ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9205040245 DOC.DATE: 91/12/31 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
CHENG,C. Pacific Gas & Electric Co.
RUEGER,G.M. Pacific Gas & Electric Co.
RECIP.NAME RECIPIENT AFFILIATION

See Enviro Rpt.

SUBJECT: "1991 Annual Radiological Environ Operating Rept." W/920429 ltr.

DISTRIBUTION CODE: IE25D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 100
TITLE: Environmental Monitoring Rept (per Tech Specs)

NOTES:

	RECIPIENT ID CODE/NAME		COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME		COPIES LTTR	COPIES ENCL
	PD5 LA		3	3	PD5 PD		1	1
	ROOD,H		1	1				
INTERNAL:	ACRS		1	1	NRR/DREP/PRPB11		2	2
	REG FILE	01	1	1	RGN5 DRSS/RPB		1	1
	RGN5 FILE	02	1	1				
EXTERNAL:	EG&G SIMPSON,F		2	2	NRC PDR		1	1

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK, ROOM P1-37 (EXT. 20079) TO ELIMINATE YOUR NAME FROM DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTTR 14 ENCL 14

RIDS/ADDS

RIDS/ADDS

Pacific Gas and Electric Company

77 Beale Street
San Francisco, CA 94106
415/973-4684

Gregory M. Rueger
Senior Vice President and
General Manager
Nuclear Power Generation

April 29, 1992

PG&E Letter No. DCL-92-105

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Re: Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-82
Diablo Canyon Units 1 and 2
Annual Radiological Environmental Operating Report

Gentlemen:

Enclosed is the 1991 Annual Radiological Environmental Operating Report for Diablo Canyon Units 1 and 2, submitted in accordance with Section 6.9.1.5 of the Technical Specifications, Appendix A to Facility Operating Licenses DPR-80 and DPR-82.

Sincerely,

Gregory M. Rueger

cc: Ann P. Hodgdon (w/o enc.)
Robert W. Carr, SLO APCD
Joseph Hickman, DHS
William R. Leonard, RWQCB, CCR
John B. Martin
Tim Mazzacano, SLO Health
Philip J. Morrill
Harry Rood (w/o enc.)
David Speed, DHS
CPUC (w/o enc.)
Diablo Distribution (w/o enc.)

Enclosure

5742S/85K/ERK/1813

040114

9205040245 911231
PDR ADOCK 05000275
R PDR

IE25
1
1

Report Issued:

April 20, 1992

TES

1991 ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT DIABLO CANYON POWER PLANT

Prepared by

Chin-sui Cheng

April 1992

Report 420DC-92.310

9205040245

Pacific Gas and Electric Company
Technical and Ecological Services
3400 Crow Canyon Road, San Ramon, California 94583

EXECUTIVE SUMMARY

This report contains results from the operational Radiological Environmental Monitoring Program for Diablo Canyon Power Plant (DCPP) compiled for the period January 1, 1991 through December 31, 1991. This program is conducted by the Health Physics Unit of Pacific Gas & Electric Company's Technical and Ecological Services (TES) in San Ramon, California, and is conducted in accordance with Section 3/4.12 of the DCPP Technical Specifications.

A review of the results from the 1991 Radiological Environmental Monitoring Program showed that all positively detected results were well below the reporting levels, and none of the lower limits of detection were exceeded. The airborne radioactivity concentrations around DCPP were consistent with preoperational background measurements. The mean percent availability for all air samplers was 99.3 percent for 1991. The ambient direct radiation levels in the environs surrounding DCPP did not change and were within the preoperational range. The analyses of water samples confirmed that the operation of DCPP had no impact on the aquatic medium in the plant environs. Vegetable crops harvested during their growing season and milk samples collected also showed no impact from plant operation. Some marine biological samples were found to contain plant-related nuclides. However, their activity concentrations were well below reporting levels and did not have any significant impact on the critical dose pathway to man.

The results of the 1991 Radiological Environmental Monitoring Program showed that the operation of DCPP had no significant radiological impact on the environment.

Prepared by:

Chin-sui Cheng
Sr. Radiochemist (Acting)

Approved by:

S. Garratt Sharp
Supervising Chemist

Deborah L. Brownrigg
Technologist (Acting)

CONTENTS

	Page
INTRODUCTION	1
DCPP ENVIRONMENTAL MONITORING PROGRAM	1
SAMPLING METHODS	11
AIRBORNE RADIOACTIVITY	11
DIRECT RADIATION	11
WATER SAMPLES	11
MARINE SAMPLES	12
FOOD CROPS	12
MILK	13
SAMPLE ANALYSES	14
AIRBORNE RADIOACTIVITY	14
DIRECT RADIATION	17
WATER SAMPLES	17
MARINE SAMPLES	17
FOOD CROPS	17
MILK	18
QUALITY CONTROL	19
LAND USE CENSUS	22
RESULTS AND DISCUSSION	25
AIRBORNE RADIOACTIVITY	25
DIRECT RADIATION	30
WATER SAMPLES	30
MARINE SAMPLES	31
FOOD CROPS	34
MILK	34
COMPARISON OF PREOPERATIONAL AND OPERATIONAL DATA	35
AIRBORNE RADIOACTIVITY	35
DIRECT RADIATION	37
WATER SAMPLES	38
MARINE SAMPLES	39
FOOD CROPS	49
MILK	49

CONTENTS - (continued)

	Page
PROGRAM VARIANCE	51
AIRBORNE RADIOACTIVITY	51
MARINE SAMPLES	51
TERRESTRIAL SAMPLES	52
REFERENCES	54
Appendix A: ENVIRONMENTAL RADIATION MONITORING PROGRAM SUMMARIES	
Appendix B: SAMPLE ANALYTICAL RESULTS	

FIGURES

Figure		Page
1	UNITS 1 AND 2 DIABLO CANYON OFF-SITE STATIONS	9
2	UNITS 1 AND 2 DIABLO CANYON ON-SITE STATIONS	10
3	DISTRIBUTION OF USCEA/NIST RESULTS	21
4	UNITS 1 AND 2 DIABLO CANYON POWER PLANT - LAND USE CENSUS .	24
5	AIR PARTICULATES GROSS BETA ACTIVITIES	26
6	AIR PARTICULATES - MEAN QUARTERLY GROSS BETA ACTIVITY . . .	36
7	DIRECT RADIATION	36
8	Cs-137 IN FISH	41
9	Cs-137 IN SEDIMENT	41
10	Co-58 AND Co-60 IN ABALONE	45
11	Co-58 AND Co-60 IN MUSSELS	45
12	Co-58, Co-60 AND Mn-54 IN ALGAE	47
13	Co-58, Co-60 AND Mn-54 IN SEDIMENT	47

TABLES

Table		Page
1	MARINE SAMPLING PROGRAM	2
2	DIRECT RADIATION, AIRBORNE, AND TERRESTRIAL SAMPLING PROGRAM	4
3	SAMPLING LOCATIONS	5
4	DISTANCES AND DIRECTIONS TO ENVIRONMENTAL MONITORING STATIONS	7
5	MAXIMUM VALUES FOR LOWER LIMITS OF DETECTION (LLD)	15
6	REPORTING LEVELS FOR RADIOACTIVITY CONCENTRATIONS IN ENVIRONMENTAL SAMPLES	32
7	MEAN QUARTERLY GROSS BETA ACTIVITY	35
8	ENVIRONMENTAL TLD DATA (mR/yr)	38
9(a)	CESIUM-137 IN FISH	39
9(b)	NUCLIDES IN FISH	40
10	NUCLIDES IN ABALONE	42
11	NUCLIDES IN MUSSELS	43
12	NUCLIDES IN ALGAE	44
13(a)	CESIUM-137 IN SEDIMENT	46
13(b)	NUCLIDES IN SEDIMENT	48
14	NUCLIDES IN FOOD CROPS	49
15	NUCLIDES IN MILK	50
16	DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT SUMMARY OF AIR SAMPLER UNAVAILBILITY	52
A-1a	ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY - SEAWATER	A-1
A-1b	ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY - SURFACE WATER	A-2
A-1c	ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY - DRINKING WATER	A-3
A-1d	ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY - OUTFALL WATER	A-4
A-2	ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY - AIRBORNE	A-5
A-3	ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY - FISH	A-6
A-4	ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY - ABALONE	A-7

TABLES - continued

Table		Page
A-5	ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY - MUSSELS	A-8
A-6	ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY - ALGAE	A-9
A-7	ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY - SEDIMENT	A-10
A-8	ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY - MILK	A-11
A-9	ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY - FOOD CROPS	A-12
A-10	ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY - DIRECT RADIATION	A-13
A-11	EPA ENVIRONMENTAL RADIOACTIVITY LABORATORY INTERCOMPARISON STUDIES PROGRAM RESULTS	A-14
A-12	NIST SUMMARY REPORT OF BLIND SAMPLE	A-15
B-1	1991 STATE CROSS-CHECK RESULTS	B-1
B-2	MARINE AND TERRESTRIAL SAMPLE DATA - DETECTED NUCLIDES	B-4
B-3	AIRBORNE RADIOACTIVITY	B-5
B-4	ENVIRONMENTAL DOSIMETRY	B-37
B-5	LAND USE CENSUS	B-38
B-6	LIST OF MARINE AND TERRESTRIAL SAMPLES COLLECTED AND ANALYZED	B-39

INTRODUCTION

Diablo Canyon Power Plant (DCPP) consists of two Westinghouse pressurized water reactors. Unit 1 (1086 MWe) attained criticality on April 29, 1984 and Unit 2 (1119 MWe) attained criticality on August 20, 1985. This report contains results from the operational Radiological Environmental Monitoring Program for DCPP compiled for the period January 1, 1991 through December 31, 1991. During this period, 1,696 environmental samples were collected and analyzed to determine radiation levels. They consisted of 71 terrestrial samples, 219 marine samples, 517 air particulate filters, 517 iodine cartridges, and 372 thermoluminescent dosimeter readings. The program is conducted by the Health Physics Unit of Pacific Gas & Electric Company's, Technical and Ecological Services (TES) in San Ramon, California. Also included in this report are the results of TES participation in the Environmental Protection Agency (EPA) cross-check program, the state cross-check program, and the current land use census of the plant environs.

DCPP ENVIRONMENTAL MONITORING PROGRAM

The Radiological Environmental Monitoring Program was conducted in accordance with Section 3/4.12 of the DCPP Technical Specifications. This program was designed to identify and quantify ambient radioactivity concentrations in the environs surrounding DCPP and to determine whether there were any significant increases in the concentration of radionuclides, attributable to plant operations, in the critical dose pathways.

The environmental media selected were based on the potential dose pathways of the radionuclides from the environment to man. They included the following: air, direct radiation, non-migratory marine species, algae, seawater, ocean bottom sediment, local agricultural crops, drinking water, surface water, and milk. The environmental samples were collected on a weekly, monthly, quarterly, or annual basis depending on sample type and availability. The frequencies of collection of the samples from the different media are summarized in Tables 1 and 2. These samples were collected by PG&E's Onsite Dosimetry and Environmental Services personnel, PG&E Mission Trail Region personnel, and contractors.

TABLE 1

MARINE SAMPLING PROGRAM

Sample Item	Sampling Location	Type of Analysis	Material Analyzed	Collection Frequency
Seawater	Diablo Cove Pacific Ocean North Pacific Ocean South Plant Outfall Rattlesnake Canyon	Gamma isotopic	Aliquot	Monthly
Red algae, foliose (*Iridaea* sp.)	Diablo Cove Rattlesnake Canyon	Gamma isotopic	Complete sample	Quarterly if available
Bull kelp (*Nereocystis leutkeana*)	Diablo Cove Pacific Ocean North Pacific Ocean South Rattlesnake Canyon	Gamma isotopic	Pneumatocyst and blade	Monthly if available
Mussels (*Mytilus californianus*)	Diablo Cove Pacific Ocean North Pacific Ocean South Rattlesnake Canyon	Gamma isotopic	Complete sample, less shell	Quarterly if available
Black abalone (*Haliotis cracherodii*)	Diablo Cove Pacific Ocean North Pacific Ocean South Rattlesnake Canyon	Gamma isotopic	Edible muscle	Quarterly if available
Surfperch (*Family Embiotocidae*)	Diablo Cove Pacific Ocean North Pacific Ocean South Rattlesnake Canyon	Gamma isotopic	Edible muscle	Quarterly if available

TABLE 1, continued

MARINE SAMPLING PROGRAM

Sample Item	Sampling Location	Type of Analysis	Material Analyzed	Collection Frequency
Red abalone (Haliotis refescens)	Diablo Cove Pacific Ocean North Pacific Ocean South Rattlesnake Canyon	Gamma isotopic	Edible muscle	Quarterly if available
Rockfish (Sebastes sp.)	Diablo Cove Pacific Ocean North Pacific Ocean South Rattlesnake Canyon	Gamma isotopic	Edible muscle	Quarterly if available
Fish (species unspecified)	Commercial landing in Morro Bay* or Avila Pier*	Gamma isotopic	Edible muscle	Quarterly if caught locally**
Salmon (species unspecified)	Commercial landing in Morro Bay* or Avila Pier*	Gamma isotopic	Edible muscle	Quarterly if caught locally**

*Commercial sampling.
**Sampled when in season.

TABLE 2

DIRECT RADIATION, AIRBORNE, AND TERRESTRIAL SAMPLING PROGRAM

Sample Item	Sampling Locations[b]	Type of Analysis	Collection Frequency
Direct radiation[a]	32 stations	Gamma exposure	Quarterly
Airborne Particulates	8 stations	Gross beta, Gamma isotopic	Weekly[c] Quarterly composite
Iodine	8 stations	Gamma for I-131	Weekly
Surface water	1 station[d]	Gamma isotopic, tritium	Monthly
Vegetative greens	Farm in San Luis Obispo area; farm in Arroyo Grande area; farm along plant access road	Gamma isotopic (including I-131)	Monthly
Milk	Farm in San Luis Obispo area;	Gamma isotopic, radioiodine	Monthly
Drinking water	1 station	Gamma isotopic, radioiodine, tritium	Monthly

a/ Thermoluminescent dosimeters, three at each station.
b/ See Figures 1, and 2 for locations.
c/ Filters changed weekly or more frequently as required by dust loading; analyzed at least 24 hours after filter change.
d/ Diablo Creek above 500 kV switchyard.

The sampling locations were determined by land use, site meteorology, and local demographics. Indicator stations were selected as those stations with the potential to show effects of plant operations. Special interest stations were selected because of the importance of the dose pathway. Control stations were selected outside the influence of the plant. Table 3 below lists the indicator, special interest, and control stations for the different sample media:

TABLE 3

SAMPLING LOCATIONS*

Sampling Medium	Indicator Stations	Special Interest Stations	Control Stations
Airborne	MT1,ØS2,1S1,8S1,8S2,7D1,5F1		2F2
Direct Radiation	MT1,WN1,ØS1,5S1,6S1,8S1,8S2, 5S3,2D1,1A1,7C1,ØB1,4C1,ØS2, 1S1,2S1,3S1,4S1,7S1,1C1,5C1, 3D1,6D1,9S1	4D1,5F1, 7F1,7D1, 7D2,7G2, 5F3	2F2
Seawater	DCM	PON,POS	7C2
Surface Water	5S2		
Drinking Water	DW1		
Outfall Water	OUT		
Fish & Seafood	DCM,7D3,2F1	PON,POS	7C2
Algae	DCM	PON,POS	7C2
Sediment	DCM		7C2
Food crops	7C1,7G1		5F2
Milk			5F2

* See Table 4 for station code descriptions.

The distances and directions to the environmental monitoring stations are listed on Table 4. The off-site and on-site stations are shown in Figures 1 and 2 respectively.

TABLE 4

DISTANCES AND DIRECTIONS TO ENVIRONMENTAL MONITORING STATIONS
(Stations are shown on Figures 1 and 2)

Station Code*	Station Name	Radial Direction (True Heading) (Degrees)	Radial Distance from Plant km (Miles)
ØS1	Exclusion Fence-Northwest Corner	320	0.2 (0.1)
ØS2	North Gate	320	.8 (0.5)
1S1	Wastewater Pond	330	.6 (0.4)
2S1	Back Road-300 m North of Plant	0	.3 (0.2)
3S1	Road NW of 230 kV Switchyard	23	.6 (0.4)
4S1	Back Road Between Switchyard	43	.8 (0.5)
5S1	400 kV Switchyard	58	.6 (0.4)
5S2	Diablo Creek Weir	65	1.0 (0.6)
5S3	Microwave Tower Road	70	1.0 (0.6)
6S1	Microwave Tower	94	.8 (0.5)
7S1	Overlook Road	112	0.5 (0.3)
8S1	Target Range	125	.8 (0.5)
8S2	Southwest Site Boundary (Sec. Met Tower)	128	1.8 (1.1)
9S1	South Cove	167	.6 (0.4)
MT1	Meteorological Tower	185	.3 (0.2)
DCM	Diablo Cove	270	.3 (0.2)
WN1	Northwest Guard Shack	290	.3 (0.2)
1A1	Crowbar Canyon	327	2.6 (1.6)
ØB1	Point Buchon	325	5.8 (3.6)
1C1	Montana de Oro Campground	336	7.5 (4.7)
4C1	Clark Valley Gravel Pit	45	9.3 (5.8)
5C1	Junction Prefumo/See Canyon Roads	64	7.5 (4.7)
7C1	Pecho Creek Ruins (Mello Farm)	120	6.6 (4.1)
7C2	Rattlesnake Canyon	124	7.5 (4.7)
2D1	Sunnyside School	10	11.0 (6.9)
3D1	Clark Valley	24	9.9 (6.2)
4D1	Los Osos School	36	12.2 (7.6)
6D1	Junction See/Davis Canyon Roads	89	12.0 (7.5)
7D1	Avila Gate	118	10.6 (6.6)
7D2	Avila Beach	110	12.2 (7.6)
7D3	Avila Pier	120	11.0 (6.9)
2F1	Morro Bay (Commercial Landing)	0	17.4 (10.9)
2F2	Morro Bay Power Plant	358	17.9 (11.2)
5F1	SLO Zone 1 Substation	68	17.9 (11.2)
5F2	Cal Poly Farm	60	20.2 (12.6)
5F3	SLO County Health Department	70	20.3 (12.7)
7F1	Shell Beach	110	17.3 (10.8)
7G1	Arroyo Grande (Kawaoka Farm)	115	26.9 (16.8)
7G2	Oceano Substation	118	27.7 (17.3)

TABLE 4 - continued

DISTANCES AND DIRECTIONS TO ENVIRONMENTAL MONITORING STATIONS
(Stations are shown on Figures 1 and 2)

Station Code*	Station Name	Radial Direction (True Heading) (Degrees)	Radial Distance from Plant km (Miles)
OUT	Plant Outfall	270	0.3 (0.2)
DW1	Drinking Water	In Plant	---
PON	Pacific Ocean North of Diablo Cove	305	2.4 (1.5)
POS	Pacific Ocean South of Diablo Cove	145	1.3 (0.8)

*Station Code (XYZ):

X - First number (0-9) represents the radial sector in which the station is located:

0 - Northwest
1 - North-northwest
2 - North
3 - North-northeast
4 - Northeast
5 - East-northeast
6 - East
7 - East-southeast
8 - Southeast
9 - South-southeast

Y - Letter (S, A-H) represents the distance from the plant:

S - On-site
A - 0-2 miles from plant (but off-site)
B - 2-4 miles from plant
C - 4-6 miles from plant
D - 6-8 miles from plant
E - 8-10 miles from plant
F - 10-15 miles from plant
G - 15-20 miles from plant
H - Greater than 20 miles from plant

Z - Second number represents the station number within the zone.

*Station Code (DCM, MT1, WN1, PON, POS, OUT, DW1):

The following stations do not follow the coding system: Diablo Cove Marine (DCM), Meteorological Tower (MT1), Northwest guard shack (WN1), Pacific Ocean North (PON), Pacific Ocean South (POS), Plant Outfall (OUT), and Drinking Water (DW1).

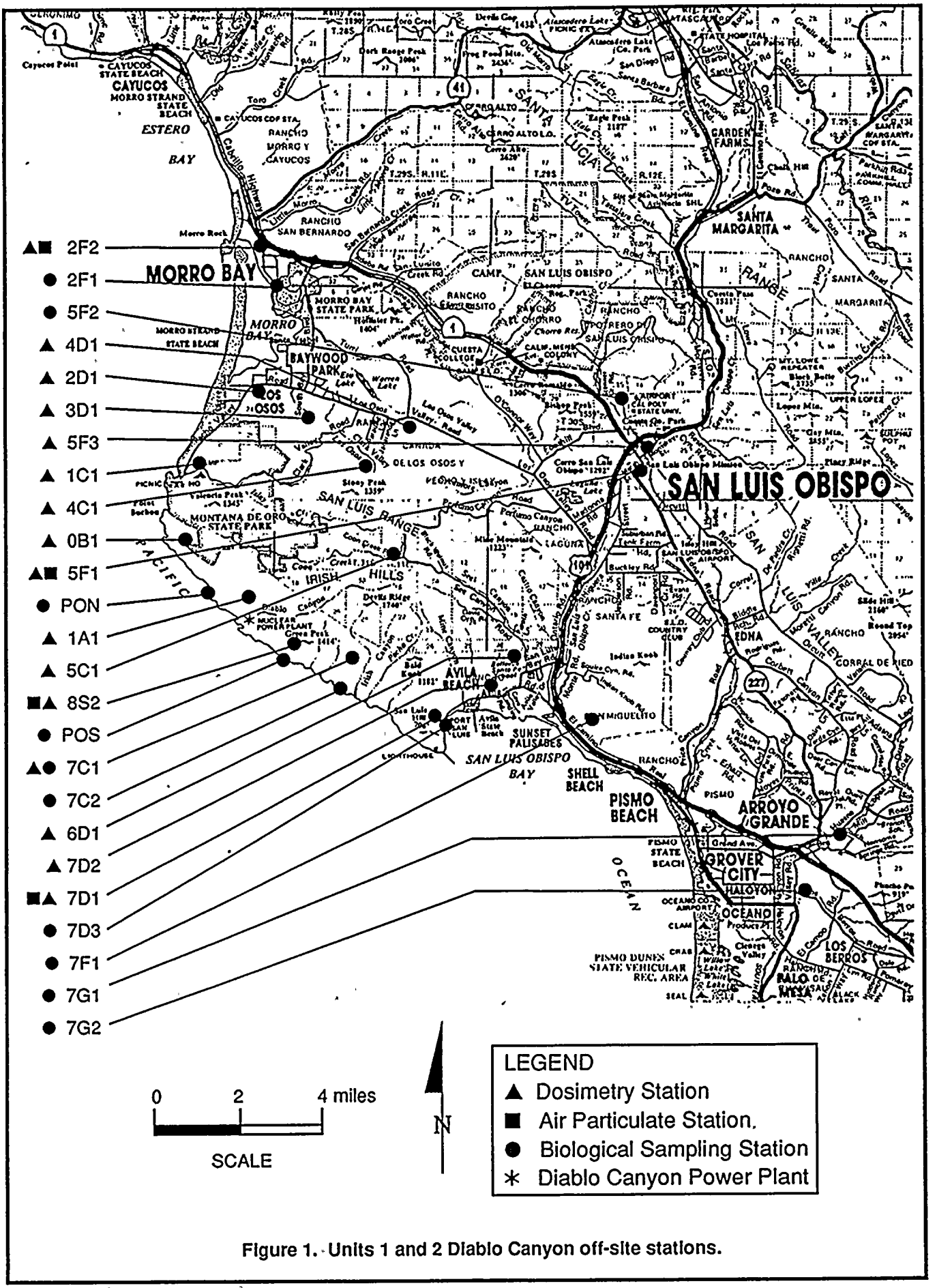


Figure 1. Units 1 and 2 Diablo Canyon off-site stations.

91-3-173/TI56

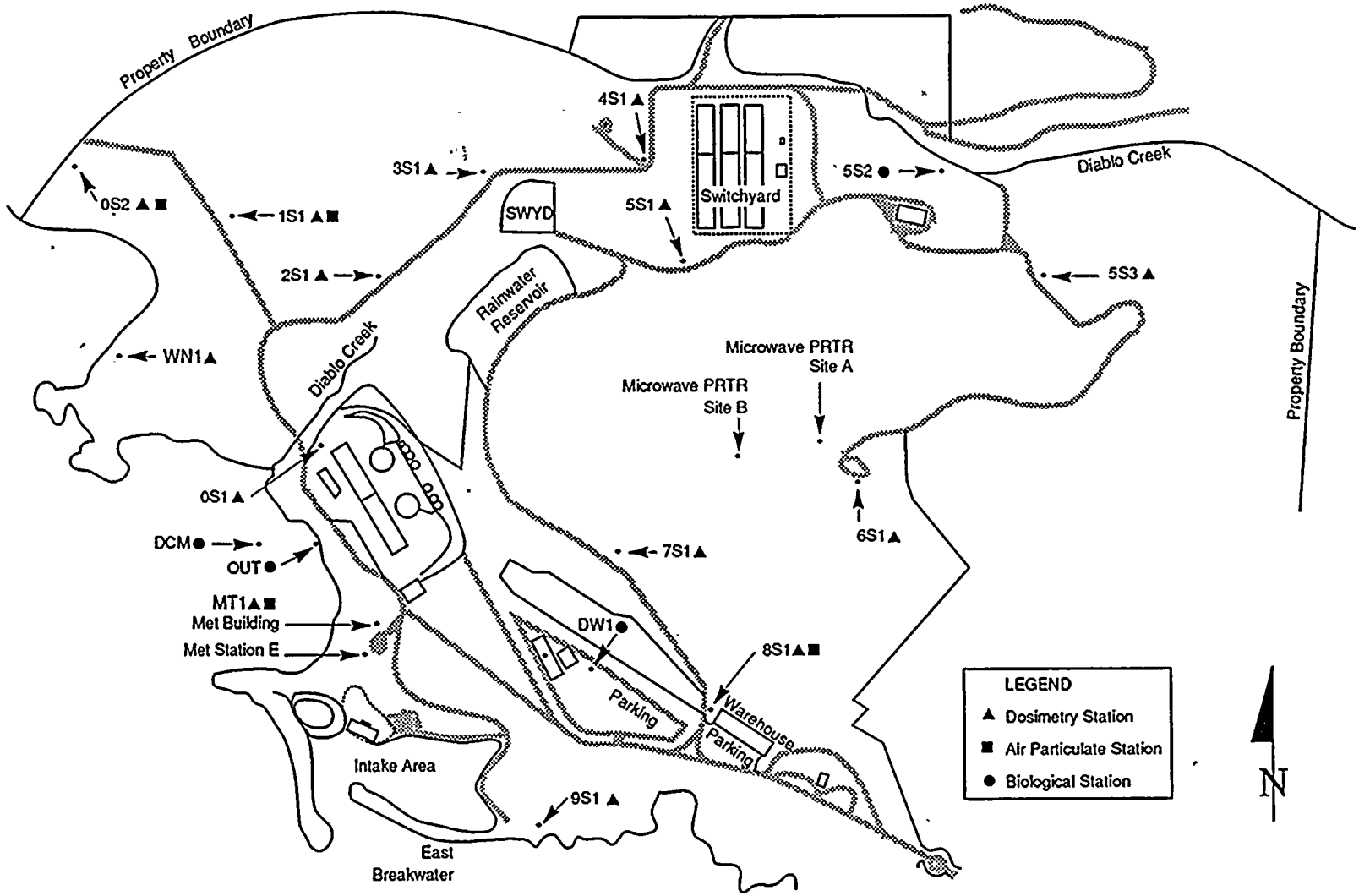


Figure 2. Units 1 and 2 Diablo Canyon on-site stations.

