applicants or licensees that must be specifically addressed.

20.1(b) The regulations of this section do not impose obligations on applicants or licensees that must be specifically addressed.

20.1(c) PGandE complies with ALARA requirements and implements these requirements as indicated in Chapter 12 of the FSAR. ALARA is operationally implemented via the radiation work permit system as described in Radiation Control Procedure G-1.

20.2 The regulations of this section do not impose obligations on applicants or licensees that must be specifically addressed.

20.3 PGandE has accepted the definitions contained in this section and has incorporated them as required in procedures and sections of the FSAR.

20.4 PGandE has accepted the units of Radiation Dose defined in this section and has incorporated them as required in procedures and sections of the FSAR.

20.5 PGandE has accepted the units of Radioactivity defined in this section and has incorporated them as required in procedures and sections of the FSAR.

20.6 The regulations of this section do not impose obligations on applicants or licensees that must be specifically addressed.

20.7 The regulations of this section do not impose obligations on applicants or licensees that must be specifically addressed.

20.101 PGandE Radiation Control Standard No. 1 of the DCPP Plant Manual establishes DCPP dose limits which conform to the requirements of this section.

20.102 When required the DCPP Chemistry and Radiation Protection Staff is responsible for complying with the requirements of this section.

20.103 PGandE Radiation Control Standard No. 2 establishes the DCPP internal exposure control program which conforms to the requirements of this section.

20.104 PGandE does not employ individuals under 18 to work in or frequent radiation areas. PGandE and Radiation Control Standard No. 1 also establishes dose limits for individuals under 18 which comply with the requirements of this section.

20.105(a)	PGandE does not intend to apply for limits in excess of those in 20.105(b).
20.105(b)	The Chemistry and Radiation Protection Staff is responsible for performing surveys necessary to assure the limits in this section are not exceeded.
20.106	The limits specified in the DCPP Technical Specifications are in conformance with the requirements of this section.
20.107	The regulations of this section do not impose obligations on applicants or licensees that must be specifically addressed.
20.108	PGandE Radiation Control Standard No. 2 provides for DCPP's Bio-assay program. If required by the NRC, additional bioassays will be performed.
20.201	PGandE Radiation Control Standard No. 7 provides criteria for surveys as required in this section.
20.202(a)	PGandE Radiation Control Standard No. 1 provides guidance relating to supplying appropriate personnel monitoring equipment to individuals as required in this section.
20.202(b)	PGandE accepts the terminology contained in this section and has incorporated it as required in procedures for DCPP.

20.203 Materials used for labeling and posting designated radiation hazards, areas and materials using a radiation symbol conform to the design indicated in this section. PGandE Radiation Control Standard No. 4 establishes posting and access requirements for areas at DCPP that are in conformance with this section. The Chemistry and Radiation Protection Staff is responsible for posting and labeling requirements.

20.204 PGandE Radiation Control Standard No. 4 establishes criteria for exceptions from posting that are in conformance with this Section.

20.205 PGandE Radiation Control Standard No. 6 establishes DCPP requirements for receiving radioactive material packages that are in conformance with this section.

20.206 PGandE Radiation Control Standard No. 9 establishes requirements for instructing workers at DCPP, which conform with this section.

20.207 Not applicable as PGandE will not store license material in an unrestricted area.

20.301 The general requirements for waste disposal are covered in Chapter 11 of the FSAR.

20.302	Not applicable to PGandE, which will only use 20.106 and transfer to other licensees as disposal methods.
20.303	Not applicable as PGandE will not use this method of disposal.
20.304	Not applicable as PGandE will not use this method of disposal.
20.305	Not applicable as PGandE will not use this method of disposal.
20.401	PGandE Radiation Control Standard No. 8 requires that appropriate records be retained.
20.402	PGandE Radiation Control Standard No. 8 provides information for complying with this section.
20.403	PGandE Radiation Control Standard No. 8 provides information for complying with this section.
20.405	PGandE Radiation Control Standard No. 8 establishes reporting requirements that conform with this section.
20.407	PGandE Radiation Control Standard No. 8 requires that PGandE provide personnel monitoring reports to the NRC.
20.408	PGandE Radiation Control Standard No. 8 requires that PGandE furnish exposure reports to applicable terminated employees.

20.409 PGandE Radiation Control Standard No. 8 requires that PGandE inform the NRC and the individuals involved when an overexposure occurs.

20.501 The regulations of this section do not impose obligations on applicants or licensees that must be specifically addressed.

20.502 The regulations of this section do not impose obligations on applicants or licensees that must be specifically addressed.

20.601 The regulations of this section do not impose obligations on applicants or licensees that must be specifically addressed.