SAMPLING METHODS

AIRBORNE RADIOACTIVITY

Air particulate and radioiodine sampling was performed weekly. Constant flow air samplers were used to draw air through paper filters to collect air particulates and through TEDA impregnated charcoal cartridges to collect radioiodine. The air samplers were set at a flow rate of 1.5 cfm and located one meter above the ground. Sample volume was determined using gas meters which were installed downstream of the sample head.

At the end of the sampling period, the filter and cartridge were collected. All necessary data regarding the air volume readings on and off, run time, sampler time on and off, date of collection, and sampler location were recorded and submitted, along with the samples, to TES for analysis.

DIRECT RADIATION

Direct radiation was measured at 32 stations in the vicinity of Diablo Canyon using Panasonic UD814 thermoluminescent dosimeters (TLDs), and these TLDs were exchanged on a quarterly basis.

The field TLD packets were prepared by PG&E's Onsite Dosimetry and Environmental Services personnel. Control dosimeters were carried with the field dosimeters to differentiate the exposure the dosimeters received in the field from that which they received during transit. The location, date, and time of exchange were recorded on the log sheet which accompanied the field dosimeters.

WATER SAMPLES

Water samples (seawater, drinking water, surface water, and outfall water) were collected monthly. Two 1-gallon plastic bottles of each water sample type were collected at their respective locations.

Seawater samples were collected offshore at Diablo Cove (station DCM), station PON, station POS, and Rattlesnake Canyon (station 7C2). The outfall water samples were collected in the plant outfall. Surface water samples were collected from Diablo Creek Weir (station 5S2) located on site at DCPP.

Drinking water samples were collected from the drinking water system on site. Before collection, the plastic bottles were rinsed with the water to be collected. After collection, the samples were securely sealed and labelled with sample type, location, date, time of collection, and the person performing the collection. The samples were then sent to TES for analysis.

MARINE SAMPLES

Marine samples collected included, but were not limited to, the following: iridaea, bull kelp, red and black abalone, California mussels, rockfish, surfperch, commercial fish, and ocean bottom sediment. The intertidal samples (iridaea, mussels, and black abalone) were collected quarterly when the tide was at its lowest level during the quarter. Bull kelp was collected monthly from the offshore kelp bed near the plant. Quarterly samples of fish, red abalone, and an annual sample of ocean bottom sediment were collected from the waters near the plant by divers. Fish caught offshore and available commercially were also obtained for analysis. All samples were subject to unavailability due to seasonal fluctuations or unfavorable sampling conditions.

The samples were sealed in plastic bags immediately upon collection and labelled with sample type, location, date, time of collection, and individual performing the collection before they were sent to TES.

FOOD CROPS

Representative samples of vegetable crops in season were collected monthly from Cal Poly Farm (station 5F2), Kawaoka Farm in Arroyo Grande (station 7G1), and Mello Farm (station 7C1) along the site access road. The samples were harvested by the individual performing the collection, sealed immediately in polyethylene bags, labelled with sample type, sample location, collection date, time of collection, and the individual performing the collection, and then sent to TES for analysis.

MILK

Milk was collected monthly from Cal Poly Farm (station 5F2). Two 1-gallon plastic bottles of milk were collected. Forty grams of sodium bisulfite preservative were added to each milk sample. The bottles were sealed and shaken thoroughly to distribute the preservative. They were labelled with sample type, sample location, date and time of collection, and the individual performing the collection, and then sent to TES for analysis.

SAMPLE ANALYSES

Samples received at TES were analyzed for radioactivity by standard methods as outlined in the environmental monitoring procedures for DCPP[1]. The results of the analyses were reported at the 95 percent confidence level (2σ). All analyses were performed such that the lower limits of detection (LLDs) listed on Table 5 were achieved under routine conditions. The LLD is an a priori (before the fact) estimate of the activity concentration that can be practically achievable with a given measuring instrument, procedure, and type of sample. This value is not intended to be used as an a posteriori (after the fact) criterion for the presence of activity. Background fluctuation, unavoidably small sample size, the presence of interfering nuclides or other uncontrollable circumstances may occasionally render these LLDs unachievable. In such cases the contributing factors are identified and described in this report.

A brief description of the analyses of the different sample types and the general method of counting is discussed below. For quick reference, Tables 1 and 2 summarize the type of analyses that were done on the different sample media.

AIRBORNE RADIOACTIVITY

The filter papers collected from the field were placed on individual planchets and counted for gross beta activity in a low-background, thin-window gas proportional counter. They were counted at least 24 hours after collection to allow for the decay of radon daughters. Gamma isotopic analysis was then performed on quarterly composites of the filters to determine the activity concentration of gamma emitting isotopes.

Gamma isotopic analyses were also performed on the TEDA impregnated charcoal cartridges to determine the radioiodine concentration. The cartridges and filter papers were counted for a time period such that the LLDs were met.

TABLE 5

MAXIMUM VALUES FOR THE LOWER LIMITS OF DETECTION (LLD)[a/]

Analysis	Water (pCi/L)	Airborne Particulate or Gas (pCi/m³)	Fish (pCi/kg, wet)	Milk (pCi/L)	Food Products (pCi/kg, wet)	Sediment (pCi/kg, dry)
Gross beta	4	1×10^{-2}				
H-3	2000					
Mn-54	15		130			
Fe-59	30		260			
Co-58,60	15		130			
Zn-65	30		260			
Zr-Nb-95	15					
I-131	1[b/]	7×10^{-2}		1	60	
Cs-134	15	5×10^{-2}	130	15	60	150
Cs-137	18	6×10^{-2}	150	18	80	180
Ba-La-140	15			15		

Table Notation

a/ The LLD is the smallest concentration of radioactive material in a sample that will be detected with 95 percent probability with 5 percent probability of falsely concluding that a blank observation represents a "real" signal.

For a particular measurement system (which may include radiochemical separation):

$$LLD = \frac{4.66\ s_b}{E \times V \times 2.22 \times Y \times \exp(-\lambda t)}$$

TABLE 5, continued

MAXIMUM VALUES FOR THE LOWER LIMITS OF DETECTION (LLD)[a/]

where

LLD is the lower limit of detection as defined (as pCi per unit mass or volume)

s_b is the standard deviation of the background counting rate or of the counting rate of a blank sample as appropriate (as counts per minute)

E is the counting efficiency (as counts per transformation)

V is the sample size (in units of mass or volume)

2.22 is the number of transformations per minute per picocurie

Y is the fractional radiochemical yield (when applicable)

λ is the radioactive decay constant for the particular radionuclide

t is the elapsed time between sample collection (or end of the sample collection period) and time of counting

The value of s_b used in the calculation of the LLD for a detection system shall be based on the actual observed variance of the background counting rate or of the counting rate of the blank samples (as appropriate) rather than on an unverified theoretically predicted variance. In calculating the LLD for a radionuclide determined by gamma ray spectrometry, the background shall include the typical contributions of other radionuclides normally present in the samples (e.g., potassium-40 in milk samples).

b/ LLD for drinking water.

DIRECT RADIATION

Panasonic (UD814) thermoluminescent dosimeters were used to measure the ambient radiation level. The dosimeters were annealed and packaged to be sent out in the field. After field exposure, the TLDs were read out. The TLDs were calibrated using an NIST-traceable cesium-137 source.

WATER SAMPLES

Gamma isotopic analyses were performed on all water sample types (drinking water, surface water, outfall water, and seawater). To determine the activity concentration of gamma emitters, a known volume of the water sample was analyzed using a gamma spectrometer.

Tritium analyses were performed on drinking water, surface water and outfall water. The water samples were distilled prior to analysis, and analyzed for tritium using a liquid scintillation spectrometer.

MARINE SAMPLES

Only the edible portion of the fish, abalone, and mussels were analyzed for gamma emitters. A weighed amount of the prepared sample was analyzed using a gamma spectrometer.

The bull kelp blades and the pneumatocyst were prepared separately for analysis. The weighed samples were then counted on the gamma spectrometer to determine the activity concentration of gamma emitters. The results reported were based on wet weight for the marine samples.

The sediment samples were first oven dried before performing gamma isotopic analysis to determine the activity concentration. The results reported for the sediment samples were based on dry weight.

FOOD CROPS

Whenever possible, the leafy portions of the vegetative sample were prepared for analysis. The samples were analyzed to determine the gamma isotopic content, including iodine-131. The results obtained were based on wet weight.

MILK

A known volume of the milk sample was first analyzed on a gamma spectrometer to determine its gamma isotopic content. Stable iodine carrier was then added to the milk sample for determination of chemical recovery. The total iodine was separated from the sample by passing the sample through an anion resin column. The iodine was chemically extracted from the resin, precipitated as cuprous iodide and counted on the beta-gamma coincidence spectrometer.

QUALITY CONTROL

Routine quality control was performed throughout the year to ensure the accuracy of equipment and procedures used in determining the results. In addition to this, TES radiological laboratory participates in the EPA Environmental Radioactivity Laboratory Intercomparison Studies Program (ERLISP), the California state cross-check program, the Nuclear Industry Measurement Assurance Program (MAP) sponsored by the U.S. Council for Energy Awareness (USCEA) and the National Institute of Standards and Technology (NIST), and PG&E's intracompany cross-check program.

The results of TES participation in the EPA ERLISP for this year are shown in Appendix A, Table A-11. Participation included the following determinations:

- milk samples containing gamma emitters;
- water samples containing tritium, iodine-131, gamma emitters, strontium-89 and 90, alpha and beta emitters;
- air particulate samples containing cesium-137, strontium-90, alpha and beta emitters.

Results for all the gamma and beta emitting nuclides were within the acceptable range set by EPA. Results for alpha emitting nuclides were within the acceptable range set by the EPA except for alpha in water (5/17/91) which was below EPA values. This discrepancy may be caused by uneven residue distribution in the planchet. Corrective action has been taken to correct this problem.

TES results for the intracompany cross-check program were found to be in good agreement with the other participants. No discrepancies were found.

Since 1988, TES radiological laboratory had participated in the USCEA/NIST MAP for the Nuclear Power Industry. Through October 1991, a total of 23 test samples had been analyzed. As shown in Appendix A, Table A-12, fourteen of the samples involved multiple radionuclide determinations, so that a total of 52 individual measurements were made. The resulting

distribution of results is summarized in Figure 3. It depicts the ratio of the TES's reported value to the NIST value for all results reported through October 1991.

The mean and standard deviations (1 sigma) of the distributions for TES are 1.0117 +/- 0.0518. Seventy-one percent (37/52) of the results were within 5% of the NIST value and 92% (48/52) were within 10%. Four out of 52 sample results lie between 10% and 15%, representing 7.7% of the total number of samples.

The 1989 state cross-check report released in 1990 showed that results submitted by TES were comparable to those of the state of California's S&R Laboratory. No discrepancies were found. The 1990 cross-check report has not been issued yet. It will, therefore, be discussed in the 1992 annual report. Included in this report is the table of TES results submitted for the 1991 cross-check program (Appendix B, Table B-1).

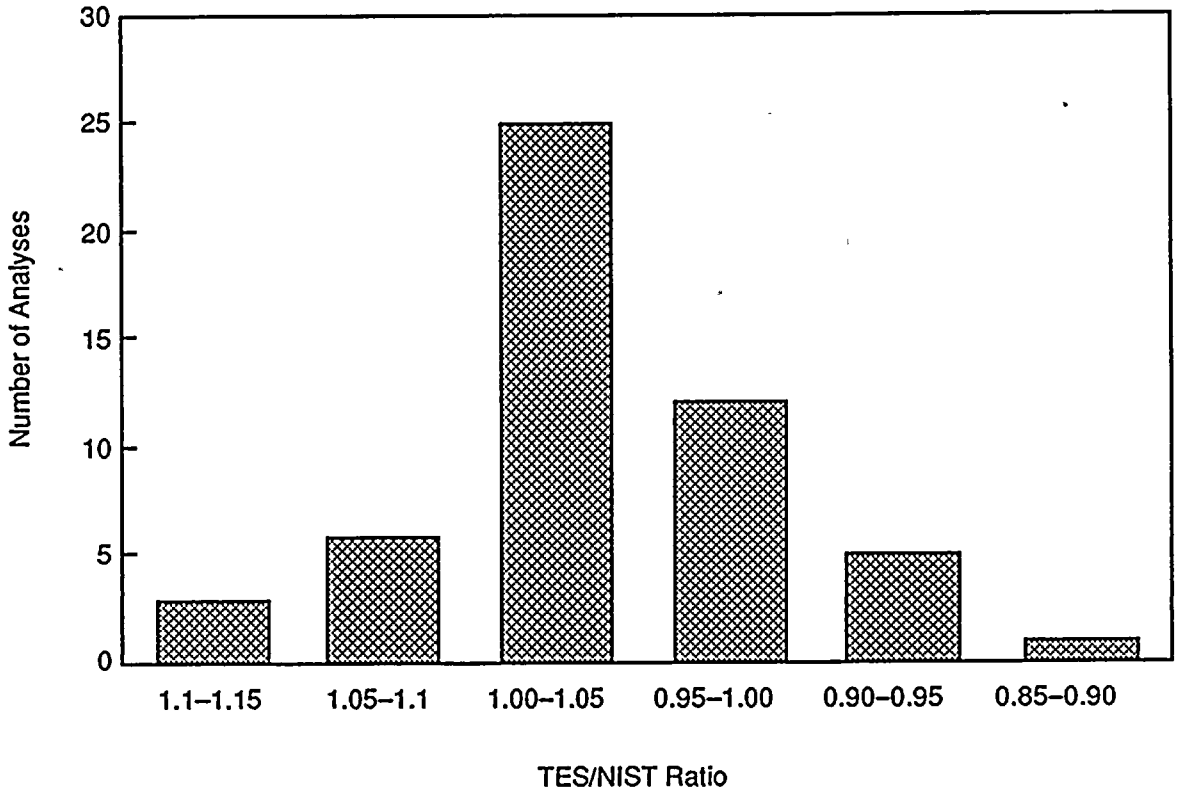


Figure 3. Distribution of USCEA/NIST results from 2/2/88 to 10/29/91.

LAND USE CENSUS

TES conducted a land use census in the vicinity of DCPP for 1991. The land use census is required by Nuclear Regulatory Commission (NRC), Regulatory Guide 4.8, "Environmental Technical Specifications for Nuclear Power Plants", and by the DCPP Technical Specification 3.12.2. The census is to be conducted at least once per year during the growing season, chosen as between June 1 and October 1, for the Diablo Canyon environs.

The objective of the land use census is to identify the nearest milk animal and the nearest garden greater than 50 square meters (500 square feet), producing broadleaf vegetation, in each of the landward meteorological sectors within a distance of 8 kilometers (5 miles) of the plant. In addition, the DCPP Technical Specifications require the identification of the nearest residence in each of the landward sectors within a distance of 5 miles.

The land use census was conducted by direct contact with individual landowners or tenants, and property visits. The landowners or tenants were identified from county records and were contacted between June 30 and September 20, 1991.

Contact with the landowners or tenants identified no household gardens greater than 50 square meters (500 square feet). No milk animals were identified within the first 5 miles in any sector. Much of the area surrounding the plant site is used for cattle grazing. The only garden or farm greater than 50 square meters is on the coastal plateau in the east southeast (ESE) sector, along the site access road. The farm starts at approximately 2 miles from the plant and extends to 4.5 miles from the plant. It produces mainly legumes and cereal grass (grains).

A total of six permanent residences were identified within the 5-mile radius of the plant. The nearest residence is 3.3 miles north-northeast (NNE) of the plant. The total number of permanent residences was reduced by one

(compared to the 1990 census) because the property (Field's property) was purchased by PG&E. Table B-5 summarizes the results of the land use census and Figure 4 shows the locations of the farm and residences in the vicinity of DCPP.

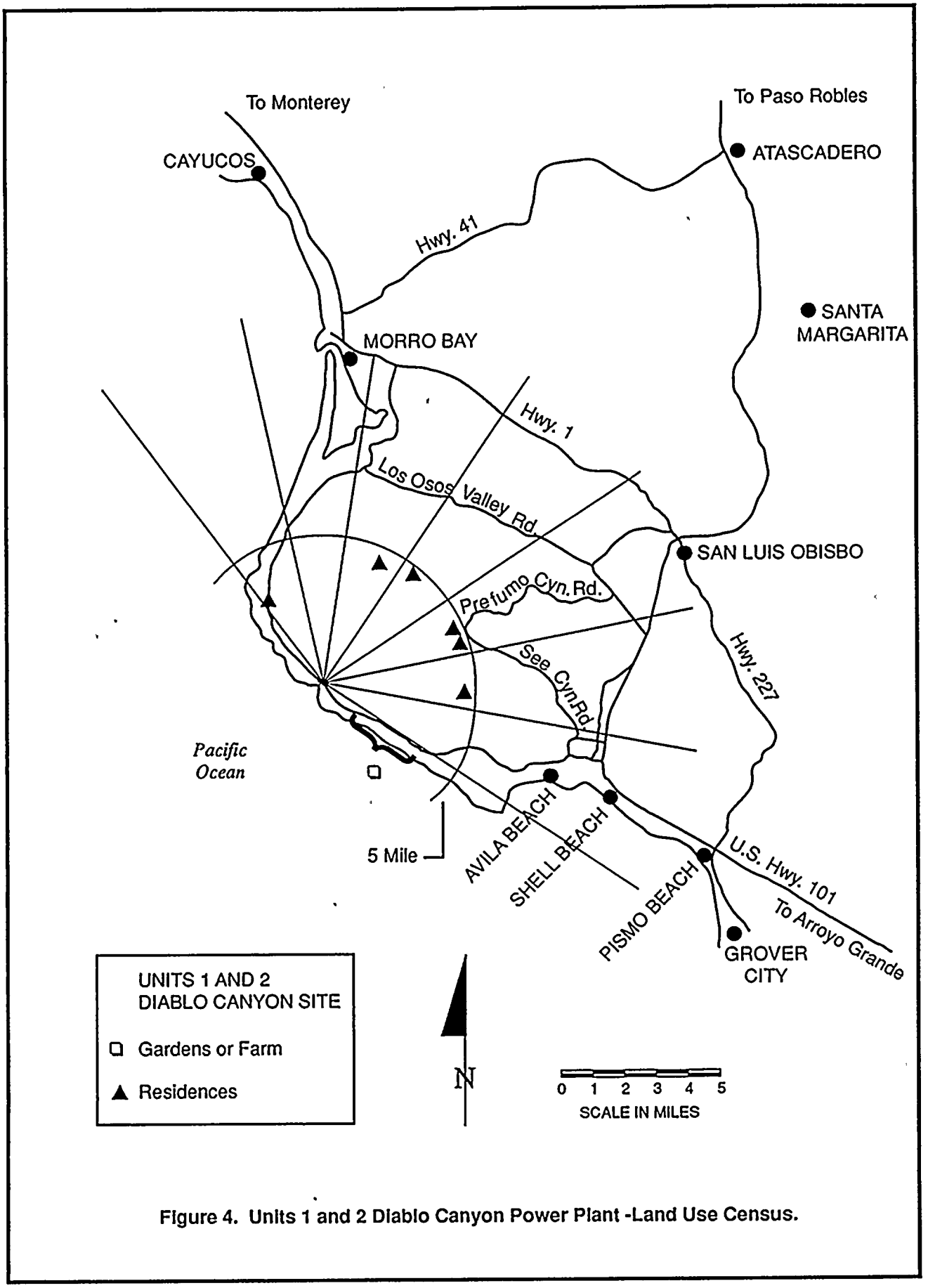


Figure 4. Units 1 and 2 Diablo Canyon Power Plant -Land Use Census.

RESULTS AND DISCUSSION

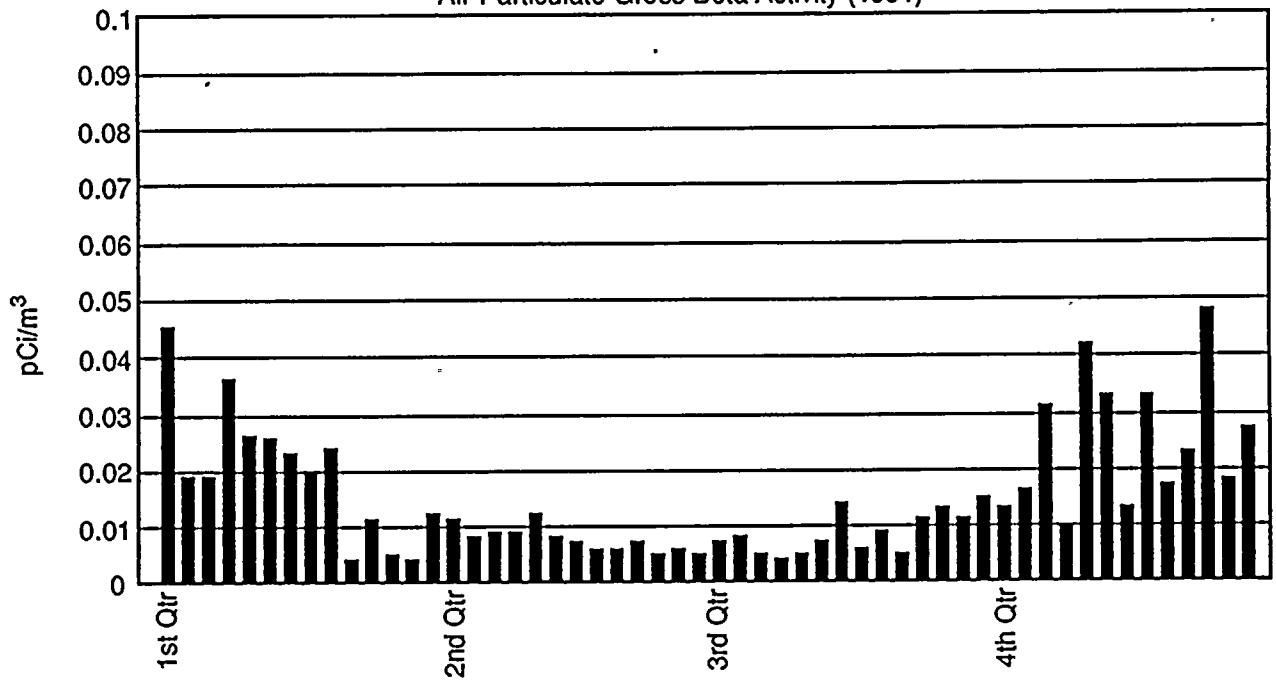
The results for the DCPP Radiological Environmental Monitoring Program are listed in Appendices A and B. The ± terms listed in the tables in the appendices are the 95 percent confidence level (2σ). The tables in Appendix A present summaries of the results, in accordance with current NRC guidelines[3], and the results of the EPA Laboratory Intercomparison Program. The tables in Appendix B contain analytical results of the individual samples performed in 1991 and state cross-check results.

The lower limits of detection for the radionuclides of interest listed in Table 5 were met for all analyses performed for the DCPP Radiological Environmental Monitoring Program. Analytical results for different sample types are discussed below.

AIRBORNE RADIOACTIVITY

Air particulates and radioiodine samples were collected weekly from seven indicator stations: MT1, ØS2, 1S1, 5F1, 7D1, 8S1, and 8S2 in the DCPP environs; and one control station, 2F2 (Morro Bay). A total of 517 air particulate filters and 517 iodine cartridges were collected and analyzed. Appendix A, Table A-2 summarizes the data collected for the air sampling program.

Air Particulates: Gross beta activity was detected in every weekly air particulate sample collected from all but one indicator and all control stations. The range for the indicator stations was 0.002 - 0.125 pCi/m^3 with a mean of 0.015 pCi/m^3. The range for the control station was 0.004 - 0.048 pCi/m^3 with a mean of 0.015 pCi/m^3. Comparison of the data showed that the mean values of gross beta activities for the indicator stations were consistent with those obtained from the control station. The gross beta activities detected at the air sampling stations are tabulated in Appendix B, Table B-3 and shown in Figure 5. In the third quarter, stations 1S1 and 8S1 gross beta activities were below norm because of the small volume of air sampled. This was due to equipment failures in the samplers.



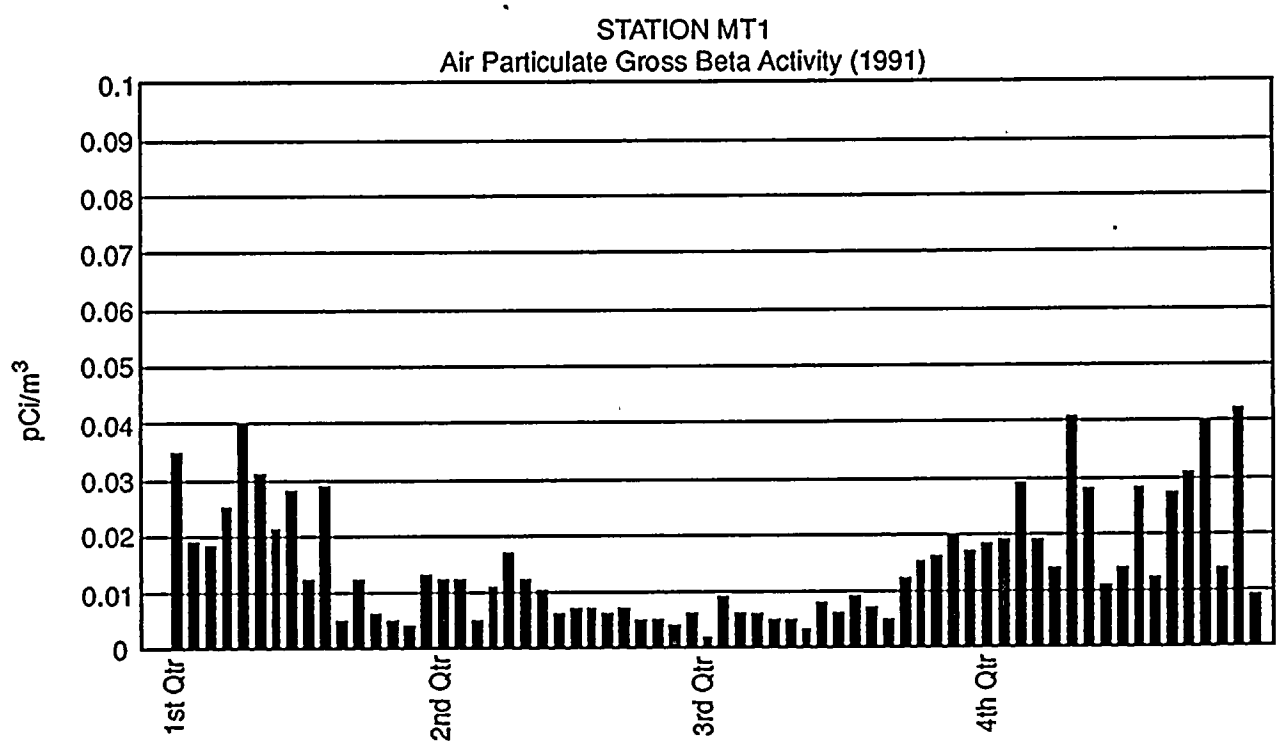
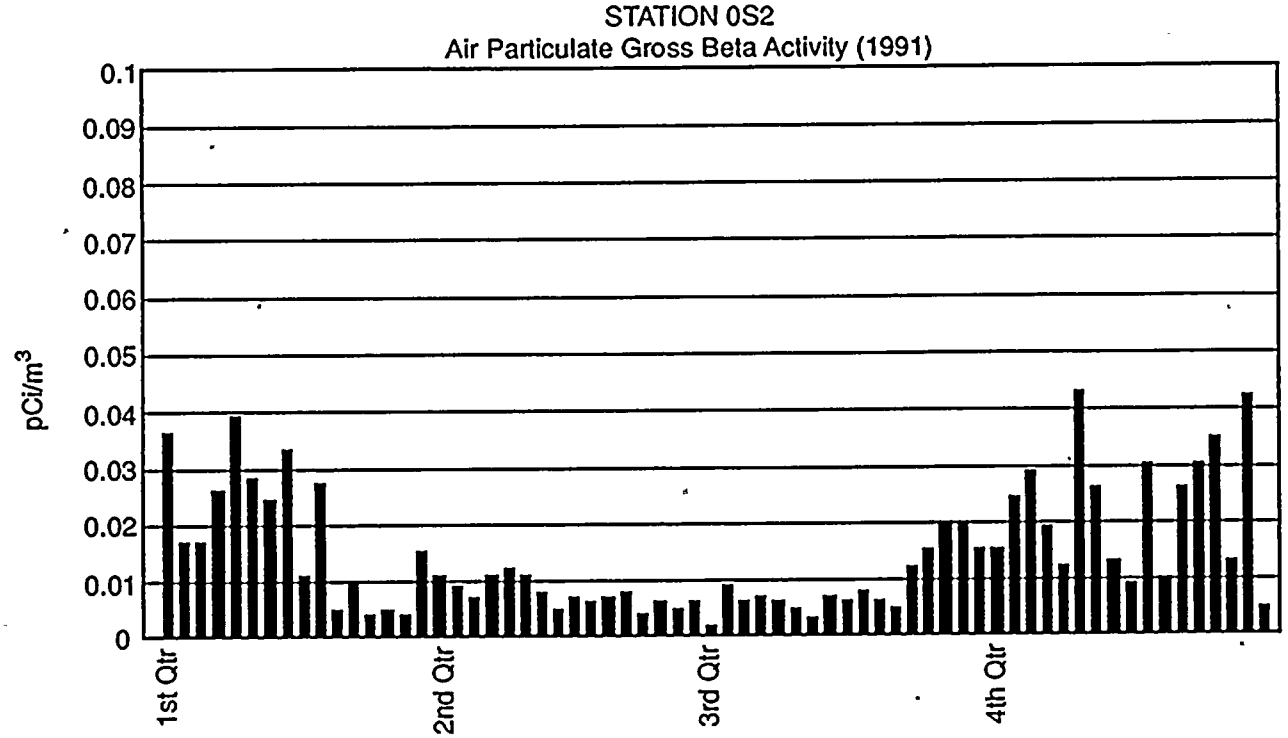


Figure 5. Air particulates gross beta activities.

60006551/G1/TI94



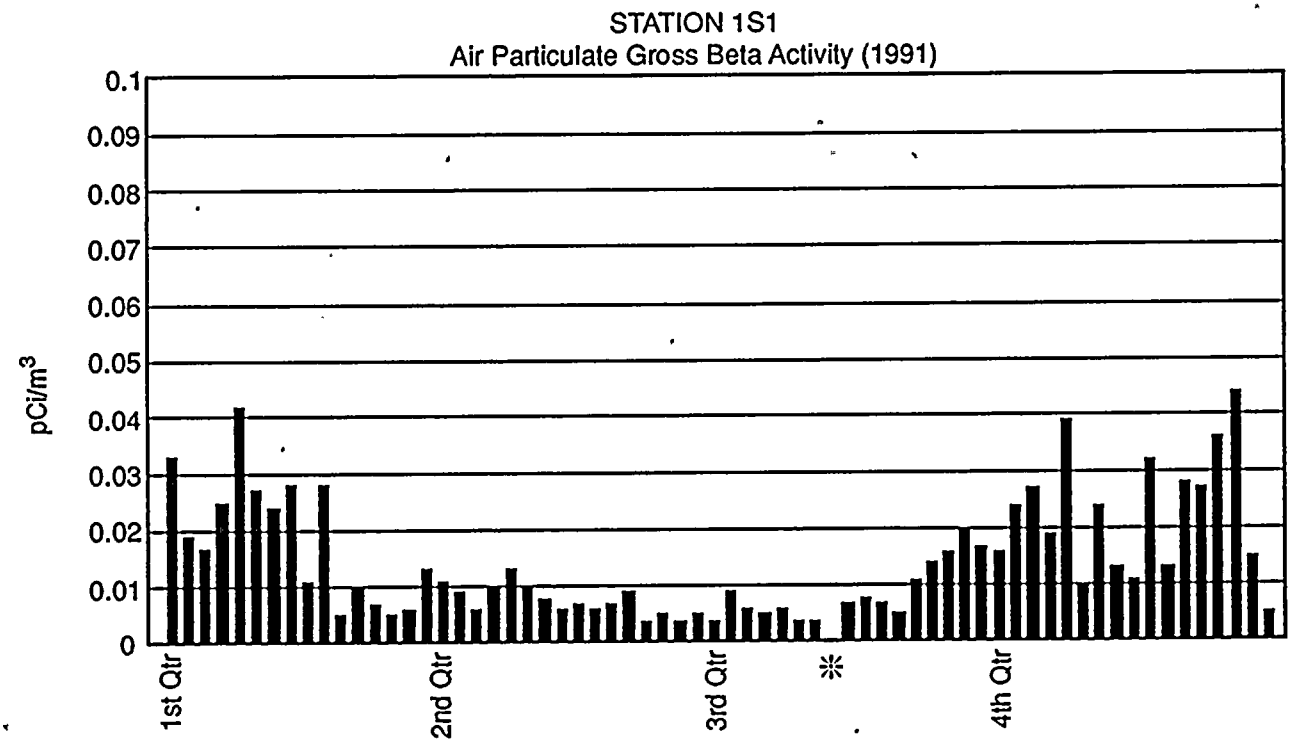
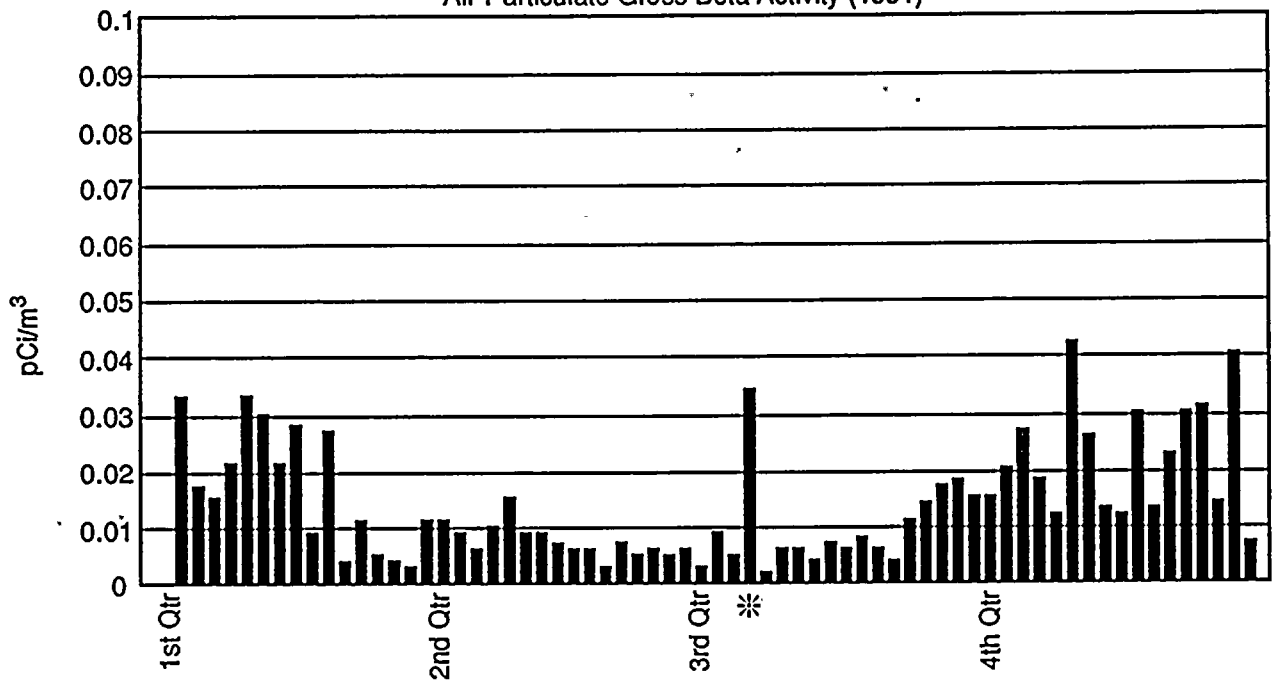


Figure 5. Continued.

60006551/G1/TI94



※ due to low sample volume, the actual value is 0.034 ± 0.029 pCi/m^3

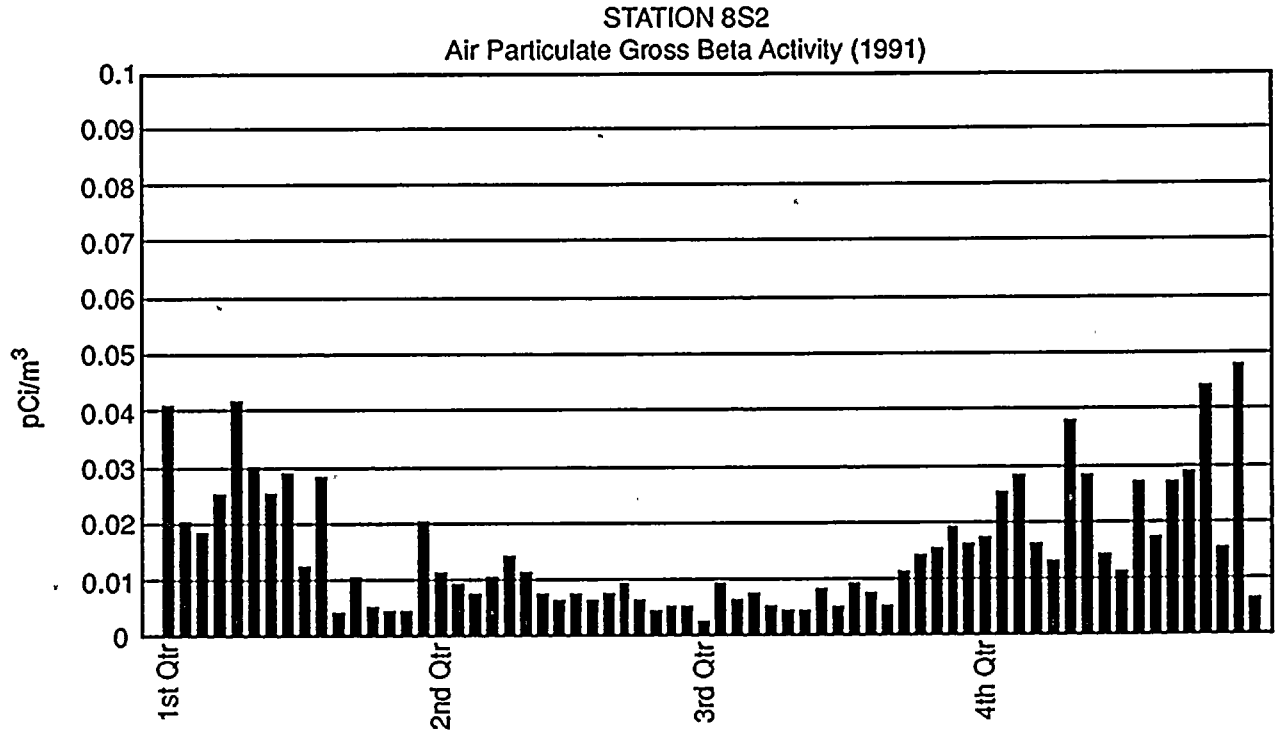
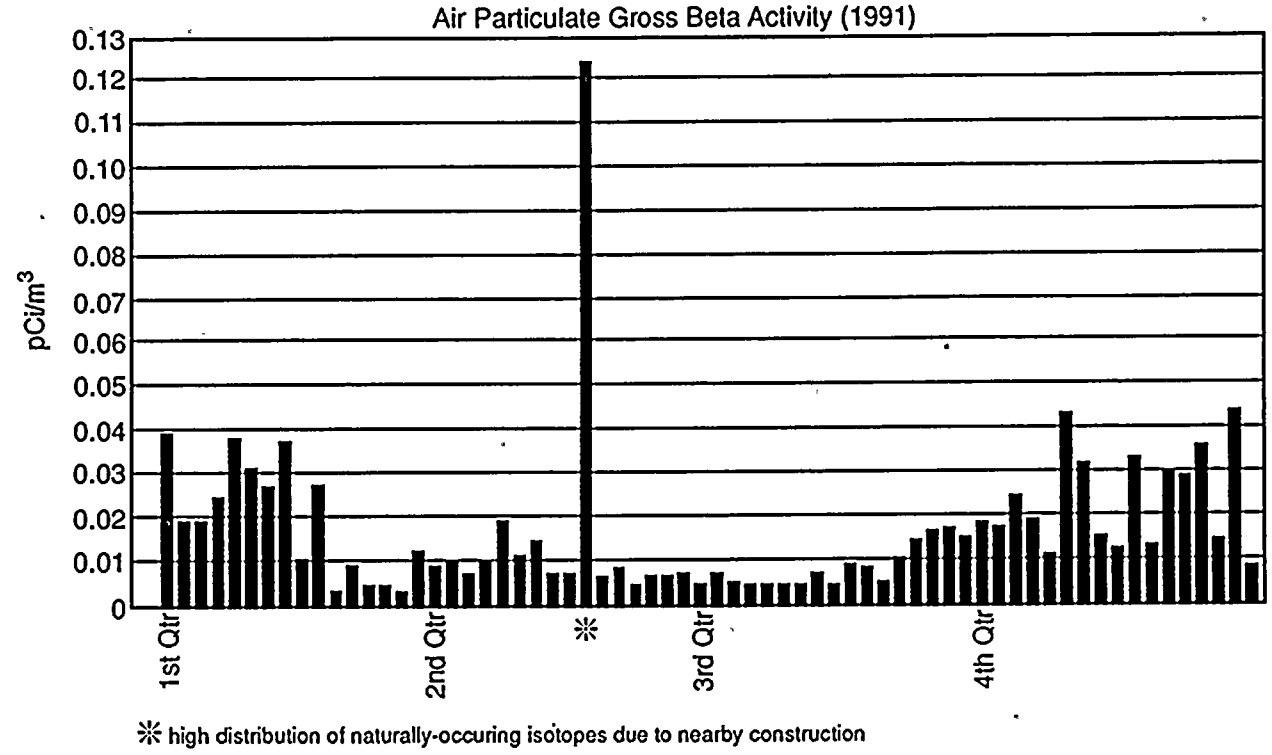


Figure 5. Continued.



※ high distribution of naturally-occuring isotopes due to nearby construction

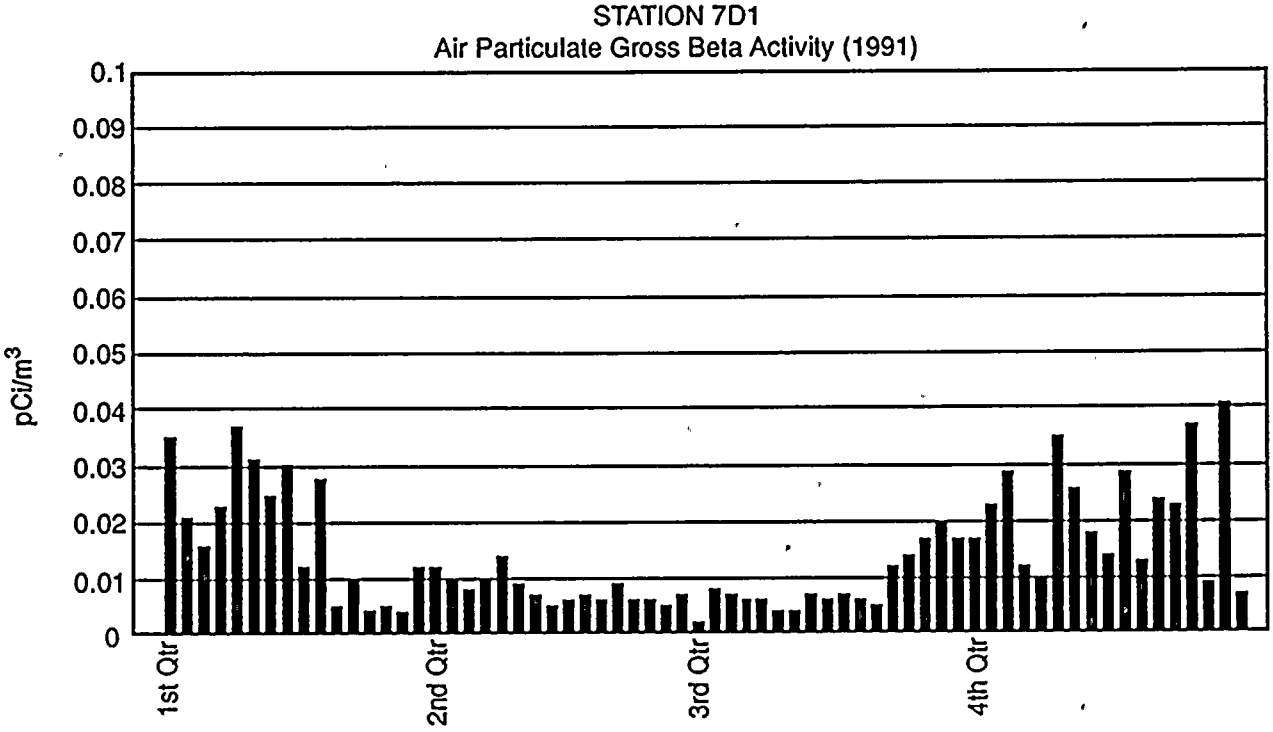


Figure 5. Continued.

60006551/G1/TI94

During the second quarter, Station 5F1 (located downtown in San Luis Obispo) showed a significantly high gross beta activity. Gamma isotopic analysis indicated that the beta activity was due to higher concentrations of naturally occurring isotopes. These isotopes were being dispersed into the local atmosphere by nearby construction and hence were being picked up in the air sampler. When construction activity ceased, the gross beta activity returned to normal.

Gamma isotopic analyses, performed on quarterly composites of the air particulate filters from each station, showed no plant-related gamma activity but only naturally occurring radioactivity.

Radioiodine: A total of 517 iodine cartridges were analyzed for iodine-131. Iodine-131 was not detected at the indicator stations or control station.

DIRECT RADIATION

Dosimeters from 32 stations were collected on a quarterly basis and processed. A total of 384 TLD badges were distributed to field locations (three dosimeters at each location); a total of 372 TLD badges were recovered from field locations (due to vandalism and missing sample holders). The exposure level from all indicator stations ranged from 9.6 - 25.1 mR/qtr with a mean of 16.9 ± 3.5 mR/qtr. The exposure level at the control station (2F2) ranged from 12.9 - 14.5 mR/qtr with a mean of 13.5 ± 1.4 mR/qtr. The exposure levels for 1991 did not differ significantly from the previous year, nor from the pre-operational data. This would indicate that the operation of DCPP did not affect the ambient radiation exposure levels in the plant environs.

See Appendix A, Table A-10, for the TLD data summary and Appendix B, Table B-4, for the individul station data.

WATER SAMPLES

A total of 84 water samples (48 seawater samples, 12 drinking water samples, 12 surface water samples and 12 outfall water samples) were collected and analyzed. The results of the water sample analyses are summarized in Appendix A, Tables A-1(a) to (d).

Gamma isotopic analyses were performed on all water samples. The samples showed no detectable radioactivity other than natural radioactivity.

Tritium analysis was performed on all drinking water, surface water and outfall water samples. No tritium was detected in samples analyzed.

Review of the data showed that the operation of DCPP had negligible impact on the aquatic medium in the plant environs.

MARINE SAMPLES

A total of 169 marine samples were collected and analyzed. They included 34 fish samples, 28 abalone samples, 16 mussel samples, 89 algae samples, and 2 ocean bottom sediment sample. Table B-6 lists the marine samples collected for 1991. The results obtained from the indicator stations and control station are summarized in Appendix A, Tables A-3 to A-7. Appendix B, Table B-2 lists the individual samples and their detected nuclides.

Abalone: At station DCM, a black abalone sample collected in the first quarter contained Co-60 (1.65E1 pCi/kg).

The Co-60 activity concentration detected in the abalone was well below reporting levels listed in Table 6.

California mussels: Co-58 and Co-60 were detected in mussels collected at station DCM and special interest station PON. None were detected in mussel samples from control station 7C2.

The activity concentration of Co-58 in samples with positively detected activity from station DCM ranged from 4.31E1 to 9.51E1 pCi/kg with a mean of 6.91E1 pCi/kg. At station PON, the Co-58 activity was 3.67E1 pCi/kg. Co-58 was not detected in samples collected from stations POS and 7C2.

The activity concentration of Co-60 in samples with positively detected activity from station DCM ranged from 4.89E1 to 5.23E1 pCi/kg with a mean of 5.06E1 pCi/kg. At station PON, Co-60 activity was 4.03E1 pCi/kg. None was detected at stations 7C2 and POS.

TABLE 6

REPORTING LEVELS FOR RADIOACTIVITY CONCENTRATIONS IN ENVIRONMENTAL SAMPLES

Analysis	Water (pCi/L)	Airborne Particulate or Grass (pCi/m^3)	Fish (pCi/kg, wet)	Milk (pCi/L)	Food Products (pCi/kg, wet)
H-3	20,000*				
Mn-54	1,000		30,000		
Fe-59	400		10,000		
Co-58	1,000		30,000		
Co-60	300		10,000		
Zn-65	300		20,000		
Zr-Nb-95	400				
I-131	2**	0.9		3	100
Cs-134	30	10	1,000	60	1,000
Cs-137	50	20	2,000	70	2,000
Ba-La-140	200			300	

---

* For drinking water samples. This is the 40 CFR Part 141 value. If no drinking water pathway exists, a value of 30,000 pCi/L may be used.

** If no drinking water pathway exists, a value of 20 pCi/L may be used.

All radioactivity concentrations of detected nuclides were well below reporting levels.

Fish: Cs-137 was the principal radionuclide detected in commercial fish samples collected from station 7D3. Its value ranged from 1.23E1 to 1.40E1 pCi/kg with a mean of 1.32E1 pCi/kg. The Cs-137 values obtained were within the range of preoperational measurements which were considered to be due to global fallout.

Only naturally occurring radionuclides were detected in the other fish samples analyzed.

Algae: A total of 89 algae samples (iridaea and bull kelp) was collected from stations DCM, 7C2, PON and POS. Some of the algae samples collected in the second and third quarters from station DCM contained Co-58, Co-60, Mn-54, I-131 and Cs-137. One sample of iridaea collected in the second quarter from station 7C2 contained Co-58.

The activity concentrations of Co-58 in bull kelp collected from station DCM ranged from 9.6E0 to 2.10E1 pCi/kg with a mean of 1.53E1 pCi/kg. In iridaea, it ranged from 3.89E1 pCi/kg to 3.97E1 pCi/kg with a mean of 3.93E1 pCi/kg. The iridaea from station 7C2 contained 6.5E0 pCi/kg Co-58.

Iridaea from station DCM had 6.0E0 pCi/kg Co-60. One bull kelp from station DCM contained 1.27E1 pCi/kg Co-60.

Additionally, Mn-54, I-131 and Cs-137 were detected in algae from station DCM. One sample of iridaea contained 1.31E1 pCi/kg of Mn-54 and one sample of bull kelp from DCM had 1.37E1 pCi/kg Mn-54. Cs-137 was detected in one bull kelp sample (1.63E1 pCi/kg). Four bull kelp samples from DCM contained I-131 with activity concentrations ranging from 3.22E1 pCi/kg to 6.54E1 pCi/kg with a mean of 5.37E1 pCi/kg.

All radioactivity concentrations of detected nuclides were well below the reporting levels.

Sediment: An annual sample of ocean bottom sediment was collected from stations DCM and 7C2. Gamma analysis showed that the sample collected at 7C2 contained 3.87E1 pCi/kg Cs-137 (based on dry weight). The Cs-137 value was found to be within the preoperational range.

FOOD CROPS

A total of 36 vegetative samples were collected from three sampling locations: Cal Poly Farm (station 5F2), Kawaoka Farm (station 7G1), and Mello Farm (station 7C1). The samples analyzed contained only naturally occurring radioactivity. The operation of DCPP had no impact on this environmental medium.

MILK

A total of 12 monthly milk samples were collected from Cal Poly Farm, station 5F2. No I-131 was detected in any of the samples. The operation of the plant had no impact on this dose pathway to man.

COMPARISON OF PREOPERATIONAL AND OPERATIONAL DATA

Diablo Canyon Power Plant began commercial operation in 1985. Data from the preoperational years, 1981 to 1984, will be used for comparison with the data from the operational years.

AIRBORNE RADIOACTIVITY

Air Particulates:

TABLE 7

MEAN QUARTERLY GROSS BETA ACTIVITY

Year	All Indicator Stations Mean (range) pCi/m^3	All Control Stations Mean (range) pCi/m^3
1981	0.189 (0.004-0.766)	0.162 (0.008-0.635)
1982	0.016 (0.004-0.045)	0.016 (0.004-0.044)
1983	0.011 (0.003-0.037)	0.012 (0.003-0.039)
1984	0.012 (0.004-0.033)	0.010 (0.005-0.033)
1985	0.016 (0.003-0.057)	0.017 (0.003-0.069)
1986	0.040 (0.002-0.671)	0.042 (0.001-0.654)
1987	0.014 (0.004-0.051)	0.016 (0.004-0.052)
1988	0.014 (0.002-0.073)	0.014 (0.003-0.050)
1989	0.016 (0.001-0.085)	0.018 (0.001-0.081)
1990	0.014 (0.002-0.044)	0.012 (0.003-0.059)
1991	0.015 (0.002-0.125)	0.015 (0.004-0.048)

Comparing the preoperational (1981-1984) and the operational (1985-1991) data for gross beta activity in air particulates [2], it can be seen that the mean quarterly gross beta activities for all stations during the operational years were within the preoperational range with the exception of 1986. The spike in gross beta activity observed then at both indicator and control stations (see Figure 6) was attributed to worldwide fallout from the Chernobyl accident in the USSR and not to plant operations. The ranges seen in 1986 were similar to those seen in 1981. The high gross beta activity in 1981 was attributed to fallout from Chinese atmospheric nuclear weapons testing.

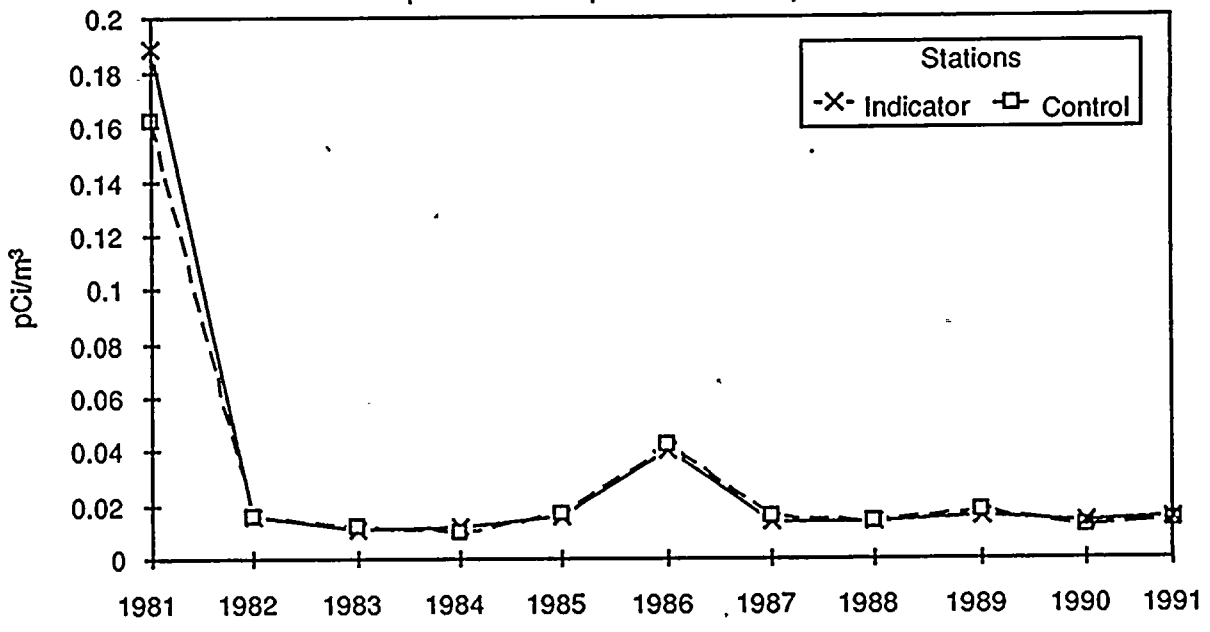


Figure 6

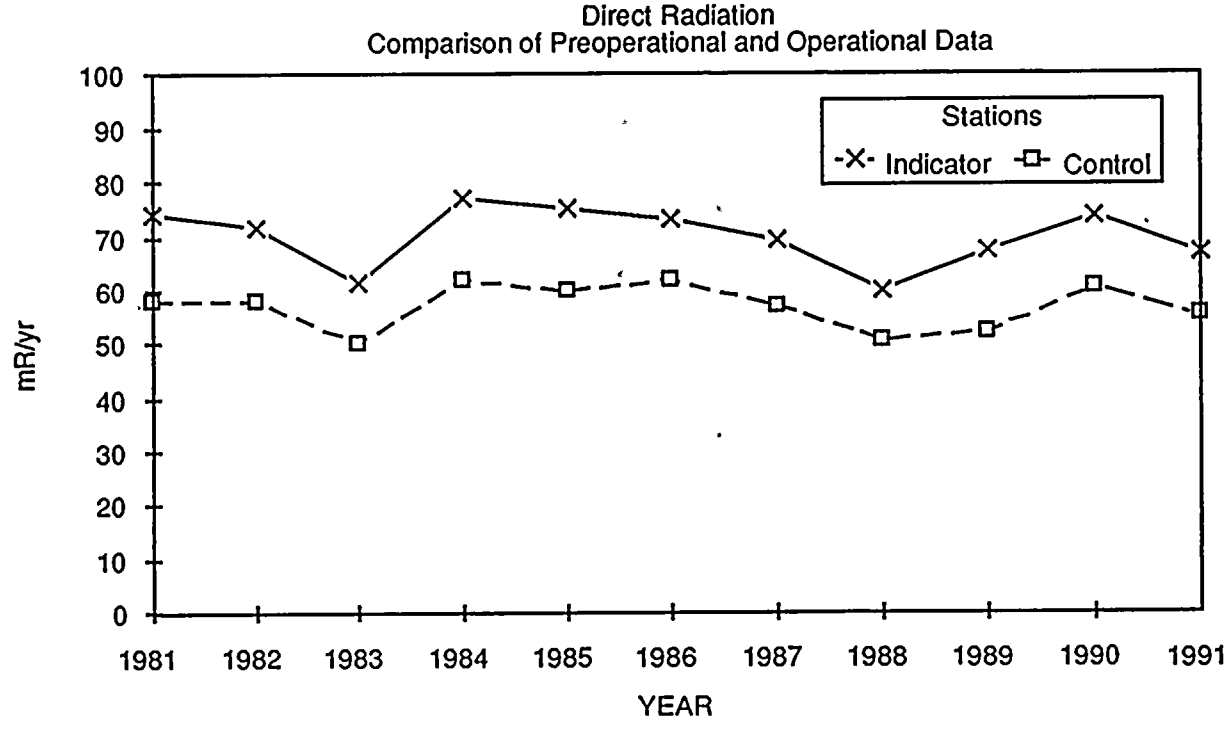


Figure 7

A review of the data indicates that there is no increasing trend in the quarterly gross beta activities over time. The mean concentration at the indicator stations were comparable to that at the control station. It can be concluded that plant operations had no impact on this environmental medium.

Radioiodine: During the preoperational period, iodine-131 was not detected in 1981 through 1983. In 1984, I-131 was detected in three iodine cartridges from Lompoc, a supplemental station in Santa Barbara County. The mean activity concentration was 0.108 pCi/m^3 and the range was 0.014 to 0.159 pCi/m^3. Despite a thorough investigation, no explanation could be found for the source of the I-131 (see the 1984 Annual Environmental Radiological Report, Diablo Canyon Power Plant). No I-131 was detected at any other station that year.

During the operational years (1985-1991) I-131 was detected in the second quarter of 1986 at all stations. The mean at the indicator stations was 0.213 pCi/m^3 with a range of 0.007-0.823 pCi/m^3. The mean at the control station was 0.209 pCi/m^3 with a range of 0.007-0.770 pCi/m^3. The detected I-131 was attributed to worldwide fallout of the Chernobyl accident. Also in the first quarter of 1988, I-131 (0.004 pCi/m^3) was detected in one of the cartridges from station 8S1. These were the only two instances that I-131 was detected in iodine cartridges from indicator and control stations. Review of the data indicates that plant operations had no impact on this environmental medium.

DIRECT RADIATION

Comparing the preoperational and operational TLD data in Table 8, it can be seen that the data collected during the operational years were within the preoperational range. Figure 7 shows that the annual total dose fluctuate within a narrow range at both indicator and control stations. No trend towards increasing levels is discernible. The data indicates that plant operations had negligible impact on the ambient radiation level in the plant environs.

TABLE 8

ENVIRONMENTAL TLD DATA (mR/yr)

Year	All indicator stations mean (range)	All control stations mean (range)
1981	74.2 (47.3-98.2)	57.8 (53.5-62.1)
1982	71.9 (48.6-95.7)	57.8 (52.3-61.7)
1983	61.2 (40.7-84.9)	50.0 (46.1-53.9)
1984	77.2 (49.6-106.9)	62.0 (57.8-66.1)
1985	75.3 (48.7-96.8)	59.8 (54.9-64.7)
1986	73.0 (47.7-97.5)	61.7 (1 station only)
1987	69.5 (42.9-94.4)	56.8 (")
1988	60.1 (40.2-84.3)	50.5 (")
1989	67.4 (44.5-92.2)	52.3 (")
1990	73.7 (50.0-102.1)	60.5 (")
1991	67.7 (43.1-95.5)	54.0 (")

WATER SAMPLES

Seawater: Only naturally occurring radioactivity was detected in seawater samples during the preoperational period. All the seawater samples analyzed during the operational years (1985-1991) contained only naturally occurring radioactivity also. The operation of the plant did not impact this environmental medium.

Surface Water: During the preoperational period (1981-1984), no tritium was detected in any of the surface water samples. However, Zr-95 (11.3 pCi/L), Nb-95 (15.2 pCi/L), and Ru-103 (5.3 pCi/L) were detected in one sample during this preoperational period. The presence of these radionuclides was attributed to worldwide fallout from Chinese nuclear weapons testing. For the rest of the preoperational period only naturally occurring radioactivity was detected. During the operational years (1985-1991) only naturally occurring radionuclides were detected in the samples analyzed. The operation of the plant had no impact on surface water in the Diablo Canyon environs.

Drinking Water: In 1981, Nb-95 (1.84 pCi/L) was detected in one sample which was attributed to worldwide fallout. Only naturally occurring nuclides were detected in all other samples collected during the preoperational period. Data obtained during the operational period to date were found to

be within preoperational range and did not contain any plant-related nuclides. The operation of the plant had no impact on drinking water at Diablo Canyon.

Outfall Water: Only naturally occurring radionuclides were detected during the preoperational years. During the operational years tritium (6.21E2 pCi/L) was detected in one outfall water sample in 1987. In 1989, tritium (8.65E3 pCi/L) was detected in a fourth quarter sample. Both tritium concentrations were below the reporting level. No tritium was detected in all other samples collected during the operational years.

MARINE SAMPLES

Fish: The principal radionuclide detected in fish samples during the preoperational and operational years was Cs-137. The presence of this nuclide in the environment is attributed to worldwide fallout from weapons testing and the Chernobyl accident. Due to its long half-life, it was detected as part of the environmental background in fish samples. The Cs-137 content in fish samples collected from 1981 to 1991 are as follows:

TABLE 9(a)

CESIUM-137 IN FISH

Year	All indicator stations Mean (range) pCi/kg	All control stations Mean (range) pCi/kg	Supplemental Station (commercial) Mean (range) pCi/kg
1981	11.8 (8.4-16.1)	24.6 (17.5-38.2)	24.6 (17.5-38.2)
1982	11.4 (10.5-12.3)	17.8 (10.7-30.4)	20.8 (10.7-30.4)
1983	11.0 (1 sample)	15.9 (8-26)	16.3 (10.4-26.2)
1984	None detected	16.4 (7-23)	22.0 (20.7-23.3)
1985	23.8 (20-28)	19.6 (11-19)	19.6 (12.0-35.0)
1986	None detected	19.0 (13-25)	13.1 (1 sample)
1987	8.0 (1 sample)	9.0 (1 sample)	36.8 (10.4-139.0)
1988	None detected	None detected	12.3 (8.7-15.7)
1989	8.8 (1 sample)	None detected	10.8 (6.0-16.6)
1990	None detected	None detected	11.9 (8.3-17.6)
1991	None detected	None detected	13.9 (12.3-14.0)

Review of the data (see Figure 8) indicates no trend in the accumulation of Cs-137 in fish either at the control station or indicator station. Mean concentration of Cs-137 detected in fish samples during the operational years were within the operational range. It is interesting to note that the Cs-137 concentration levels detected in commercial fish is generally higher than that collected at the indicator or control stations. Also the peaks in Cs-137 levels found in fish from the indicator station seems to coincide with the peak levels of Cs-137 found in ocean sediment (Figure 9).

During the operational years, some plant-related nuclides other than Cs-137 were detected in fish samples collected at stations DCM and PON. They are listed as follows.

TABLE 9(b)

NUCLIDES IN FISH

Year	Station	Nuclides	Activity concentration pCi/kg original
1986	DCM	I-131	70
1987	PON	Co-58	53
1988	DCM	Co-60	37

These activity concentrations were well below reporting levels. No accumulation trend of these isotopes was observed. The operation of the plant had negligible impact on this environmental medium.

Abalone: Only naturally occurring radionuclides were detected in samples collected during the preoperational period. However, during the operational years 1985-1991 some plant-related nuclides namely Co-58 and Co-60 were detected in abalone samples. They were as follows:

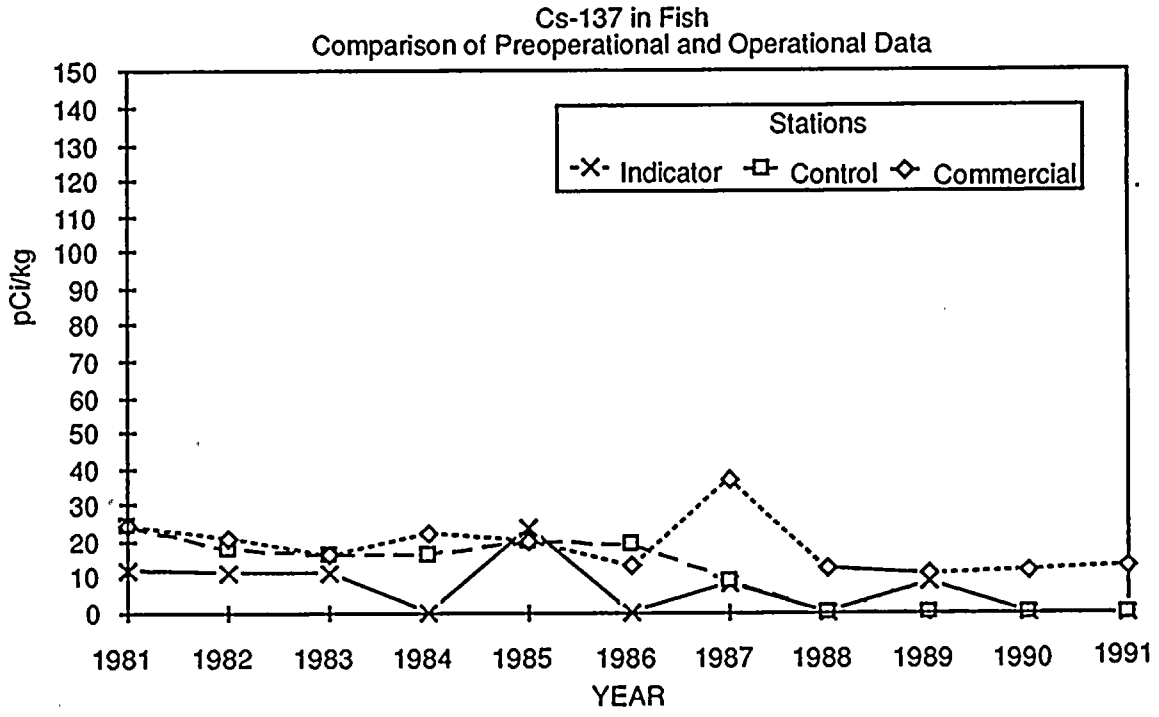


Figure 8

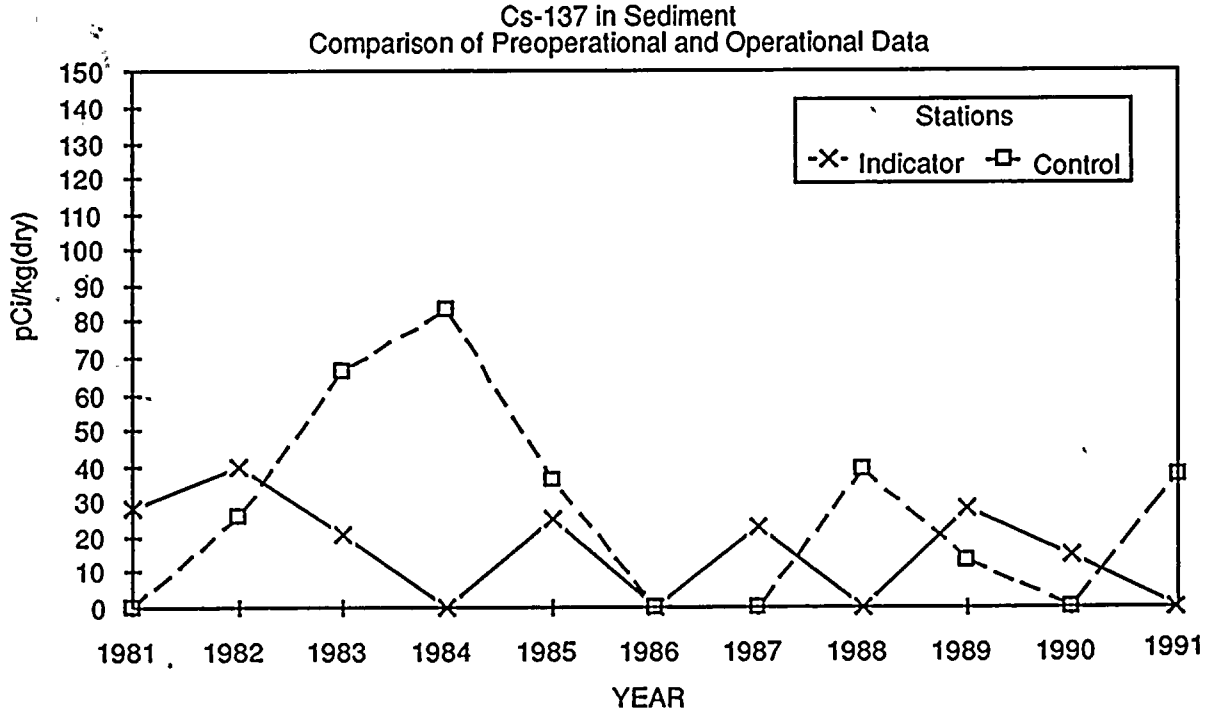


Figure 9

TABLE 10

NUCLIDES IN ABALONE

Year		All indicator stations Mean (range) pCi/kg	All control stations Mean (range) pCi/kg
1985	Co-58	81 (1 sample)	24 (1 sample)
1986	Co-58	154 (37-230)	None detected
	Co-60	33 (18-47)	None detected
1987	Co-58	40 (26-53)	None detected
	Co-60	35 (18-52)	None detected
1988	Co-58	67 (1 sample)	None detected
	Co-60	36 (1 sample)	None detected
1989	Co-58	34 (1 sample)	None detected
1990	Co-58	62 (1 sample)	None detected
	Co-60	49 (25-72)	None detected
1991	Co-60	17 (1 sample)	None detected

All activity concentrations detected were below the reporting levels. Figure 10 shows the Co-58 and Co-60 mean concentration in abalone collected from the indicator station DCM. At the beginning of the operational period Co-58 concentration level peaked in 1986 but decreased substantially in subsequent years of operation. This decreasing trend demonstrates PG&E's commitment in reducing DCPP liquid effluent by pretreating and processing it prior to its release. Co-60 concentration level is generally detected at very much lower levels than Co-58. No increasing trend was observed and all fluctuations are within the statistical deviations of the data.

Mussels: All samples collected during the preoperational period contained only naturally occurring radionuclides. However, samples collected during the operational period contained nuclides that were plant-related. They are listed as follows:

TABLE 11

NUCLIDES IN MUSSELS

Year		All indicator stations Mean (range) pCi/kg	All control stations Mean (range) pCi/kg
1985	Co-58	483 (245-853)	66 (21-109)
	Co-60	138 (106-170)	None detected
1986	Co-58	852 (208-1710)	284 (159-508)
	Co-60	158 (52-218)	78 (50-11)
	Mn-54	34 (1 sample)*	None detected
	Nb-95	43 (1 sample)*	None detected
1987	Co-58	453 (111-1100)	None detected
	Co-60	142 (56-262)	None detected
1988	Co-58	265 (219-343)	None detected
	Co-60	116 (89-131)	18 (1 sample)
1989	Co-58	72 (28-126)	None detected
	Co-60	60 (51-69)	None detected
1990	Co-58	161 (112-210)	None detected
	Co-60	93 (76-126)	None detected
	Mn-54	26 (1 sample)*	None detected
	Nb-95	23 (1 sample)*	None detected
1991	Co-58	69 (43-95)	None detected
	Co-60	51 (49-52)	None detected

All activity concentrations were well below the reporting levels. Review of the data indicates that at the beginning of the operational period, Co-58 concentration level peaked in 1986 (see Figure 11). A notable decrease in Co-58 was seen in subsequent years of operation. The Co-60 concentration level in mussels was observed to decrease gradually with time. The data does not suggest an increasing trend in the Co-58 and Co-60 levels in mussels. Comparing Figures 10 and 11 it can be seen that the mean concentrations of Co-58 and Co-60 in samples collected at the indicator station DCM were generally higher in mussels than in abalone.

Algae: Algae samples analyzed during the preoperational period contained only natural radioactivity. However, some samples collected from 1985 through 1991 did contain the following isotopes:

TABLE 12

NUCLIDES IN ALGAE

Year		All indicator stations Mean (range) pCi/kg	All control stations Mean (range) pCi/kg
1985	Co-58	179 (9-431)	53 (29-98)
	Co-60	190 (24-881)	None detected
	Mn-54	79 (11-349)	14 (1 sample)
	Cs-137	None detected	22 (1 sample)
1986	Co-58	298 (44-624)	48 (14-109)
	Co-60	70 (13-172)	6 (1 sample)
	Mn-54	24 (15-35)	None detected
	I-131	396 (31-1180)	18 (8-28)
	Fe-59	285 (1 sample)*	None detected
	Cr-51	322 (1 sample)*	None detected
1987	Co-58	131 (5-591)	None detected
	Co-60	92 (27-129)	None detected
	Mn-54	26 (9-65)	None detected
	I-131	57 (33-91)	7 (1 sample)
	Cs-137	None detected	4 (1 sample)
	Nb-95	11 (1 sample)	None detected
1988	Co-58	130 (19-523)	None detected
	Co-60	135 (1 sample)	None detected
	Mn-54	12 (1 sample)	None detected
	I-131	None detected	22 (1 sample)
1989	Co-58	9 (5-14)	None detected
	Co-60	11 (9-12)	None detected
	I-131	23 (8-35)	29 (10-52)
1990	Co-58	39 (7-146)	None detected
	Co-60	20 (13-24)	None detected
	Mn-54	25 (1 sample)*	None detected
	Ag-110m	13 (1 sample)*	None detected
1991	Co-58	25 (10-40)	7 (1 sample)
	Co-60	9 (6-13)	None detected
	Mn-54	13 (13-14)	None detected
	I-131	54 (32-65)	None detected
	Cs-137	16 (1 sample)	None detected

* contained in the same sample collected for that year

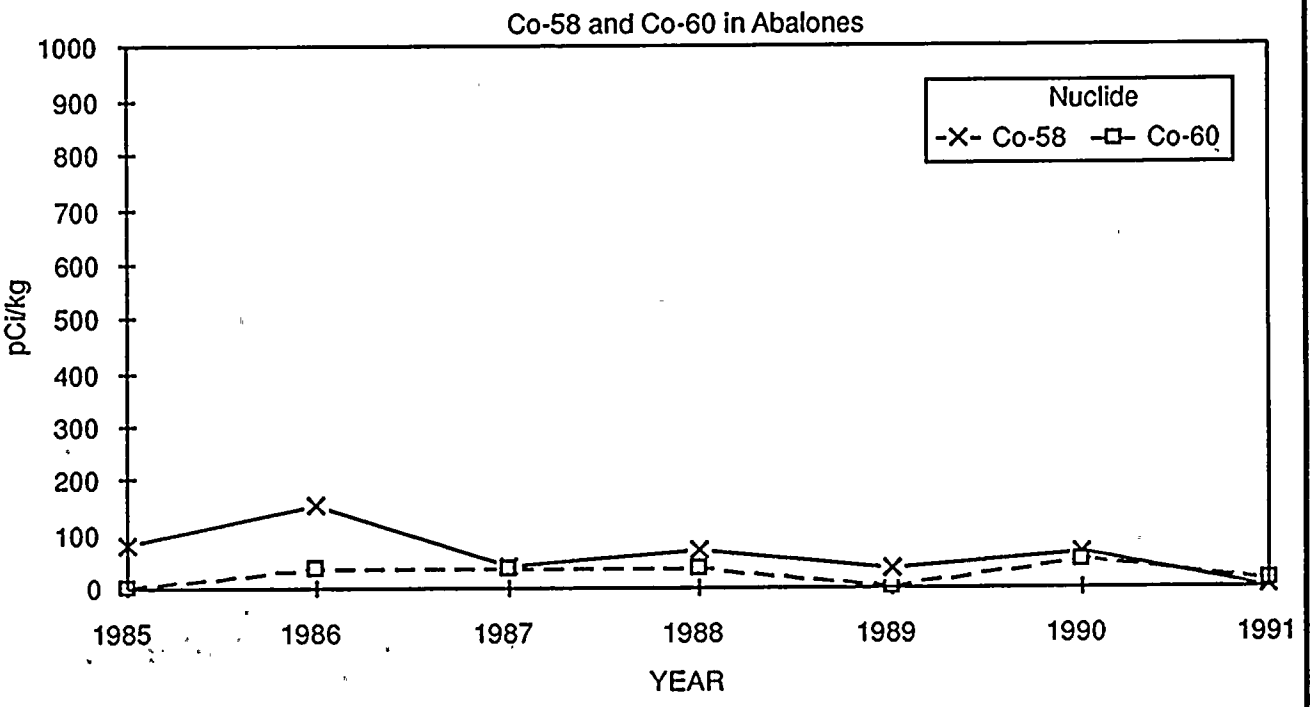


Figure 10

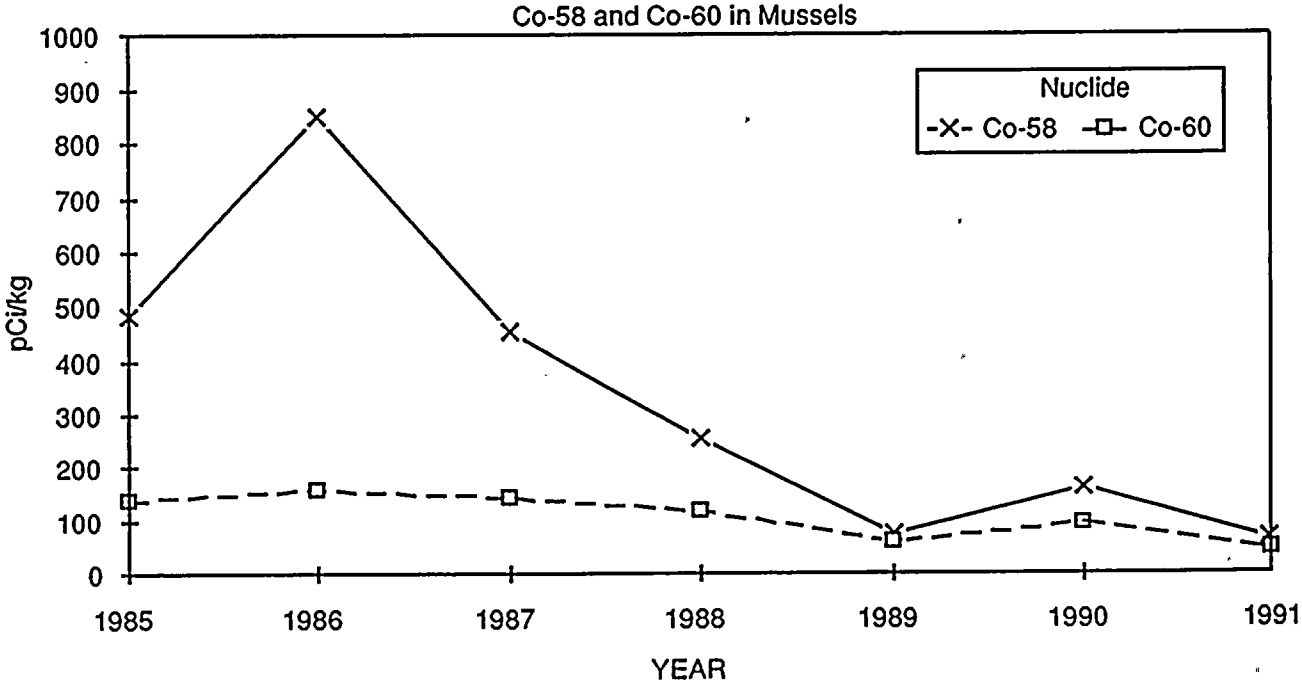


Figure 11

The activity concentrations of radionuclides detected in algae were well below reporting levels. It is observed in Figure 12 that there is a decreasing trend in the concentration levels for the three isotopes Co-58, Co-60, and Mn-54 at the indicator station. No trend is observed for the other isotopes detected because their respective concentration levels fluctuated unpredictably.

Sediment: .Sediment samples collected during preoperational and operational years from DCPP environs contained Cs-137 which was attributed to worldwide fallout from previous nuclear weapons testing. Their activity concentrations are summarized below.

TABLE 13(a)

CESIUM-137 IN SEDIMENT

Year		All indicator stations Mean (range) pCi/kg (dry)	All control stations Mean (range) pCi/kg (dry)
1981	Cs-137	28 (17.8-34.3)	None detected
1982	Cs-137	40 (30-50)	25.7 (24-27)
1983	Cs-137	21 (10.6-30.5)	65.6 (37.6-93.6)
1984	Cs-137	None detected	83 (1 sample)
1985	Cs-137	25 (17-39)	36 (1 sample)
1986	Cs-137	None detected	None detected
1987	Cs-137	23 (1 sample)	None detected
1988	Cs-137	None detected	39 (1 sample)
1989	Cs-137	28 (1 sample)	13 (1 sample)
1990	Cs-137	15 (1 sample)	None detected
1991	Cs-137	None detected	39 (1 sample)

The data did not indicate an increasing trend. Note that at times during the operational period (see Figure 9), the Cs-137 level was higher at the control station than at the indicator station. The data also show that Cs-137 activity concentrations found during the operational period were within the preoperational range, it can be concluded that the operation of the plant had negligible impact on this environmental medium.

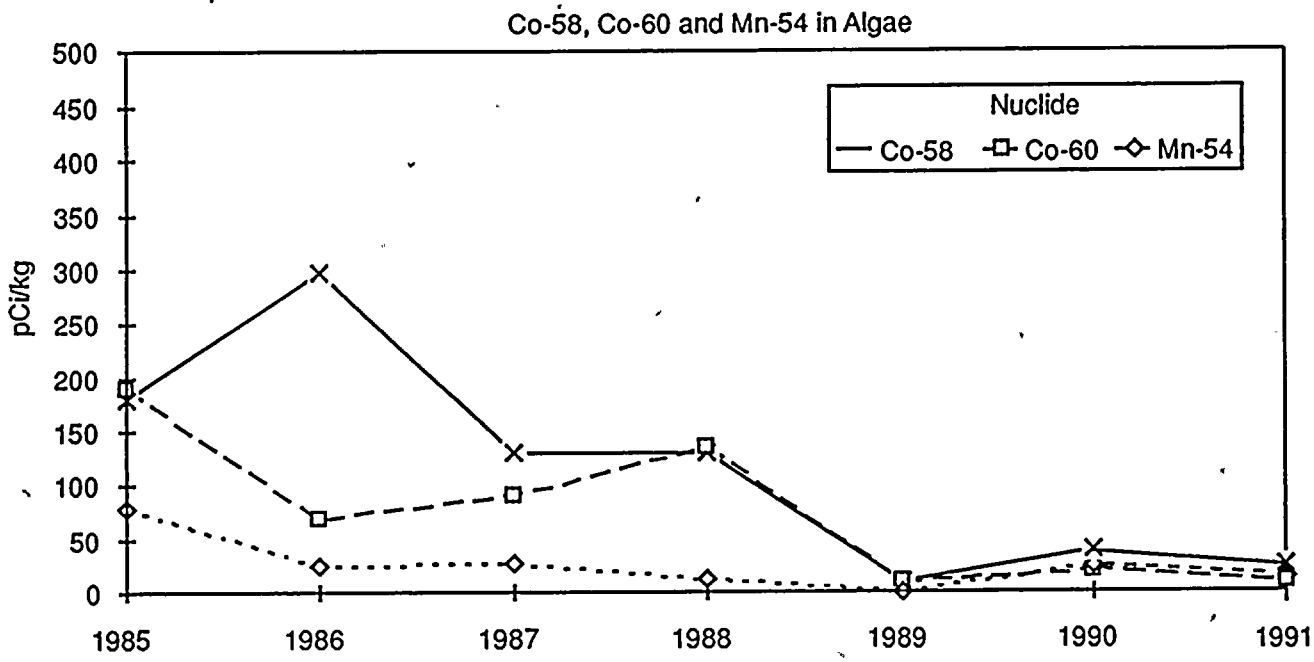


Figure 12

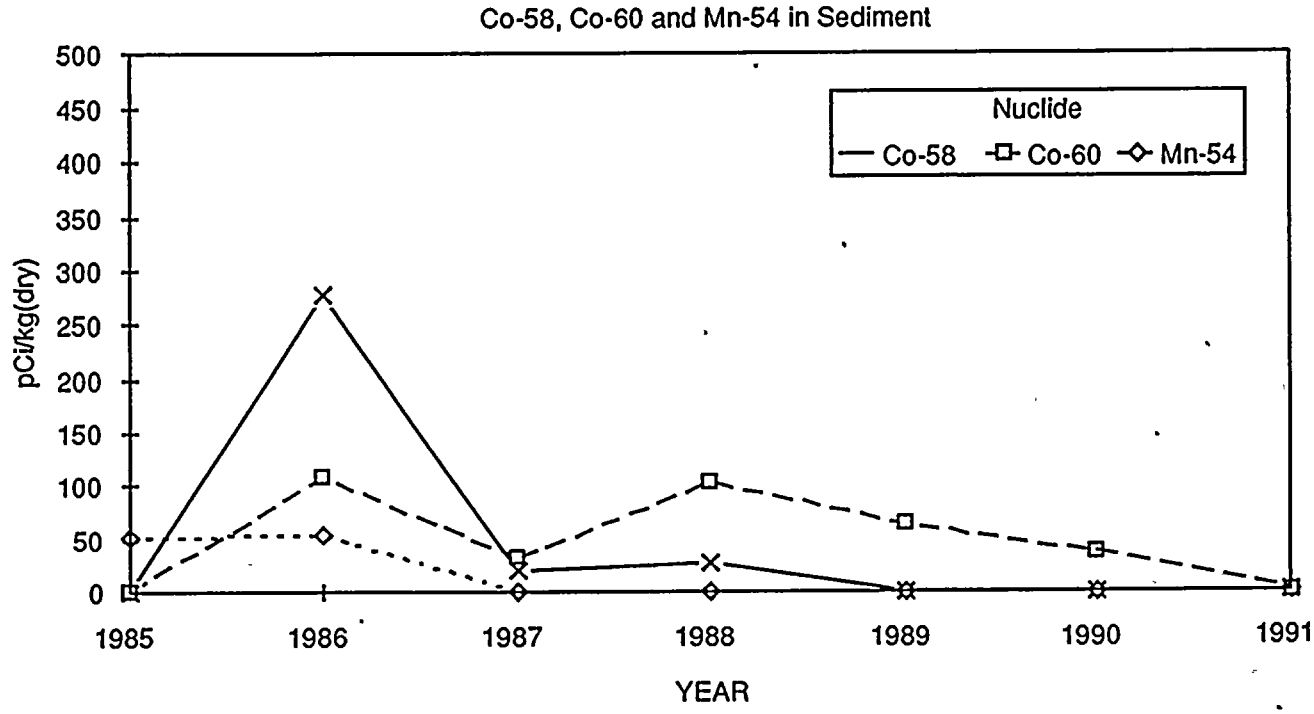


Figure 13

Besides Cs-137, sediment samples collected at indicator station DCM from 1985 to 1989 contained radionuclides that were plant-related.. They are listed as follows:

TABLE 13(b)

NUCLIDES IN SEDIMENT

Year*		Station DCM Mean(range) pCi/kg (dry)
1985	Mn-54	51 (37-64)
	Fe-59	119 (66-148)
1986	Mn-54	55
	Co-58	277
	Co-60	109
1987	Co-58	20
	Co-60	33
1988	Co-58	27
	Co-60	102
1989	Co-60	65
1990	Co-60	37

* only one annual sample is collected at station DCM from 1986 onwards.

Figure 13 shows the concentration of Co-58, Co-60 and Mn-54 in sediment collected at the indicator station DCM. As with the abalones and mussels samples, the sediment samples show a high concentration of Co-58 in 1986 followed by a notable decrease in subsequent years. There was also a marked decrease in Mn-54 concentrations. It was not detected in subsequent years following 1987. The concentration of Co-60 fluctuated during the operational period and is seen to be reducing with time. No trend of increasing buildup was observed in the data for these three isotopes.

FOOD CROPS

Review of preoperational and operational data for food crops indicated that samples collected from indicator and control stations contained only natural radioactivity. There were, however, two exceptions. In 1981, during the preoperational period, Cs-137 was detected in some vegetative samples. This was due to worldwide fallout from nuclear weapons testing. The mean activity concentration was 48 pCi/kg and the range was 3-136 pCi/kg. It was not detected in subsequent years until 1986.

In 1986, along with Cs-137 (9 pCi/kg), I-131, Cs-134, and Ru-103 (see Table 14) were detected in vegetative samples from indicator stations and I-131 was detected at the control station. Their presence was attributed to worldwide fallout from the Chernobyl accident.

TABLE 14

NUCLIDES IN FOOD CROPS

Year		All indicator stations Mean (range)pCi/kg wet	All control stations Mean (range)pCi/kg wet
1986	I-131	27 (4-49)	90 (one sample)
	Cs-134	4 (one sample)	none detected
	Ru-103	9 (one sample)	none detected
	Cs-137	9 (one sample)	none detected

It can be concluded that plant operations did not impact this environmental medium.

MILK

During the preoperational period, Cs-137 was detected only in samples collected in 1981; the mean and range at indicator and control stations were 1.59 (1.11-2.06) and 1.73 (1.35-2.29) pCi/L respectively. During the operational years, it was detected in only one sample (2 pCi/L) from station 8H1 in 1987. This station, Caroni Dairy, closed in 1988. The Cs-137 concentration level detected was within the preoperational range.

During the preoperational years, I-131 was not detected in any milk samples collected. During the operational years, due to worldwide fallout during the Chernobyl accident, I-131 was detected in two samples from station 8H1 and one sample from station 5F2 in 1986. Their values were as follows:

TABLE 15

NUCLIDES IN MILK

Station	Collection Date	I-131 pCi/L
8H1	5/19/86	89
5F2	5/19/86	2
8H1	6/23/86	2

I-131 was not detected in samples collected and analyzed in subsequent years. The data indicates that plant operations did not impact this environmental medium.

PROGRAM VARIANCE

AIRBORNE RADIOACTIVITY

Some collection time was lost during certain collection periods because of mechanical failure of equipment. Table 16 lists the stations, their corresponding collection period and a brief description of the problem that occurred.

On the occasions when the air samplers were out of service, data from stations in the vicinity were reviewed. It was determined that these variances were insignificant. The down time of the samplers at each station were tracked throughout the year, and it was found that the mean percent availability for all on-site and off-site samplers was 99.3 percent (i.e. on the average, all samplers were up and running 99.3 percent of the time).

Air particulate filters and iodine cartridges from all indicator stations for the sampling period April 2, 1991 to April 8, 1991 were not analyzed for I-131 content within a week of collection.

These samples were shipped in a single shipping container to TES on April 8, 1991 and did not arrived at TES until May 1, 1991. It is assumed that the samples were lost in the PG&E mail system. Mail traces were initiated by DCPP and by TES but failed to determine the location of the samples during the period April 4 to May 1, 1991. Iodine cartridges and particulate filters were analyzed promptly upon receipt by TES. All pertinent LLD's were met and no elevated levels of radioactivity were detected. Since delay and/or loss of air samples has not been a recurring problem, no remedial action was determined to be required.

MARINE SAMPLES

Marine sample collection is subject to seasonal unavailability and unfavorable weather and sampling conditions. Every possible effort was made to collect these samples. However, at station DCM, rockfish was unavailable for collection during the first quarter and abalone was unavailable in the third quarter of 1991. Abalone was unavailable also at station PON during the first quarter and at station 7C2 during the second quarter.

TABLE 16

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
SUMMARY OF AIR SAMPLER UNAVAILABILITY

Station	Collection Period	Problem Description
8S1	07/17 - 07/23/91	Time lost due to equipment failure.
1S1	08/08 - 08/14/91	Time lost due to equipment failure.

Attempts were made to sample monthly for bull kelp and quarterly for iridaea. At station DCM, bull kelp was available only in June, August and September; iridaea was unavailable during the first and fourth quarters of 1991. At station 7C2, bull kelp was unavailable in March. Bull kelp blade was not present on kelp collected from station DCM in July and from station POS in September.

TERRESTRIAL SAMPLES

The milk sample collected April 15, 1991 was split with the State of California Department of Health Services. The TES sample, however, could not be analyzed for Iodine-131 due to equipment failure. Milk was re-sampled on April 26, 1991 and analyzed by TES as required. However, ODES personnel neglected to split the sample with the state. The state, therefore, analyzed a different sample from TES. This violation was due to personnel error. Collection personnel were subsequently retrained regarding collection techniques and requirements.

Milk from station 5F2 is collected and analyzed monthly for Iodine-131 and a gamma isotopic analysis is performed. The May milk sample was inadvertently disposed of before the gamma isotopic analysis could be performed. Iodine-131 analysis had already been completed. This variance was a procedural violation due to personnel error. Corrective action was taken to retrain personnel regarding sample disposal techniques and requirements.

Direct Radiation

Environmental TLD holders are made of sturdy PVC piping and are supported in the ground with concrete. These holders are designed to be aesthetically innocuous and sturdy to prevent vandalism and theft. Whenever practical, the TLD is located in an accessible yet secure area.

Stations 7S1 and 1C1 were vandalized during the fourth quarter and the TLDs were stolen. Station 6D1 experienced loss of the entire holder assembly during the second quarter. The holder and TLD were replaced for the third quarter and stolen a second time during the third quarter.

Over the years, theft of the TLD's has not been a recurring problem. At each affected station, the holder assembly was inspected and repaired when necessary. TLD data from neighboring stations was reviewed to determine if ambient radiation levels may have increased. None of the data indicates increased radiation levels for the affected areas.

REFERENCES

1. Environmental Radiological Monitoring Procedures - DCPP (Normal Operations), Pacific Gas and Electric Co. Technical and Ecological Services, Quality Control Manual, Volume V-A.

2. 1981-1990 Annual Environmental Radiological Reports, Diablo Canyon Power Plant. Pacific Gas and Electric Co.

3. NRC Branch Technical Position on Environmental Monitoring for Direct Radiation, Revision 1, November 1979.

4. Environmental Monitoring Program for Diablo Canyon Units 1 and 2 Technical Specifications, Section 3/4.12.

Appendix A

ENVIRONMENTAL RADIATION MONITORING PROGRAM SUMMARIES

TABLE A-1a

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY

Name of Facility Diablo Canyon Power Plant Docket No. 50-275 and 50-323
Location of Facility San Luis Obispo, California Report Period 1/1/91-12/31/91
(County, State)

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection(a) (LLD)	Indicator Location with Highest Annual Mean: Name, Distance and Direction	Indicator Location with Highest Annual Mean: Mean(b) Range(b)	All Indicator Locations Mean(b) Range(b)	All Control Locations Mean(b) Range(b)	Number of Reportable Occurrences
Seawater (pCi/L)							
	Gamma Isotopic (48)						0
	54Mn				None detected	None detected	
	59Fe				None detected	None detected	
	58Co				None detected	None detected	
	60Co				None detected	None detected	
	65Zn				None detected	None detected	
	95Zr				None detected	None detected	
	95Nb				None detected	None detected	
	131I				None detected	None detected	
	134Cs				None detected	None detected	
	137Cs				None detected	None detected	
	140Ba				None detected	None detected	
	140La				None detected	None detected	

(a) Unless specified, all required LLDs were met in accordance with Table 5.
(b) Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parenthesis e.g. (10/12) means 10 samples out of 12 collected showed activity.

TABLE A-1b

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY

Name of Facility Diablo Canyon Power Plant Docket No. 50-275 and 50-323
Location of Facility San Luis Obispo, California Report Period 1/1/91-12/31/91
(County, State)

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection(a) (LLD)	Location (c) Name, Distance and Direction	Mean(b) Range(b)	Number of Reportable Occurrences
Surface water (pCi/L)	Tritium (12)		Sta. 5S2 0.6 mi, 65°	None detected	0
	Gamma Isotopic (12)				0
	54Mn			None detected	
	59Fe			None detected	
	58Co			None detected	
	60Co			None detected	
	65Zn			None detected	
	95Zr			None detected	
	95Nb			None detected	
	131I			None detected	
	134Cs			None detected	
	137Cs			None detected	
	140Ba			None detected	
	140La			None detected	

(a) Unless specified, all required LLDs were met in accordance with Table 5.
(b) Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parenthesis e.g. (10/12) means 10 samples out of 12 collected showed activity.
(c) Only one station location for this sample type; therefore, no control stations are listed.

TABLE A-1c

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY

Name of Facility Diablo Canyon Power Plant Docket No. 50-275 and 50-323
Location of Facility San Luis Obispo, California Report Period 1/1/91-12/31/91
(County, State)

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection(a) (LLD)	Location (c) Name, Distance and Direction	Mean(b) Range(b)	Number of Reportable Occurrences
Drinking water (pCi/L)	Tritium (12)		Sta. DW1 0.0 mi, in plant	None detected	0
	Gamma Isotopic (12)				0
	54Mn			None detected	
	59Fe			None detected	
	58Co			None detected	
	60Co			None detected	
	65Zn			None detected	
	95Zr			None detected	
	95Nb			None detected	
	131I			None detected	
	134Cs			None detected	
	137Cs			None detected	
	140Ba			None detected	
	140La			None detected	

(a) Unless specified, all required LLDs were met in accordance with Table 5.
(b) Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parenthesis e.g. (10/12) means 10 samples out of 12 collected showed activity.
(c) Only one station location for this sample type; therefore, no control stations are listed.

TABLE A-1d

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY

Name of Facility Diablo Canyon Power Plant Docket No. 50-275 and 50-323
Location of Facility San Luis Obispo, California Report Period 1/1/91-12/31/91
(County, State)

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection(a) (LLD)	Location (c) Name, Distance and Direction	Mean (b) Range	Number of Reportable Occurrences
Outfall water (pCi/L)	Tritium (12)		Sta. OUT 0.2 mi, 270°	None detected	0
	Gamma Isotopic (12)				0
	54Mn			None detected	
	59Fe			None detected	
	58Co			None detected	
	60Co			None detected	
	65Zn			None detected	
	95Zr			None detected	
	95Nb			None detected	
	131I			None detected	
	134Cs			None detected	
	137Cs			None detected	
	140Ba			None detected	
	140La			None detected	

(a) Unless specified, all required LLDs were met in accordance with Table 5.
(b) Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parenthesis e.g. (10/12) means 10 samples out of 12 collected showed activity.
(c) Only one station location for this sample type; therefore, no control stations are listed.

TABLE A-2

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY

Name of Facility Diablo Canyon Power Plant Docket No. 50-275 and 50-323
Location of Facility San Luis Obispo, California Report Period 1/1/91-12/31/91
(County, State)

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection(a) (LLD)	Indicator Location with Highest Annual Mean: Name, Distance and Direction	Indicator Location with Highest Annual Mean: Mean(b) Range(b)	All Indicator Locations Mean(b) Range(b)	All Control Locations Mean(b) Range(b)	Number of Reportable Occurrences
Airborne (pCi/m^3)	131I (cartridge) (517)				None detected	None detected	0
	Gross Beta (air particulates) (517)		Sta. 5F1 11.2 mi, 68°	1.8E-2 4.0E-3-1.3E-1	1.5E-2(462/463) 2.0E-3-1.3E-1	1.5E-2(54/54) 4.0E-3-4.8E-2	0
	Gamma Isotopic (air particulates) (517)				ND	ND	0

(a) Unless specified, all required LLDs were met in accordance with Table 5.
(b) Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parenthesis e.g. (10/12) means 10 samples out of 12 collected showed activity.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE A-3

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY

Name of Facility Diablo Canyon Power Plant Docket No. 50-275 and 50-323
Location of Facility San Luis Obispo, California Report Period 1/1/91-12/31/91
(County, State)

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection(a) (LLD)	Indicator Location (c) Name, Distance and Direction	Indicator Location Mean(b) Range(b)	All Control Locations Mean(b) Range(b)	Number of Reportable Occurrences
Fish (pCi/kg wet)	Gamma Isotopic (15)		Sta. DCM 0.2 mi, 270°	Sta. DCM	Sta. 7C2	0
	54Mn			None detected	None detected	
	59Fe			None detected	None detected	
	58Co			None detected	None detected	
	60Co			None detected	None detected	
	65Zn			None detected	None detected	
	134Cs			None detected	None detected	
	137Cs			None detected	None detected	
	131I			None detected	None detected	

(a) Unless specified, all required LLDs were met in accordance with Table 5.
(b) Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parenthesis e.g. (10/12) means 10 samples out of 12 collected showed activity.
(c) Only one indicator location for this sample type.

TABLE A-4

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY

Name of Facility Diablo Canyon Power Plant Docket No. 50-275 and 50-323
Location of Facility San Luis Obispo, California Report Period 1/1/91-12/31/91
(County, State)

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection(a) (LLD)	Indicator Location (c) Name, Distance and Direction	Indicator Location Mean(b) Range(b)	All Control Locations Mean(b) Range(b)	Number of Reportable Occurrences
Abalone (pCi/kg wet)	Gamma Isotopic (12)		Sta. DCM 0.2 mi, 270°	Sta. DCM	Sta. 7C2	0
	54Mn			None detected	None detected	
	59Fe			None detected	None detected	
	58Co			None detected	None detected	
	60Co			1.65E1(1/6)	None detected	
	65Zn			None detected	None detected	
	134Cs			None detected	None detected	
	137Cs			None detected	None detected	
	131I			None detected	None detected	

(a) Unless specified, all required LLDs were met in accordance with Table 5.
(b) Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parenthesis e.g. (10/12) means 10 samples out of 12 collected showed activity.
(c) Only one indicator location for this sample type.

TABLE A-5

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY

Name of Facility Diablo Canyon Power Plant Docket No. 50-275 and 50-323
Location of Facility San Luis Obispo, California Report Period 1/1/91-12/31/91
(County, State)

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection(a) (LLD)	Indicator Location (c) Name, Distance and Direction	Indicator Location Mean(b) Range(b)	All Control Locations Mean(b) Range(b)	Number of Reportable Occurrences
Mussels (pCi/kg wet)	Gamma Isotopic (8)		Sta. DCM 0.2 mi, 270°	Sta. DCM	Sta. 7C2	0
	54Mn			None detected	None detected	
	59Fe			None detected	None detected	
	58Co			6.91E1(2/4) (4.31E1-9.51E1)	None detected	
	60Co			5.06E1(2/4) (4.89E1-5.23E1)	None detected	
	95Nb			None detected	None detected	
	134Cs			None detected	None detected	
	137Cs			None detected	None detected	
	131I			None detected	None detected	

(a) Unless specified, all required LLDs were met in accordance with Table 5.
(b) Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parenthesis e.g. (10/12) means 10 samples out of 12 collected showed activity.
(c) Only one indicator location for this sample type.

TABLE A-6

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY

Name of Facility Diablo Canyon Power Plant Docket No. 50-275 and 50-323
Location of Facility San Luis Obispo, California Report Period 1/1/91-12/31/91
(County, State)

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection(a) (LLD)	Indicator Location (c) Name, Distance and Direction	Indicator Location Mean(b) Range(b)	All Control Locations Mean(b) Range(b)	Number of Reportable Occurrences
Algae (pCi/kg wet)	Gamma Isotopic (35)		Sta. DCM 0.2 mi, 270°	Sta. DCM	Sta. 7C2	0
	54Mn			1.34E1(2/9) (1.31E1-1.37E1)	None detected	
	59Fe			None detected	None detected	
	57Co			None detected	None detected	
	58Co			2.49E1(5/9) (9.6E0-3.97E1)	6.46E0(1/26)	
	60Co			9.36E0(2/9) (6.01E0-1.27E1)	None detected	
	131I			5.37E1(4/9) (3.22E1-6.54E1)	None detected	
	110Ag			None detected	None detected	
	137Cs			1.63E1(1/9)	None detected	

(a) Unless specified, all required LLDs were met in accordance with Table 5.
(b) Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parenthesis e.g. (10/12) means 10 samples out of 12 collected showed activity.
(c) Only one indicator location for this sample type.

TABLE A-7

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY

Name of Facility Diablo Canyon Power Plant Docket No. 50-275 and 50-323
Location of Facility San Luis Obispo, California Report Period 1/1/91-12/31/91
(County, State)

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection(a) (LLD)	Indicator Location (c) Name, Distance and Direction	Indicator Location Mean(b) Range(b)	All Control Locations Mean(b) Range(b)	Number of Reportable Occurrences
Sediment (pCi/kg dry)	Gamma Isotopic (2)		Sta. DCM 0.2 mi, 270°	Sta. DCM	Sta 7C2	0
	54Mn			None detected	None detected	
	59Fe			None detected	None detected	
	58Co			None detected	None detected	
	60Co			None detected	None detected	
	65Zn			None detected	None detected	
	134Cs			None detected	None detected	
	137Cs			None detected	3.87E1(1/1)	

(a) Unless specified, all required LLDs were met in accordance with Table 5.
(b) Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parenthesis e.g. (10/12) means 10 samples out of 12 collected showed activity.
(c) Only one indicator location for this sample type.

TABLE A-8

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY

Name of Facility Diablo Canyon Power Plant Docket No. 50-275 and 50-323
Location of Facility San Luis Obispo, California Report Period 1/1/91-12/31/91
(County, State)

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection(a) (LLD)	Indicator Location with Highest Annual Mean: Name, Distance and Direction	Indicator Location with Highest Annual Mean: Mean(1)(b) Range(b)	All Indicator Locations Mean(1)(b) Range(b)	All Control Locations Mean(1)(b) Range(b)	Number of Reportable Occurrences
Milk (pCi/L)	131I (12)					Sta. 5F2 None detected	0
	Gamma Isotopic (11)						0
	134Cs					None detected	
	137Cs					None detected	
	140Ba					None detected	
	140La					None detected	

(a) Unless specified, all required LLDs were met in accordance with Table 5.
(b) Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parenthesis e.g. (10/12) means 10 samples out of 12 collected showed activity.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE A-9

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY

Name of Facility Diablo Canyon Power Plant Docket No. 50-275 and 50-323
Location of Facility San Luis Obispo, California Report Period 1/1/91-12/31/91
(County, State)

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection(a) (LLD)	Indicator Location with Highest Annual Mean		All Indicator Locations Mean(b) Range(b)	All Control Locations Mean(b) Range(b)	Number of Reportable Occurrences
			Name, Distance and Direction	Mean(b) Range(b)			
Food crops (pCi/kg wet)	Gamma Isotopic (36)				Sta. 7C1, 7G1	Sta. 5F2	0
	131I				None detected	None detected	
	134Cs				None detected	None detected	
	137Cs				None detected	None detected	

(a) Unless specified, all required LLDs were met in accordance with Table 5.
(b) Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parenthesis e.g. (10/12) means 10 samples out of 12 collected showed activity.

TABLE A-10

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY

Name of Facility Diablo Canyon Power Plant
Location of Facility San Luis Obispo, California
(County, State)

Docket No. 50-275 and 50-323
Report Period 1/1/91-12/31/91

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection(a) (LLD)	Indicator Location with Highest Annual Mean		All Indicator Locations	All Control Locations	Number of Reportable Occurrences
			Name, Distance and Direction	Mean(b) Range(b)	Mean(b) Range(b)	Mean(b) Range(b)	
Direct radiation (mR)	TLD Packets(c) (384)	3 mR/qtr	Sta. 5S1 0.4 mi, 58°	23.9 mR/qtr (12/12) 22.0-25.1 mR/qtr	16.9 mR/qtr (360/360) 9.6-25.1 mR/qtr	Sta. 2F2 13.5 mR/qtr (12/12) 12.9-14.5 mR/qtr	0
				95.6 mR/yr	67.7 mR/yr (360/360) 43.1-95.6 mR/yr	54.0 mR/yr	

(a) Sensitivity of TLD system.
(b) Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parenthesis; e.g., (10/12) means 10 samples out of 12 collected showed activity.
(c) 96 TLD packets are distributed quarterly at 32 locations.

TABLE A-11

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT[1]
EPA ENVIRONMENTAL RADIOLOGICAL LABORATORY INTERCOMPARISON STUDIES PROGRAM

Sample Type	Radionuclide	Month	TES	EPA	ALL[2]	TES/EPA	TES/ALL
Air Filter	Gross Alpha	Mar.	2.97	2.50	2.97	1.19	1.00
		Aug.	2.83	2.50	2.83	1.13	1.00
	Gross Beta	Mar.	1.32	1.24	1.30	1.06	1.02
		Aug.	10.33	9.20	9.55	1.12	1.08
	Cs-137	Mar.	4.73	4.00	4.46	1.18	1.06
		Aug.	3.50	3.00	3.25	1.17	1.08
	Sr-90	Mar.	3.67	4.00	3.93	0.92	0.93
		Aug.	3.03	3.00	2.91	1.01	1.04
Milk	I-131	Apr.	6.20	6.00	6.12	1.03	1.01
		Sep.	1.22	1.08	1.09	1.13	1.12
	Cs-137	Apr.	5.37	4.90	5.14	1.10	1.04
		Sep.	3.37	3.00	3.14	1.12	1.07
	K-40	Apr.	1.51	1.65	1.65	0.92	0.92
		Sep.	1.76	1.74	1.67	1.01	1.05
Water	H-3	Feb.	4.22	4.42	4.46	0.95	0.95
		Jun.	1.23	1.25	1.24	0.98	0.99
		Oct.	2.72	2.45	2.53	1.11	1.08
	Sr-89	Jan.	7.00	5.00	5.23	1.40	1.34
		May	3.30	3.90	3.74	0.85	0.88
	Sr-90	Jan.	2.67	5.00	4.85	0.53	0.55
		May	2.73	2.40	2.39	1.14	1.14
	I-131	Feb.	8.17	7.50	7.70	1.09	1.06
		Aug.	2.07	2.00	2.10	1.04	0.99
	Co-60	Feb.	3.93	4.00	4.00	0.98	0.98
		Jun	1.00	1.00	1.07	1.00	0.93
		Oct.	2.83	2.90	2.98	0.98	0.95
	Zn-65	Feb.	1.51	1.49	1.50	1.01	1.01
		Jun.	1.12	1.08	1.10	1.04	1.02
		Oct.	7.37	7.30	7.46	1.01	0.99
	Ru-106	Feb.	1.83	1.86	1.92	0.98	0.95
		Jun.	1.37	1.49	1.41	0.92	0.97
		Oct.	1.85	1.99	1.94	0.93	0.95
	Ba-133	Feb.	7.10	7.50	7.41	0.95	0.96
		Jun.	6.00	6.20	6.14	0.97	0.98
		Oct.	9.33	9.80	9.56	0.95	0.98
	Cs-134	Feb.	7.00	8.00	8.09	0.88	0.87
		Jun.	1.40	1.50	1.42	0.93	0.99
		Oct.	8.67	10.00	9.93	0.87	0.87

TABLE A-11 - Continued

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT(1)
EPA ENVIRONMENTAL RADIOLOGICAL LABORATORY INTERCOMPARISON STUDIES PROGRAM

Sample Type	Radionuclide	Month	TES	EPA	ALL(2)	TES/EPA	TES/ALL
Water	Cs-137	Feb.	9.00	8.00	9.06	1.13	0.99
		Jun.	1.57	1.40	1.54	1.12	1.02
		Oct.	1.07	1.00	1.09	1.07	0.98
	Gross Alpha	Jan.	4.00	5.00	5.69	0.80	0.70
		May	1.60	2.40	2.09	0.67	0.77
		Sep.	8.33	10.00	10.36	0.83	0.80
	Gross Beta	Jan.	6.33	5.00	6.30	1.27	1.00
		May	5.00	4.60	4.47	1.09	1.12
		Sep.	2.17	2.00	2.03	1.09	1.07
Performance Evaluation Sample	Gross Alpha	Apr.	4.13	5.40	4.97	0.76	0.83
		Oct.	10.27	8.20	7.56	1.25	1.36
	Gross Beta	Apr.	1.34	1.15	1.09	1.17	1.23
		Oct.	5.47	6.50	5.55	0.84	0.99
	Sr-89	Apr.	2.23	2.80	2.57	0.80	0.87
		Oct.	9.00	10.00	9.79	0.90	0.92
	Sr-90	Apr.	2.53	2.60	2.36	0.97	1.07
		Oct.	9.67	10.00	10.09	0.97	0.96
	Co-60	Apr.		Nuclide was not added			
		Oct.	2.00	2.00	2.02	1.00	0.99
	Cs-134	Apr.	2.23	2.40	2.30	0.93	0.97
		Oct.	9.33	10.00	9.58	0.93	0.97
	Cs-137	Apr.	2.57	2.50	2.55	1.03	1.01
		Oct.	1.20	1.10	1.25	1.09	0.96

(1) All of the values shown are relative, therefore, the total activity or concentration levels are not indicated.
(2) The "ALL" designation refers to all participating laboratories which performed similar analyses. Those values considered by EPA to be statistical outliners are excluded.

TABLE A-12

NIST SUMMARY REPORT OF BLIND SAMPLES

Date	Number	Nuclide	TES/NIST Ratio	Geometry	Remark
02/02/88	1	I-131	1.0136	1GMB-0	
04/20/88	2	Kr-85	0.9723	1LGM-0	
06/29/88	3	Co-57	0.9955	AIRS-1	
	4	Co-60	1.0009	AIRS-1	
	5	Cs-137	1.0045	AIRS-1	
08/17/88	6	Xe-133	1.0599	1LGM-0	
11/07/88	7	Sr-89	1.0047	LSC	
02/01/89	8	Ce-139	1.1334	500B-0	
	9	Ce-141	0.9982	500B-0	
	10	Ce-144	0.9204	500B-0	
03/01/89	11	Sr-89	1.0062	EP D-13	
	12	Sr-90	0.9489	EP D-13	
05/10/89	13	Cm-244	1.0437	LSC	
06/15/89	14	Fe-55	1.0354	LSC	
08/21/89	15	Kr-85	0.9856	1LGM-0	
	16	Xe-133	1.0686	1LGM-0	
11/27/89	17	Cr-51	1.0269	AIRS-1	
	18	Sb-125	0.9867	AIRS-1	
	19	Cs-134	0.9217	AIRS-1	
	20	Ce-141	1.0371	AIRS-1	
01/01/90	21	H-3	0.9641	LSC	
02/14/90	22	I-129	1.1198	LSC	C-14 Eff.
	23	I-131	1.0074	500B-0	
04/27/90	24	Am-241	0.9962	LSC	
06/20/90	25	Co-57	1.0325	AIRS-1	
	26	Zn-65	1.0376	AIRS-1	
	27	Cs-137	1.0090	AIRS-1	
08/13/90	28	Cr-51	1.0191	500B-0	
	29	Fe-59	1.0721	500B-0	
	30	Zn-65	1.0696	500B-0	
	31	Ru-106	0.9103	500B-0	
	32	Ce-144	1.0537	500B-0	
10/22/90	33	Kr-85	0.9548	1LGM-0	
	34	Xe-127	0.9683	1LGM-0	
	35	Xe-133	1.0039	1LGM-0	
12/20/90	36	Sr-89	0.8814	LB5100	
	37	Sr-90	1.0173	LB5100	
02/19/91	38	I-131	1.0409	1LMB-0	
04/02/91	39	H-3	0.9677	LSC	
	40	Fe-55	0.9659	LSC	
06/03/91	41	Co-57	1.0419	1GMB-0	
	42	Zn-65	1.0278	1GMB-0	
	43	Y-88	1.0022	1GMB-0	
	44	Cs-137	1.0129	1GMB-0	

TABLE A-12 - Continued

Date	Number	Nuclide	TES/NIST Ratio	Geometry	Remark
08/14/91	45	Cr-51	1.0385	AIRS-1	
	46	Fe-59	1.0459	AIRS-1	
	47	Zn-65	1.0431	AIRS-1	
	48	Ru-106	0.9568	AIRS-1	
	49	Ce-144	1.0747	AIRS-1	
10/29/91	50	Kr-85	0.9450	1LGM-0	DCPP
	51	Xe-127	1.0399	1LGM-0	DCPP
	52	Xe-133	1.1223	1LGM-0	DCPP
Ratio Average			1.0117		
Sigma			0.0518		

Appendix B

SAMPLE ANALYTICAL RESULTS

TABLE B-1

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
1991 STATE CROSS-CHECK RESULTS

SAMPLE	STATION	SAMPLE NO.	COLLECTION DATE	GAMMA ACTIVITY pCi/L ORIGINAL	K-40 ACTIVITY pCi/L or pCi/kg ORIGINAL	H-3 ACTIVITY pCi/L	I-131 ACTIVITY pCi/L or pCi/kg
Drinking Water	DW1	91A53	01/28/91	ND	180	ND	ND
		91B69	02/21/91	ND	95	ND	ND
		91D02	03/25/91	ND	182	ND	ND
		91E14	04/24/91	ND	99	ND	ND
		91F13	05/20/91	ND	185	ND	ND
		91G36	06/19/91	ND	120	ND	ND
		91H51	07/17/91	ND	191	ND	ND
		91I51	08/21/91	ND	193	ND	ND
		91J89	09/23/91	ND	< 27	ND	ND
		91L01	10/24/91	ND	< 8	ND	ND
		91L71	11/13/91	ND	24	ND	ND
		91N35	12/21/91	ND	171	ND	ND
Milk	5F2	91A33	01/21/91	ND	1470	-	ND
		91B48	02/19/91	ND	1430	-	ND
		91C65	03/18/91	ND	1390	-	ND
		91E48	04/26/91	ND	1600	-	ND
		91F12	05/20/91	ND	*	-	ND
		91G25	06/17/91	ND	1490	-	ND
		91H21	07/15/91	ND	1540	-	ND
		91I50	08/20/91	ND	1320	-	ND
		91J66	09/16/91	ND	1440	-	ND
		91K88	10/22/91	ND	1570	-	ND
		91L95	11/18/91	ND	1360	-	ND
		91M97	12/16/91	ND	1260	-	ND

* No gamma analysis for this sample.

TABLE B-1, continued

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
1991 STATE CROSS-CHECK RESULTS

SAMPLE	STATION	SAMPLE NO.	COLLECTION DATE	GAMMA ACTIVITY pCi/L ORIGINAL	K-40 ACTIVITY pCi/L or pCi/kg ORIGINAL	H-3 ACTIVITY pCi/L	I-131 ACTIVITY pCi/L or pCi/kg
Outfall Water	OUT	91D69	01/17-03/13/91	ND	539	ND	-
		91G81	04/10-06/12/91	ND	418	ND	-
		91K02	07/10-09/11/91	ND	384	ND	-
		91N61	10/09-12/21/91	ND	467	ND	-
Surface Water	5S2	91B24	02/14/91	ND	192	ND	-
		91D64	04/10/91	ND	18	ND	-
		91I21	08/14/91	ND	26	ND	-
		91L93	11/18/91	ND	23	ND	-
Abalone Meat*	DCM	91B93	02/26/91	ND	4110	-	-
		91G88	06/26/91	ND	7430	-	-
		91N03	11/25/91	ND	9810	-	-
Bull Kelp**							
	DCM	91G52	06/20/91	Co-58: 10±3 Co-60: 13±4 Cs-137: 16±6	9960	-	-
		91I55	08/19/91	I-131: 32±12	10100	-	see gamma results

* No sample available in the third quarter, 1991.
** No sample available in the first and fourth quarter, 1991.

TABLE B-1, continued

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
1991 STATE CROSS-CHECK RESULTS

SAMPLE	STATION	SAMPLE NO.	COLLECTION DATE	GAMMA ACTIVITY** pCi/kg ORIGINAL	K-40 ACTIVITY** pCi/L or pCi/kg ORIGINAL	H-3 ACTIVITY pCi/L	I-131 ACTIVITY pCi/L or pCi/kg
Vegetable Greens	7G1	91B26	02/14/91	ND	5160	-	-
		91E69	05/08/91	ND	3000	-	-
		91I18	08/14/91	ND	9000	-	-
		91L74	11/13/91	ND	6460	-	-
Sediment	DCM	91N05	12/11/91	ND	8980	-	-

** pCi/kg was determined using dry weight for sediment.

ND: Radionuclides of interest (related to power plant operations) other than naturally occurring were not detected.

TABLE B-2

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
MARINE AND TERRESTRIAL SAMPLE DATA
DETECTED NUCLIDES (NONNATURALLY OCCURRING) - pCi/kg ORIGINAL

DESCRIPTION	STA. NO.	COLLECTION DATE	SAM. NO.	Co58	Co60	Mn54	I131	Cs137	OTHER
Black Abalone	DCM	02/13/91	91B18		16.5±6.8				
Iridaea	DCM	05/31/91	91F82	38.9±4.0	6.0±2.4				
Iridaea	7C2	05/31/91	91F87	6.5±2.6					
Iridaea	DCM	09/30/91	91K36	39.7±7.4		13.1±5.2			
Bull Kelp Blade	DCM	06/20/91	91G52	9.6±3.3	12.7±3.9			16.3±5.5	
Bull Kelp Pneumatocyst	DCM	06/20/91	91G53	15.1±4.3					
Bull Kelp Blade	DCM	08/19/91	91I54				61.2±16.7		
Bull Kelp Pneumatocyst	DCM	08/19/91	91I55				32.2±11.5		
Bull Kelp Blade	DCM	09/19/91	91J86	21.0±4.4		13.7±4.5	65.4±10.6		
Bull Kelp Pneumatocyst	DCM	09/19/91	91J87				56.1±8.1		
Commercial Rockfish	7D3	03/30/91	91D45					12.3±4.8	
Commercial Rockfish	7D3	05/23/91	91F90					14.0±3.3	
California Mussels	PON	03/27/91	91D44		40.3±14.5				
California Mussels	PON	05/31/91	91F80	36.7±18.3					
California Mussels	DCM	05/31/91	91F83	95.1±20.8	52.3±17.6				
California Mussels	DCM	09/30/91	91K35	43.1±15.2	48.9±18.3				
Sediment	7C2	12/11/91	91N10					*38.7±9.7	

* pCi/kg dry

TABLE B-3

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 2F2 ($pCi.m^{-3}$) 1ST QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN 1/ I-131
01/02/91-01/09/91	410.5	01/19/91	.045	.004	
01/09 - 01/16/91	399.8	01/21/91	.019	.002	
01/16 - 01/23/91	397.9	01/30/91	.019	.002	
01/23 - 01/30/91	400.2	02/05/91	.036	.004	
01/30 - 02/06/91	397.2	02/14/91	.026	.003	
02/06 - 02/13/91	936.0*	02/22/91	.026	.002	
02/13 - 02/15/91	320.5	02/22/91	.023	.003	
02/15 - 02/20/91	339.0	02/22/91	.020	.002	
02/20 - 02/27/91	542.9	03/01/91	.024	.002	
02/27 - 03/06/91	553.4	03/16/91	.004	.001	
03/06 - 03/13/91	584.6	03/28/91	.011	.001	
03/13 - 03/20/91	485.7	03/30/91	.005	.001	
03/20 - 03/27/91	552.0	04/05/91	.004	.001	
03/27 - 04/03/91	562.7	04/15/91	.012	.001	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
01/02/91-04/03/91	04/26/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.
* Sampler flow rate was greater than 1.5 due to flow meter malfunction.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 2F2 ($pCi.m^{-3}$) 2ND QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
04/03/91-04/10/91	569.9	04/15/91	.011	.001	
04/10 - 04/17/91	511.4	04/26/91	.008	.001	
04/17 - 04/24/91	522.6	04/28/91	.009	.001	
04/24 - 05/01/91	520.4	05/10/91	.009	.001	
05/01 - 05/08/91	439.1	05/11/91	.012	.002	
05/08 - 05/15/91	425.9	05/18/91	.008	.001	
05/15 - 05/22/91	412.7	05/31/91	.007	.001	
05/22 - 05/29/91	424.7	06/02/91	.006	.001	
05/29 - 06/05/91	417.7	06/18/91	.006	.001	
06/05 - 06/12/91	421.9	06/18/91	.007	.001	
06/12 - 06/19/91	423.1	06/23/91	.005	.001	
06/19 - 06/26/91	424.5	06/29/91	.006	.001	
06/26 - 07/03/91	424.3	07/11/91	.005	.001	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
04/03/91-07/03/91	07/29/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 2F2 ($pCi.m^{-3}$) 3RD QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
07/03/91-07/10/91	424.9	07/18/91	.007	.001	
07/10 - 07/17/91	470.0	07/26/91	.008	.001	
07/17 - 07/24/91	475.2	08/02/91	.005	.001	
07/24 - 07/31/91	472.3	08/09/91	.004	.001	
07/31 - 08/07/91	471.4	08/15/91	.005	.001	
08/07 - 08/14/91	473.1	08/17/91	.007	.001	
08/14 - 08/15/91*	68.0	08/28/91	.014	.005	
08/15 - 08/21/91	386.3	08/28/91	.006	.001	
08/21 - 08/28/91	452.7	09/06/91	.009	.001	
08/28 - 09/04/91	457.2	09/11/91	.005	.001	
09/04 - 09/11/91	450.4	09/19/91	.011	.001	
09/11 - 09/18/91	455.9	09/24/91	.013	.002	
09/18 - 09/25/91	441.7	09/28/91	.011	.001	
09/25 - 10/02/91	457.7	10/08/91	.015	.002	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
07/03/91-10/02/91	10/18/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.
* Timer on sampler was exchanged after approximately one day of sampling.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 2F2 ($pCi.m^{-3}$) 4TH QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
10/02/91-10/09/91	476.8	10/14/91	.013	.002	
10/09 - 10/16/91	485.5	10/23/91	.016	.002	
10/16 - 10/23/91	449.3	10/30/91	.031	.003	
10/23 - 10/30/91	489.3	11/07/91	.010	.001	
10/30 - 11/06/91	504.6	11/13/91	.042	.004	
11/06 - 11/13/91	497.8	11/17/91	.033	.003	
11/13 - 11/20/91	501.9	12/05/91	.013	.002	
11/20 - 11/27/91	504.4	12/07/91	.033	.003	
11/27 - 12/04/91	502.3	12/12/91	.017	.002	
12/04 - 12/11/91	488.7	12/18/91	.023	.002	
12/11 - 12/18/91	507.2	12/30/91	.048	.005	
12/18 - 12/24/91	426.9	12/30/91	.018	.002	
12/24 - 12/30/91	424.7	01/08/92	.027	.003	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
10/02/91-12/30/91	01/15/92	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION MT1 ($pCi.m^{-3}$) 1ST QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
01/02/91-01/09/91	431.9	01/19/91	.035	.003	
01/09 - 01/14/91	301.6	01/19/91	.019	.002	
01/14 - 01/18/91	239.0	01/29/91	.018	.002	
01/18 - 01/24/91	364.1	01/30/91	.025	.003	
01/24 - 01/30/91	366.6	02/05/91	.040	.004	
01/30 - 02/05/91	382.0	02/14/91	.031	.003	
02/05 - 02/11/91	359.6	02/15/91	.021	.002	
02/11 - 02/15/91	246.1	02/22/91	.028	.003	
02/15 - 02/21/91	361.8	03/01/91	.012	.002	
02/21 - 02/27/91	365.0	03/13/91	.029	.003	
02/27 - 03/05/91	253.7	03/13/91	.005	.001	
03/05 - 03/11/91	268.9	03/22/91	.012	.002	
03/11 - 03/15/91	181.4	03/28/91	.006	.002	
03/15 - 03/21/91	280.4	03/30/91	.005	.001	
03/21 - 03/27/91	274.1	04/05/91	.004	.001	
03/27 - 04/02/91	282.9	04/07/91	.013	.002	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
01/02/91-04/02/91	05/03/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION MT1 ($pCi.m^{-3}$) 2ND QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
04/02/91-04/08/91	320.0	05/03/91	.012	.002	
04/08 - 04/12/91	242.9	04/18/91	.012	.002	
04/12 - 04/18/91	314.8	04/26/91	.005	.001	
04/18 - 04/24/91	350.1	04/28/91	.011	.001	
04/24 - 04/30/91	346.1	05/02/91	.017	.002	
04/30 - 05/06/91	346.7	05/10/91	.012	.002	
05/06 - 05/10/91	253.4	05/17/91	.010	.002	
05/10 - 05/16/91	386.6	05/30/91	.006	.001	
05/16 - 05/22/91	384.2	05/31/91	.007	.001	
05/22 - 05/28/91	385.1	06/01/91	.007	.001	
05/28 - 06/03/91	392.9	06/12/91	.006	.001	
06/03 - 06/07/91	267.3	06/18/91	.007	.001	
06/07 - 06/13/91	397.7	06/22/91	.005	.001	
06/13 - 06/19/91	412.5	06/23/91	.005	.001	
06/19 - 06/25/91	386.1	06/29/91	.004	.001	
06/25 - 07/01/91	387.7	07/04/91	.006	.001	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
04/02/91-07/01/91	07/30/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION MT1 ($pCi.m^{-3}$) 3RD QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
07/01/91-07/05/91	244.9	07/11/91	.002	.001	
07/05 - 07/11/91	300.5	07/18/91	.009	.001	
07/11 - 07/17/91	327.2	07/26/91	.006	.001	
07/17 - 07/23/91	336.2	08/02/91	.006	.001	
07/23 - 07/29/91	347.4	08/02/91	.005	.001	
07/29 - 08/02/91	236.2	08/09/91	.005	.001	
08/02 - 08/08/91	366.8	08/15/91	.003	.001	
08/08 - 08/14/91	376.2	08/18/91	.008	.001	
08/14 - 08/20/91	380.6	08/28/91	.006	.001	
08/20 - 08/26/91	376.7	09/06/91	.009	.001	
08/26 - 08/30/91	251.9	09/10/91	.007	.002	
08/30 - 09/05/91	376.6	09/11/91	.005	.001	
09/05 - 09/11/91	393.1	09/19/91	.012	.001	
09/11 - 09/17/91	379.8	09/24/91	.015	.002	
09/17 - 09/23/91	384.3	09/27/91	.016	.002	
09/23 - 09/27/91	254.3	10/04/91	.020	.003	
09/27 - 10/03/91	388.8	10/08/91	.017	.002	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
07/01/91-10/03/91	10/18/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION MT1 ($pCi.m^{-3}$) 4TH QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
10/03/91-10/09/91	331.6	10/14/91	.018	.002	
10/09 - 10/15/91	368.7	10/23/91	.019	.002	
10/15 - 10/21/91	364.7	10/25/91	.029	.003	
10/21 - 10/25/91	263.8	10/30/91	.019	.003	
10/25 - 10/31/91	400.1	11/07/91	.014	.002	
10/31 - 11/06/91	405.6	11/13/91	.041	.004	
11/06 - 11/12/91	426.7	11/17/91	.028	.003	
11/12 - 11/18/91	394.7	11/26/91	.011	.002	
11/18 - 11/22/91	275.4	12/05/91	.014	.002	
11/22 - 11/27/91	331.3	12/07/91	.028	.003	
11/27 - 12/03/91	424.7	12/10/91	.012	.002	
12/03 - 12/09/91	389.2	12/13/91	.027	.003	
12/09 - 12/13/91	270.8	12/18/91	.031	.003	
12/13 - 12/19/91	408.1	12/30/91	.040	.004	
12/19 - 12/23/91	285.0	12/30/91	.014	.002	
12/23 - 12/27/91	267.6	01/03/92	.042	.004	
12/27 - 12/31/91	281.0	01/08/92	.009	.001	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
10/03/91-12/31/91	01/15/92	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 0S2 ($pCi.m^{-3}$) 1ST QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
01/02/91-01/09/91	434.2	01/19/91	.036	.004	
01/09 - 01/14/91	308.4	01/19/91	.017	.002	
01/14 - 01/18/91	241.9	01/29/91	.017	.002	
01/18 - 01/24/91	370.6	01/30/91	.026	.003	
01/24 - 01/30/91	415.4	02/05/91	.039	.004	
01/30 - 02/05/91	410.2	02/15/91	.028	.003	
02/05 - 02/11/91	279.6	02/15/91	.024	.003	
02/11 - 02/15/91	174.2	02/23/91	.033	.004	
02/15 - 02/21/91	347.0	03/01/91	.011	.002	
02/21 - 02/27/91	389.7	03/13/91	.027	.003	
02/27 - 03/05/91	448.7	03/13/91	.005	.001	
03/05 - 03/11/91	459.0	03/22/91	.010	.001	
03/11 - 03/15/91	274.6	03/28/91	.004	.001	
03/15 - 03/21/91	463.7	03/30/91	.005	.001	
03/21 - 03/27/91	357.5	04/05/91	.004	.001	
03/27 - 04/02/91	380.5	04/05/91	.015	.002	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
01/02/91-04/02/91	05/08/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION OS2 ($pCi.m^{-3}$) 2ND QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
04/02/91-04/08/91	437.2	05/03/91	.011	.001	
04/08 - 04/12/91	257.4	04/18/91	.009	.002	
04/12 - 04/18/91	390.8	04/27/91	.007	.001	
04/18 - 04/24/91	418.7	04/28/91	.011	.001	
04/24 - 04/30/91	422.6	05/02/91	.012	.002	
04/30 - 05/06/91	413.9	05/11/91	.011	.002	
05/06 - 05/10/91	295.5	05/18/91	.008	.001	
05/10 - 05/16/91	447.3	05/31/91	.005	.001	
05/16 - 05/22/91	453.1	06/01/91	.007	.001	
05/22 - 05/28/91	455.7	06/01/91	.006	.001	
05/28 - 06/03/91	450.4	06/18/91	.007	.001	
06/03 - 06/07/91	305.6	06/18/91	.008	.001	
06/07 - 06/13/91	455.6	06/23/91	.004	.001	
06/13 - 06/19/91	465.1	06/24/91	.006	.001	
06/19 - 06/25/91	446.4	06/29/91	.005	.001	
06/25 - 07/01/91	455.0	07/04/91	.006	.001	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
04/02/91-07/01/91	08/05/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 0S2 ($pCi.m^{-3}$) 3RD QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
07/01/91-07/05/91	309.2	07/11/91	.002	.001	
07/05 - 07/11/91	400.5	07/18/91	.009	.001	
07/11 - 07/17/91	434.5	07/26/91	.006	.001	
07/17 - 07/23/91	404.7	08/02/91	.007	.001	
07/23 - 07/29/91	406.4	08/02/91	.006	.001	
07/29 - 08/02/91	270.2	08/09/91	.005	.001	
08/02 - 08/08/91	403.9	08/15/91	.003	.001	
08/08 - 08/14/91	425.2	08/18/91	.007	.001	
08/14 - 08/20/91	431.5	08/28/91	.006	.001	
08/20 - 08/26/91	413.9	09/06/91	.008	.001	
08/26 - 08/30/91	282.0	09/11/91	.006	.002	
08/30 - 09/05/91	429.4	09/12/91	.005	.001	
09/05 - 09/11/91	450.8	09/19/91	.012	.001	
09/11 - 09/17/91	410.5	09/24/91	.015	.002	
09/17 - 09/23/91	418.3	09/27/91	.020	.002	
09/23 - 09/27/91	279.4	10/04/91	.020	.002	
09/27 - 10/03/91	425.8	10/09/91	.015	.002	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
07/01/91-10/03/91	10/22/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION OS2 ($pCi.m^{-3}$) 4TH QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN 1/ I-131
10/03/91-10/09/91	372.0	10/15/91	.015	.002	
10/09 - 10/15/91	406.8	10/23/91	.024	.003	
10/15 - 10/21/91	368.7	10/25/91	.029	.003	
10/21 - 10/25/91	262.6	10/31/91	.019	.003	
10/25 - 10/31/91	412.3	11/06/91	.012	.002	
10/31 - 11/06/91	429.9	11/13/91	.043	.004	
11/06 - 11/12/91	449.9	11/17/91	.026	.003	
11/12 - 11/18/91	414.8	11/26/91	.013	.002	
11/18 - 11/22/91	286.3	12/10/91	.009	.002	
11/22 - 11/27/91	359.1	12/07/91	.030	.003	
11/27 - 12/03/91	449.0	12/10/91	.010	.001	
12/03 - 12/09/91	420.9	12/13/91	.026	.003	
12/09 - 12/13/91	291.2	12/18/91	.030	.003	
12/13 - 12/19/91	437.3	12/30/91	.035	.004	
12/19 - 12/23/91	304.3	12/31/91	.013	.002	
12/23 - 12/27/91	281.7	01/03/92	.042	.004	
12/27 - 12/31/91	293.8	01/09/92	.005	.001	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
10/03/91-12/31/91	01/16/92	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 1S1 ($pCi.m^{-3}$) 1ST QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
01/02/91-01/09/91	430.7	01/19/91	.033	.003	
01/09 - 01/14/91	301.6	01/19/91	.019	.002	
01/14 - 01/18/91	238.7	01/30/91	.017	.002	
01/18 - 01/24/91	363.0	01/30/91	.025	.003	
01/24 - 01/30/91	359.0	02/05/91	.042	.004	
01/30 - 02/05/91	378.5	02/15/91	.027	.003	
02/05 - 02/11/91	357.7	02/15/91	.024	.003	
02/11 - 02/15/91	243.0	02/23/91	.028	.003	
02/15 - 02/21/91	356.6	03/01/91	.011	.001	
02/21 - 02/27/91	359.2	03/18/91	.028	.003	
02/27 - 03/05/91	359.0	03/13/91	.005	.001	
03/05 - 03/11/91	317.4	03/22/91	.010	.002	
03/11 - 03/15/91	189.2	03/28/91	.007	.002	
03/15 - 03/21/91	222.0	03/30/91	.005	.001	
03/21 - 03/27/91	243.4	04/05/91	.006	.001	
03/27 - 04/02/91	243.7	04/07/91	.013	.002	

GAMMA ACTIVITY ON FILTER COMP

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
01/02/91-04/02/91	05/17/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 1S1 (pCi.m^{-3}) 2ND QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
04/02/91-04/08/91	253.3	05/03/91	.011	.002	
04/08 - 04/12/91	201.6	04/18/91	.009	.002	
04/12 - 04/18/91	256.2	04/27/91	.006	.002	
04/18 - 04/24/91	281.4	04/28/91	.010	.002	
04/24 - 04/30/91	270.8	05/02/91	.013	.002	
04/30 - 05/06/91	301.1	05/11/91	.010	.002	
05/06 - 05/10/91	236.2	05/18/91	.008	.002	
05/10 - 05/16/91	374.8	05/31/91	.006	.001	
05/16 - 05/22/91	380.6	06/01/91	.007	.001	
05/22 - 05/28/91	381.8	06/02/91	.006	.001	
05/28 - 06/03/91	365.5	06/18/91	.007	.001	
06/03 - 06/07/91	254.7	06/18/91	.009	.002	
06/07 - 06/13/91	381.9	06/23/91	.004	.001	
06/13 - 06/19/91	380.6	06/24/91	.005	.001	
06/19 - 06/25/91	368.6	06/29/91	.004	.001	
06/25 - 07/01/91	374.3	07/04/91	.005	.001	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION (pCi.m^{-3})
04/02/91-07/01/91	08/05/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 1S1 ($pCi.m^{-3}$) 3RD QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
07/01/91-07/05/91	250.7	07/11/91	.004	.001	
07/05 - 07/11/91	317.2	07/18/91	.009	.001	
07/11 - 07/17/91	331.2	08/02/91	.006	.001	
07/17 - 07/23/91	343.8	08/02/91	.005	.001	
07/23 - 07/29/91	322.6	08/02/91	.006	.001	
07/29 - 08/02/91	225.0	08/09/91	.004	.001	
08/02 - 08/08/91	351.1	08/15/91	.004	.001	
08/08 - 08/14/91[3/]	84.4	08/18/91	<0.006	.004	
08/14 - 08/20/91	367.9	08/28/91	.007	.001	
08/20 - 08/26/91	374.3	09/06/91	.008	.001	
08/26 - 08/30/91	257.8	09/11/91	.007	.002	
08/30 - 09/05/91	393.1	09/12/91	.005	.001	
09/05 - 09/11/91	422.4	09/19/91	.011	.001	
09/11 - 09/17/91	404.1	09/24/91	.014	.002	
09/17 - 09/23/91	414.3	09/27/91	.016	.002	
09/23 - 09/27/91	272.6	10/04/91	.020	.002	
09/27 - 10/03/91	417.4	10/09/91	.017	.002	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
07/01/91-10/03/91	10/23/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.
* Quarterly average based on actual value of -0.002 $pCi.m^{-3}$.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 1S1 ($pCi.m^{-3}$) 4TH QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
10/03/91-10/09/91	374.8	10/14/91	.016	.002	
10/09 - 10/15/91	403.1	10/23/91	.024	.003	
10/15 - 10/21/91	393.1	10/25/91	.027	.003	
10/21 - 10/25/91	282.2	10/31/91	.019	.002	
10/25 - 10/31/91	419.6	11/06/91	.010	.001	
10/31 - 11/06/91	429.0	11/13/91	.039	.004	
11/06 - 11/12/91	444.3	11/17/91	.024	.003	
11/12 - 11/18/91	416.4	11/26/91	.013	.002	
11/18 - 11/22/91	286.9	12/10/91	.011	.002	
11/22 - 11/27/91	360.5	12/07/91	.032	.003	
11/27 - 12/03/91	444.8	12/10/91	.013	.002	
12/03 - 12/09/91	412.4	12/13/91	.028	.003	
12/09 - 12/13/91	286.9	12/18/91	.027	.003	
12/13 - 12/19/91	431.2	12/30/91	.036	.004	
12/19 - 12/23/91	297.7	12/31/91	.015	.002	
12/23 - 12/27/91	277.0	01/03/92	.044	.004	
12/27 - 12/31/91	289.3	01/09/92	.005	.001	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
10/03/91-12/31/91	01/16/92	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 5F1 ($pCi.m^{-3}$) 1ST QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
01/02/91-01/09/91	424.3	01/19/91	.040	.004	
01/09 - 01/14/91	283.6	01/19/91	.020	.002	
01/14 - 01/18/91	230.6	01/29/91	.020	.003	
01/18 - 01/24/91	351.9	01/30/91	.025	.003	
01/24 - 01/30/91	387.1	02/05/91	.039	.004	
01/30 - 02/05/91	407.2	02/14/91	.032	.003	
02/05 - 02/11/91	386.3	02/15/91	.028	.003	
02/11 - 02/15/91	257.9	02/22/91	.038	.004	
02/15 - 02/21/91	385.4	03/01/91	.011	.001	
02/21 - 02/27/91	384.6	03/13/91	.028	.003	
02/27 - 03/05/91	379.5	03/13/91	.004	.001	
03/05 - 03/11/91	390.0	03/22/91	.010	.001	
03/11 - 03/15/91	241.8	03/28/91	.005	.001	
03/15 - 03/21/91	368.7	03/30/91	.005	.001	
03/21 - 03/27/91	386.3	04/05/91	.004	.001	
03/27 - 04/02/91	365.8	04/07/91	.013	.002	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
01/02/91-04/02/91	04/24/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 5F1 (pCi.m^{-3}) 2ND QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
04/02/91-04/08/91	379.9	05/03/91	.010	.001	
04/08 - 04/12/91	222.0	04/18/91	.011	.002	
04/12 - 04/18/91	323.0	04/26/91	.008	.002	
04/18 - 04/24/91	325.1	04/28/91	.011	.002	
04/24 - 04/30/91	325.1	05/02/91	.020	.002	
04/30 - 05/06/91	328.5	05/10/91	.012	.002	
05/06 - 05/10/91	218.2	05/17/91	.015	.002	
05/10 - 05/16/91	327.3	05/30/91	.008	.001	
05/16 - 05/22/91	325.4	05/31/91	.008	.001	
05/22 - 05/28/91*	327.9	06/01/91	.125	.012	
05/28 - 06/03/91	326.1	06/12/91	.007	.002	
06/03 - 06/07/91	226.0	06/18/91	.009	.002	
06/07 - 06/13/91	332.7	06/22/91	.005	.001	
06/13 - 06/19/91	343.1	06/23/91	.007	.001	
06/19 - 06/25/91	322.3	06/29/91	.007	.001	
06/25 - 07/01/91	333.2	07/04/91	.008	.001	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION (pCi.m^{-3})
04/02/91-07/01/91	07/25/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.
* Gross beta activity is high due to an increase of naturally occurring isotopes being dispersed from nearby construction.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 5F1 ($pCi.m^{-3}$) 3RD QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
07/01/91-07/05/91	221.9	07/11/91	.005	.002	
07/05 - 07/11/91	408.9	07/18/91	.008	.001	
07/11 - 07/17/91	417.3	07/26/91	.006	.001	
07/17 - 07/23/91	417.3	08/02/91	.005	.001	
07/23 - 07/29/91	417.2	08/02/91	.005	.001	
07/29 - 08/02/91	278.8	08/09/91	.005	.001	
08/02 - 08/08/91	424.5	08/15/91	.005	.001	
08/08 - 08/14/91	425.2	08/18/91	.008	.001	
08/14 - 08/20/91	415.1	08/28/91	.005	.001	
08/20 - 08/26/91	427.2	09/06/91	.010	.001	
08/26 - 08/30/91	276.7	09/10/91	.009	.002	
08/30 - 09/05/91	422.5	09/11/91	.006	.001	
09/05 - 09/11/91	434.0	09/19/91	.011	.001	
09/11 - 09/17/91	419.7	09/24/91	.015	.002	
09/17 - 09/23/91	416.1	09/27/91	.017	.002	
09/23 - 09/27/91	274.8	10/04/91	.018	.002	
09/27 - 10/03/91	428.8	10/08/91	.016	.002	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
07/01/91-10/03/91	10/17/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 5F1 (pCi.m^{-3}) 4TH QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
10/03/91-10/09/91	390.7	10/14/91	.019	.002	
10/09 - 10/15/91	437.7	10/23/91	.018	.002	
10/15 - 10/21/91	389.1	10/25/91	.025	.003	
10/21 - 10/25/91	303.8	10/31/91	.020	.002	
10/25 - 10/31/91	437.2	11/07/91	.012	.002	
10/31 - 11/06/91	445.8	11/13/91	.044	.004	
11/06 - 11/12/91	459.0	11/17/91	.033	.003	
11/12 - 11/18/91	426.4	11/26/91	.016	.002	
11/18 - 11/22/91	290.8	12/05/91	.013	.002	
11/22 - 11/27/91	363.6	12/07/91	.034	.003	
11/27 - 12/03/91	456.9	12/10/91	.014	.001	
12/03 - 12/09/91	433.8	12/13/91	.031	.003	
12/09 - 12/13/91	291.7	12/18/91	.030	.003	
12/13 - 12/19/91	442.1	12/30/91	.037	.004	
12/19 - 12/23/91	299.5	12/30/91	.015	.002	
12/23 - 12/27/91	296.4	01/03/92	.045	.005	
12/27 - 12/31/91	309.2	01/08/92	.009	.001	
		Total	.415	.044	
		Ave.	.0244118	.0026	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION (pCi.m^{-3})
10/03/91-12/31/91	01/15/92	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 7D1 ($pCi.m^{-3}$) 1ST QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
01/02/91-01/09/91	398.5	01/19/91	.035	.004	
01/09 - 01/14/91	292.2	01/19/91	.021	.002	
01/14 - 01/18/91	235.0	01/29/91	.016	.002	
01/18 - 01/24/91	360.4	01/30/91	.023	.003	
01/24 - 01/30/91	364.3	02/05/91	.037	.004	
01/30 - 02/05/91	385.1	02/14/91	.031	.003	
02/05 - 02/11/91	361.3	02/15/91	.025	.003	
02/11 - 02/15/91	246.4	02/22/91	.030	.003	
02/15 - 02/21/91	363.1	03/01/91	.012	.002	
02/21 - 02/27/91	370.1	03/13/91	.028	.003	
02/27 - 03/05/91	367.8	03/13/91	.005	.001	
03/05 - 03/11/91	364.7	03/22/91	.010	.001	
03/11 - 03/15/91	226.9	03/28/91	.004	.001	
03/15 - 03/21/91	366.7	03/30/91	.005	.001	
03/21 - 03/27/91	380.2	04/05/91	.004	.001	
03/27 - 04/02/91	360.9	04/07/91	.012	.002	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
01/02/91-04/02/91	04/26/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 7D1 ($pCi.m^{-3}$) 2ND QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN 1/ I-131
04/02/91-04/08/91	376.4	05/03/91	.012	.002	
04/08 - 04/12/91	243.5	04/18/91	.010	.002	
04/12 - 04/18/91	345.8	04/26/91	.008	.001	
04/18 - 04/24/91	352.2	04/28/91	.010	.001	
04/24 - 04/30/91	366.6	05/02/91	.014	.002	
04/30 - 05/06/91	344.4	05/10/91	.009	.001	
05/06 - 05/10/91	236.3	05/17/91	.007	.002	
05/10 - 05/16/91	356.2	05/30/91	.005	.001	
05/16 - 05/22/91	357.5	05/31/91	.006	.001	
05/22 - 05/28/91	358.5	06/01/91	.007	.001	
05/28 - 06/03/91	362.2	06/12/91	.006	.001	
06/03 - 06/07/91	244.2	06/18/91	.009	.002	
06/07 - 06/13/91	364.7	06/22/91	.006	.001	
06/13 - 06/19/91	377.9	06/23/91	.006	.001	
06/19 - 06/25/91	352.2	06/29/91	.005	.001	
06/25 - 07/01/91	365.2	07/04/91	.007	.001	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
04/02/91-07/01/91	07/25/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 7D1 ($pCi.m^{-3}$) 3RD QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
07/01/91-07/05/91	245.4	07/11/91	.002	.001	
07/05 - 07/11/91	415.4	07/18/91	.008	.001	
07/11 - 07/17/91	413.8	07/26/91	.007	.001	
07/17 - 07/23/91	414.1	08/02/91	.006	.001	
07/23 - 07/29/91	411.6	08/02/91	.006	.001	
07/29 - 08/02/91	274.8	08/09/91	.004	.002	
08/02 - 08/08/91	417.4	08/15/91	.004	.001	
08/08 - 08/14/91	418.7	08/18/91	.007	.001	
08/14 - 08/20/91	420.8	08/28/91	.006	.001	
08/20 - 08/26/91	409.4	09/06/91	.007	.001	
08/26 - 08/30/91	277.8	09/10/91	.006	.002	
08/30 - 09/05/91	423.2	09/11/91	.005	.001	
09/05 - 09/11/91	424.1	09/19/91	.012	.001	
09/11 - 09/17/91	414.3	09/24/91	.014	.002	
09/17 - 09/23/91	414.4	09/27/91	.017	.002	
09/23 - 09/27/91	275.2	10/04/91	.020	.002	
09/27 - 10/03/91	422.1	10/08/91	.017	.002	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
07/01/91-10/03/91	10/17/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 7D1 ($pCi.m^{-3}$) 4TH QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
10/03/91-10/09/91	404.3	10/14/91	.017	.002	
10/09 - 10/15/91	431.4	10/23/91	.023	.002	
10/15 - 10/21/91	402.4	10/25/91	.029	.003	
10/21 - 10/25/91	273.7	10/31/91	.012	.002	
10/25 - 10/31/91	419.0	11/06/91	.010	.001	
10/31 - 11/06/91	419.6	11/13/91	.035	.003	
11/06 - 11/12/91	443.4	11/17/91	.026	.003	
11/12 - 11/18/91	411.4	11/26/91	.018	.002	
11/18 - 11/22/91	285.1	12/05/91	.014	.002	
11/22 - 11/27/91	337.9	12/17/91	.029	.003	
11/27 - 12/03/91	432.3	12/10/91	.013	.002	
12/03 - 12/09/91	402.9	12/13/91	.024	.003	
12/09 - 12/13/91	274.2	12/18/91	.023	.003	
12/13 - 12/19/91	419.0	12/30/91	.037	.004	
12/19 - 12/23/91	281.5	12/31/91	.009	.002	
12/23 - 12/27/91	283.5	01/03/92	.041	.004	
12/27 - 12/31/91	288.3	01/08/92	.007	.001	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
10/03/91-12/31/91	01/15/92	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 8S1 ($pCi.m^{-3}$) 1ST QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
01/02/91-01/09/91	473.6	01/19/91	.033	.003	
01/09 - 01/14/91	297.8	01/19/91	.017	.002	
01/14 - 01/18/91	237.1	01/29/91	.015	.002	
01/18 - 01/24/91	360.7	01/30/91	.021	.002	
01/24 - 01/30/91	363.8	02/05/91	.033	.003	
01/30 - 02/05/91	387.5	02/14/91	.030	.003	
02/05 - 02/11/91	360.8	02/15/91	.021	.003	
02/11 - 02/15/91	244.6	02/22/91	.028	.003	
02/15 - 02/21/91	361.8	03/01/91	.009	.001	
02/21 - 02/27/91	361.2	03/13/91	.027	.003	
02/27 - 03/05/91	240.8	03/13/91	.004	.001	
03/05 - 03/11/91	261.9	03/22/91	.011	.002	
03/11 - 03/15/91	170.3	03/28/91	.005	.002	
03/15 - 03/21/91	245.6	03/30/91	.004	.001	
03/21 - 03/27/91	239.4	04/05/91	.003	.001	
03/27 - 04/02/91	252.6	04/07/91	.011	.002	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
01/02/91-04/02/91	05/03/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 8S1 ($pCi.m^{-3}$) 2ND QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
04/02/91-04/08/91	310.2	05/03/91	.011	.002	
04/08 - 04/12/91	255.7	04/18/91	.009	.002	
04/12 - 04/18/91	272.9	04/27/91	.006	.002	
04/18 - 04/24/91	318.6	04/28/91	.010	.001	
04/24 - 04/30/91	237.4	05/02/91	.015	.002	
04/30 - 05/06/91	258.3	05/10/91	.009	.002	
05/06 - 05/10/91	185.0	05/17/91	.009	.002	
05/10 - 05/16/91	311.4	05/30/91	.007	.001	
05/16 - 05/22/91	325.6	05/31/91	.006	.001	
05/22 - 05/28/91	336.4	06/01/91	.006	.001	
05/28 - 06/03/91	345.7	06/12/91	.003	.001	
06/03 - 06/07/91	244.1	06/18/91	.007	.002	
06/07 - 06/13/91	361.5	06/22/91	.005	.001	
06/13 - 06/19/91	386.8	06/23/91	.006	.001	
06/19 - 06/25/91	371.9	06/29/91	.005	.001	
06/25 - 07/01/91	372.7	07/04/91	.006	.001	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
04/02/91-07/01/91	07/31/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 8S1 ($pCi.m^{-3}$) 3RD QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1] I-131
07/01/91-07/05/91	249.9	07/11/91	.003	.001	
07/05 - 07/11/91	293.4	07/18/91	.009	.001	
07/11 - 07/17/91	312.6	07/26/91	.005	.001	
07/17 - 07/23/91[3]	10.6	08/02/91	.034	.029	
07/23 - 07/24/91[3]	51.1	08/02/91	.002	.006	
07/24 - 07/29/91	240.1	08/02/91	.006	.001	
07/29 - 08/02/91	206.0	08/09/91	.006	.002	
08/02 - 08/08/91	315.8	08/15/91	.004	.001	
08/08 - 08/14/91	358.0	08/18/91	.007	.001	
08/14 - 08/20/91	386.3	08/28/91	.006	.001	
08/20 - 08/26/91	412.6	09/06/91	.008	.001	
08/26 - 08/30/91	293.1	09/10/91	.006	.001	
08/30 - 09/05/91	457.3	09/11/91	.004	.001	
09/05 - 09/11/91	503.0	09/19/91	.011	.001	
09/11 - 09/17/91	495.6	09/24/91	.014	.002	
09/17 - 09/23/91	515.5	09/27/91	.017	.002	
09/23 - 09/27/91	350.7	10/04/91	.018	.002	
09/27 - 10/03/91	537.4	10/09/91	.015	.002	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
07/01/91-10/03/91	10/18/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 8S1 ($pCi.m^{-3}$) 4TH QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
10/03/91-10/09/91	339.3	10/14/91	.015	.002	
10/09 - 10/15/91	388.5	10/23/91	.020	.002	
10/15 - 10/21/91	387.2	10/25/91	.027	.003	
10/21 - 10/25/91	277.8	10/31/91	.018	.002	
10/25 - 10/31/91	418.0	11/07/91	.012	.002	
10/31 - 11/06/91	427.1	11/13/91	.042	.004	
11/06 - 11/12/91	444.9	11/17/91	.026	.003	
11/12 - 11/18/91	412.2	11/26/91	.013	.002	
11/18 - 11/22/91	277.9	12/05/91	.012	.002	
11/22 - 11/27/91	345.7	12/07/91	.030	.003	
11/27 - 12/03/91	445.4	12/10/91	.013	.002	
12/03 - 12/09/91	408.8	12/13/91	.023	.003	
12/09 - 12/13/91	276.6	12/18/91	.030	.003	
12/13 - 12/19/91	418.7	12/30/91	.031	.003	
12/19 - 12/23/91	290.4	12/31/91	.014	.002	
12/23 - 12/27/91	280.0	01/03/92	.040	.004	
12/27 - 12/31/91	292.0	01/08/92	.007	.001	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
10/03/91-12/31/91	01/16/92	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 8S2 ($pCi.m^{-3}$) 1ST QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
01/02/91-01/09/91	425.9	01/19/91	.041	.004	
01/09 - 01/14/91	291.3	01/19/91	.020	.002	
01/14 - 01/18/91	235.5	01/29/91	.018	.002	
01/18 - 01/24/91	357.8	01/30/91	.025	.003	
01/24 - 01/30/91	360.2	02/05/91	.042	.004	
01/30 - 02/05/91	382.2	02/15/91	.030	.003	
02/05 - 02/11/91	356.3	02/14/91	.025	.003	
02/11 - 02/15/91	243.0	02/22/91	.029	.003	
02/15 - 02/21/91	355.0	03/01/91	.012	.002	
02/21 - 02/27/91	359.5	03/13/91	.028	.003	
02/27 - 03/05/91	355.8	03/13/91	.004	.001	
03/05 - 03/11/91	358.9	03/22/91	.010	.001	
03/11 - 03/15/91	212.8	03/28/91	.005	.002	
03/15 - 03/21/91	346.5	03/30/91	.004	.001	
03/21 - 03/27/91	358.7	04/05/91	.004	.001	
03/27 - 04/02/91	342.6	04/05/91	.020	.003	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
01/02/91-04/02/91	05/08/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 8S2 ($pCi.m^{-3}$) 2ND QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
04/02/91-04/08/91	353.2	05/03/91	.011	.002	
04/08 - 04/12/91	242.6	04/18/91	.009	.002	
04/12 - 04/18/91	344.8	04/26/91	.007	.001	
04/18 - 04/24/91	352.8	04/28/91	.010	.001	
04/24 - 04/30/91	363.6	05/02/91	.014	.002	
04/30 - 05/06/91	340.5	05/10/91	.011	.002	
05/06 - 05/10/91	235.8	05/18/91	.007	.002	
05/10 - 05/16/91	354.5	05/31/91	.006	.001	
05/16 - 05/22/91	351.7	06/01/91	.007	.001	
05/22 - 05/28/91	352.3	06/01/91	.006	.001	
05/28 - 06/03/91	353.4	06/18/91	.007	.001	
06/03 - 06/07/91	237.6	06/18/91	.009	.002	
06/07 - 06/13/91	353.8	06/23/91	.006	.001	
06/13 - 06/19/91	366.1	06/24/91	.004	.001	
06/19 - 06/25/91	342.7	06/29/91	.005	.001	
06/25 - 07/01/91	353.0	07/04/91	.005	.001	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
04/02/91-07/01/91	08/01/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 8S2 ($pCi.m^{-3}$) 3RD QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN[1/] I-131
07/01/91-07/05/91	237.3	07/11/91	.002	.001	
07/05 - 07/11/91	407.8	07/18/91	.009	.001	
07/11 - 07/17/91	407.2	07/26/91	.006	.001	
07/17 - 07/23/91	415.0	08/02/91	.007	.001	
07/23 - 07/29/91	409.8	08/02/91	.005	.001	
07/29 - 08/02/91	274.0	08/09/91	.004	.001	
08/02 - 08/08/91	415.8	08/15/91	.004	.001	
08/08 - 08/14/91	416.2	08/18/91	.008	.001	
08/14 - 08/20/91	416.0	08/28/91	.005	.001	
08/20 - 08/26/91	414.3	09/06/91	.009	.001	
08/26 - 08/30/91	275.4	09/11/91	.007	.002	
08/30 - 09/05/91	416.2	09/12/91	.005	.001	
09/05 - 09/11/91	429.8	09/19/91	.011	.001	
09/11 - 09/17/91	414.4	09/24/91	.014	.002	
09/17 - 09/23/91	418.6	09/27/91	.015	.002	
09/23 - 09/27/91	275.5	10/04/91	.019	.002	
09/27 - 10/03/91	421.5	10/09/91	.016	.002	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
07/01/91-10/03/91	10/22/91	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-3 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
AIRBORNE RADIOACTIVITY
STATION 8S2 ($pCi.m^{-3}$) 4TH QUARTER

COLLECTION PERIOD	VOLUME (m^3)	COUNTING DATE	GROSS BETA ACTIVITY	2SIGMA	GAMMA SCAN 1/ I-131
10/03/91-10/09/91	404.2	10/15/91	.017	.002	
10/09 - 10/15/91	429.0	10/23/91	.025	.003	
10/15 - 10/21/91	395.7	10/25/91	.028	.003	
10/21 - 10/25/91	275.1	10/31/91	.016	.002	
10/25 - 10/31/91	418.4	11/07/91	.013	.002	
10/31 - 11/06/91	415.0	11/13/91	.038	.004	
11/06 - 11/12/91	438.0	11/17/91	.028	.003	
11/12 - 11/18/91	406.2	11/26/91	.014	.002	
11/18 - 11/22/91	279.0	12/10/91	.011	.002	
11/22 - 11/27/91	341.1	12/07/91	.027	.003	
11/27 - 12/03/91	426.5	12/13/91	.017	.002	
12/03 - 12/09/91	396.4	12/13/91	.027	.003	
12/09 - 12/13/91	275.6	12/18/91	.029	.003	
12/13 - 12/19/91	415.3	12/30/91	.044	.004	
12/19 - 12/23/91	289.3	12/31/91	.015	.002	
12/23 - 12/27/91	274.0	01/03/92	.048	.005	
12/27 - 12/31/91	281.4	01/09/92	.006	.001	

GAMMA ACTIVITY ON FILTER COMPOSITES

COLLECTION PERIOD	COUNTING DATE	NUCLIDE	CONCENTRATION ($pCi.m^{-3}$)
10/03/91-12/31/91	01/16/92	ND	

1/ Unless specified, Iodine-131 was not detected.
2/ No sample collected due to equipment failure.
3/ Time lost due to equipment failure.
4/ Power outage/failure occurred during collection period.
5/ Electrical problem.
ND: Radionuclides of interest other than naturally occurring were not detected.

TABLE B-4

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
ENVIRONMENTAL DOSIMETRY

Station	Quarterly Totals* (mR) 1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Annual Total	Quarterly Average	±2σ
MT1	24.5	22.2	20.9	19.2	86.8	21.7	4.5
WN1	14.9	13.7	13.4	11.8	53.8	13.5	2.6
0S1	21.9	21.2	20.4	19.2	82.7	20.7	2.3
5S1	24.8	25.1	23.6	22.0	95.5	23.9	2.8
6S1	15.6	14.5	14.3	13.1	57.5	14.4	2.0
8S1	17.8	17.1	16.8	15.5	67.2	16.8	1.9
8S2	22.0	21.4	20.4	19.1	82.9	20.7	2.5
5S3	20.3	20.0	19.4	17.5	77.2	19.3	2.5
2F2	14.5	13.5	13.1	12.9	54.0	13.5	1.4
2D1	13.7	12.9	12.4	11.4	50.4	12.6	1.9
4D1	13.7	12.4	12.1	11.4	49.6	12.4	1.9
5F1	19.3	23.7	17.8	15.6	76.4	19.1	6.8
1A1	13.6	13.0	12.3	11.4	50.3	12.6	1.9
7D2	18.5	18.6	17.1	16.4	70.6	17.7	2.2
7G2	18.6	18.9	17.2	16.8	71.6	17.9	2.0
7C1	19.4	19.0	18.5	16.9	73.8	18.5	2.2
7F1	18.2	18.0	16.8	16.8	69.8	17.5	1.5
0B1	12.0	11.0	10.5	9.6	43.1	10.8	2.0
7D1	13.4	12.6	12.1	11.0	49.1	12.3	2.0
4C1	12.8	12.0	11.5	10.3	46.6	11.7	2.1
0S2	18.0	17.4	17.0	16.7	69.1	17.3	1.1
1S1	18.8	18.1	17.6	16.5	71.0	17.8	1.9
2S1	16.8	17.6	16.3	16.1	66.8	16.7	1.3
3S1	20.4	21.3	19.4	20.2	81.3	20.3	1.6
4S1	18.4	20.0	17.8	19.0	75.2	18.8	1.9
7S1	18.2	19.4	17.5	--**	73.6	18.4	1.9
9S1	20.7	23.2	21.3	20.5	85.7	21.4	2.5
1C1	12.9	15.1	12.7	--**	54.3	13.6	2.7
5C1	16.5	18.2	16.4	16.9	68.0	17.0	1.7
3D1	12.8	13.8	11.9	12.3	50.8	12.7	1.6
6D1	15.6	--**	--**	15.8	62.8	15.7	0.3
5F3	20.9	22.2	20.6	20.8	84.5	21.1	1.5

* The exposure (mR) has been normalized for a standard quarter (i.e. for a 90-day period).
** TLD data is not available because of vandalism.

TABLE B-5

LAND USE CENSUS

DISTANCE IN MILES FROM THE UNIT 1 CENTER LINE TO THE NEAREST MILK ANIMAL, RESIDENCE, VEGETABLE GARDEN

22½ Degree[1] Radial Sector	Nearest Milk Animal	Nearest Residence km (mi)	Residence Azimuth Degree	Nearest Vegetable Garden km (mi)
NW	None	5.95 (3.7)	326	None
NNW	None	None	---	None
N	None	None	---	None
NNE	None	5.30 (3.3)	018.5	None
NE	None	8.15 (5.06)	037	None
ENE	None	7.15 (4.44)	062.5	None
E	None	7.25 (4.5)	096.5	None
ESE	None	None	---	3.3 (2)[2]
SE	None	None	---	None

1/ Sectors not shown contain no land beyond the site boundary, other than islets not used for the purposes indicated in this table.
2/ The vegetable garden indicated is the farm along the site access road.

TABLE B-6

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
LIST OF MARINE AND TERRESTRIAL SAMPLES
COLLECTED AND ANALYZED

SAMPLE NO.	DESCRIPTION	STATION NO.	COLLECTION DATE
91A28	OUTFALL WATER	OUT	01/17/91
91A29	SURFACE WATER	5S2	01/17/91
91A30	SNOW PEAS	7C1	01/17/91
91A31	LETTUCE GREENS	7G1	01/17/91
91A32	CAULIFLOWER GREENS	5F2	01/17/91
91A33	MILK	5F2	01/21/91
91A53	DRINKING WATER	DW1	01/28/91
91A54	SEAWATER	POS	01/24/91
91A55	BULL KELP BLADE	POS	01/24/91
91A56	BULL KELP PNEUMATOCYST	POS	01/24/91
91A59	SEAWATER	DCM	01/24/91
91A60	BULL KELP BLADE	PON	01/24/91
91A61	BULL KELP PNEUMATOCYST	PON	01/24/91
91A62	SEAWATER	PON	01/24/91
91A63	BULL KELP BLADE	7C2	01/24/91
91A64	BULL KELP PNEUMATOCYST	7C2	01/24/91
91A65	SEAWATER	7C2	01/24/91
91B15	CALIFORNIA MUSSELS	POS	02/13/91
91B16	CALIFORNIA MUSSELS	7C2	02/13/91
91B17	CALIFORNIA MUSSELS	DCM	02/13/91
91B18	BLACK ABALONE	DCM	02/13/91
91B19	BLACK ABALONE	PON	02/13/91
91B20	BLACK ABALONE	POS	02/13/91
91B21	BLACK ABALONE	7C2	02/13/91
91B22	IRIDAEA	7C2	02/13/91
91B23	OUTFALL WATER	OUT	02/14/91
91B24	SURFACE WATER	5S2	02/14/91
91B25	PEAS	7C1	02/14/91
91B26	LETTUCE	7G1	02/14/91
91B27	LETTUCE	5F2	02/14/91
91B37	BULL KELP BLADE	PON	02/18/91
91B38	BULL KELP PNEUMATOCYST	PON	02/18/91
91B40	BULL KELP BLADE	POS	02/18/91
91B41	BULL KELP PNEUMATOCYST	POS	02/18/91
91B42	SEAWATER	7C2	02/18/91
91B43	SEAWATER	POS	02/18/91
91B44	SEAWATER	PON	02/18/91
91B45	SEAWATER	DCM	02/18/91
91B46	BULL KELP BLADE	7C2	02/18/91
91B47	BULL KELP PNEUMATOCYST	7C2	02/18/91
91B48	MILK	5F2	02/19/91
91B69	DRINKING WATER	DW1	02/21/91
91B93	RED ABALONE MEAT	DCM	02/26/91
91B94	RED ABALONE MEAT	7C2	02/26/91
91B95	PERCH	PON	02/26/91

TABLE B-6 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
LIST OF MARINE AND TERRESTRIAL SAMPLES
COLLECTED AND ANALYZED

SAMPLE NO.	DESCRIPTION	STATION NO.	COLLECTION DATE
91B96	PERCH	DCM	02/26/91
91B97	PERCH	POS	02/26/91
91B98	PERCH	7C2	02/26/91
91B99	ROCKFISH	PON	02/26/91
91C01	ROCKFISH	POS	02/26/91
91C02	ROCKFISH	7C2	02/26/91
91C35	PEAS	7C1	03/13/91
91C36	LETTUCE	7G1	03/13/91
91C37	LETTUCE	5F2	03/13/91
91C40	OUTFALL WATER	OUT	03/13/91
91C41	SURFACE WATER	5S2	03/13/91
91C65	MILK	5F2	03/18/91
91D02	DRINKING WATER	DW1	03/25/91
91D31	SEAWATER	PON	03/28/91
91D32	BULL KELP BLADE	PON	03/28/91
91D33	BULL KELP PNEUMATOCYST	PON	03/28/91
91D34	SEAWATER	DCM	03/28/91
91D35	SEAWATER	POS	03/28/91
91D36	BULL KELP BLADE	POS	03/28/91
91D37	BULL KELP PNEUMATOCYST	POS	03/28/91
91D38	SEAWATER	7C2	03/28/91
91D42	RED ABALONE	POS	03/28/91
91D43	ROCKFISH	DCM	03/28/91
91D44	CALIFORNIA MUSSEL	PON	03/27/91
91D45	COMMERCIAL ROCKFISH	7D3	03/30/91
91D63	OUTFALL WATER	OUT	04/10/91
91D64	SURFACE WATER	5S2	04/10/91
91D65	SNOW PEAS	7C1	04/10/91
91D66	LETTUCE	7G1	04/10/91
91D67	CAULIFLOWER GREENS	5F2	04/10/91
91D69	OUTFALL COMPOSITE	OUT	01/17/91
91E14	DRINKING WATER	DW1	04/24/91
91E15	SEAWATER	PON	04/23/91
91E16	SEAWATER	DCM	04/23/91
91E17	SEAWATER	POS	04/23/91
91E18	BULL KELP BLADE	POS	04/23/91
91E19	BULL KELP PNEUMATOCYST	POS	04/23/91
91E20	SEAWATER	7C2	04/23/91
91E21	BULL KELP BLADE	7C2	04/23/91
91E22	BULL KELP PNEUMATOCYST	7C2	04/23/91
91E48	MILK	5F2	04/26/91
91E49	BULL KELP BLADE	PON	04/24/91
91E50	BULL KELP PNEUMATOCYST	PON	04/24/91
91E66	OUTFALL WATER	OUT	05/08/91
91E67	SURFACE WATER	5S2	05/08/91

TABLE B-6 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
LIST OF MARINE AND TERRESTRIAL SAMPLES
COLLECTED AND ANALYZED

SAMPLE NO.	DESCRIPTION	STATION NO.	COLLECTION DATE
91E68	PEAS	7C1	05/08/91
91E69	CELERY GREENS	7G1	05/08/91
91E70	CAULIFLOWER GREENS	5F2	05/08/91
91F12	MILK	5F2	05/20/91
91F13	DRINKING WATER	DW1	05/20/91
91F14	SEAWATER	PON	05/16/91
91F15	BULL KELP BLADE	PON	05/16/91
91F16	BULL KELP PNEUMATOCYST	PON	05/16/91
91F17	SEAWATER	DCM	05/16/91
91F19	SEAWATER	POS	05/16/91
91F20	BULL KELP BLADE	POS	05/16/91
91F21	BULL KELP PNEUMATOCYST	POS	05/16/91
91F22	SEAWATER	7C2	05/16/91
91F23	BULL KELP BLADE	7C2	05/16/91
91F24	BULL KELP PNEUMATOCYST	7C2	05/16/91
91F80	CALIFORNIA MUSSEL	PON	05/31/91
91F81	BLACK ABALONE	PON	05/31/91
91F82	IRIDAEA	DCM	05/31/91
91F83	CALIFORNIA MUSSEL	DCM	05/31/91
91F84	BLACK ABALONE	DCM	05/31/91
91F85	CALIFORNIA MUSSEL	POS	05/31/91
91F86	BLACK ABALONE	POS	05/31/91
91F87	IRIDAEA	7C2	05/31/91
91F88	CALIFORNIA MUSSEL	7C2	05/31/91
91F89	BLACK ABALONE	7C2	05/31/91
91F90	COMMERCIAL ROCKFISH	7D3	05/23/91
91G11	SNOW PEAS	7C1	06/12/91
91G12	LETTUCE	7G1	06/12/91
91G13	LETTUCE	5F2	06/12/91
91G14	OUTFALL WATER	OUT	06/12/91
91G15	SURFACE WATER	5S2	06/12/91
91G25	MILK	5F2	06/17/91
91G36	DRINKING WATER	DW1	06/19/91
91G52	BULL KELP BLADE	DCM	06/20/91
91G53	BULL KELP PNEUMATOCYST	DCM	06/20/91
91G54	SEAWATER	DCM	06/20/91
91G55	BULL KELP BLADE	POS	06/20/91
91G56	BULL KELP PNEUMATOCYST	POS	06/20/91
91G57	SEAWATER	POS	06/20/91
91G58	BULL KELP BLADE	7C2	06/20/91
91G59	BULL KELP PNEUMATOCYST	7C2	06/20/91
91G60	SEAWATER	7C2	06/20/91
91G81	OUTFALL WATER COMPOSITE	OUT	04/10/91
91G85	BULL KELP BLADE	PON	06/26/91
91G86	BULL KELP PNEUMATOCYST	PON	06/26/91

TABLE B-6 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
LIST OF MARINE AND TERRESTRIAL SAMPLES
COLLECTED AND ANALYZED

SAMPLE NO.	DESCRIPTION	STATION NO.	COLLECTION DATE
91G87	RED ABALONE	PON	06/26/91
91G88	RED ABALONE	DCM	06/26/91
91G89	RED ABALONE	POS	06/26/91
91G91	PERCH	PON	06/26/91
91G92	PERCH	DCM	06/26/91
91G93	PERCH	POS	06/26/91
91G94	PERCH	7C2	06/06/91
91G95	ROCKFISH	PON	06/16/91
91G96	ROCKFISH	DCM	06/16/91
91G97	ROCKFISH	POS	06/16/91
91G98	ROCKFISH	7C2	06/16/91
91H05	OUTFALL WATER	OUT	07/10/91
91H06	SURFACE WATER	5S2	07/10/91
91H07	LETTUCE	7G1	07/10/91
91H08	BROCCOLI	5F2	07/10/91
91H09	SNOW PEAS	7C1	07/10/91
91H21	MILK	5F2	07/15/91
91H22	SEAWATER	PON	07/15/91
91H23	BULL KELP BLADE	PON	07/15/91
91H24	BULL KELP PNEUMATOCYST	PON	07/15/91
91H25	SEAWATER	DCM	07/15/91
91H27	BULL KELP PNEUMATOCYST	DCM	07/15/91
91H28	SEAWATER	POS	07/15/91
91H29	BULL KELP BLADE	POS	07/15/91
91H30	BULL KELP PNEUMATOCYST	POS	07/15/91
91H31	SEAWATER	7C2	07/15/91
91H32	BULL KELP BLADE	7C2	07/15/91
91H33	BULL KELP PNEUMATOCYST	7C2	07/15/91
91H51	DRINKING WATER	DW1	07/17/91
91H54	SEAWATER	PON	06/20/91
91I18	BELL PEPPERS GREENS	7G1	08/14/91
91I19	CORN GREENS	5F2	08/14/91
91I20	SNOW PEAS	7C1	08/14/91
91I21	SURFACE WATER	5S2	08/14/91
91I22	OUTFALL WATER	OUT	08/14/91
91I28	RED ABALONE	POS	08/13/91
91I29	PERCH	PON	08/14/91
91I30	ROCKFISH	PON	08/14/91
91I31	PERCH	DCM	08/14/91
91I32	ROCKFISH	DCM	08/14/91
91I33	PERCH	POS	08/13/91
91I34	ROCKFISH	POS	08/13/91
91I35	PERCH	7C2	08/13/91
91I36	ROCKFISH	7C2	08/13/91
91I50	MILK	5F2	08/20/91

TABLE B-6 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
LIST OF MARINE AND TERRESTRIAL SAMPLES
COLLECTED AND ANALYZED

SAMPLE NO.	DESCRIPTION	STATION NO.	COLLECTION DATE
91I51	DRINKING WATER	DW1	08/21/91
91I52	SEAWATER	PON	08/19/91
91I53	SEAWATER	DCM	08/19/91
91I54	BULL KELP BLADE	DCM	08/19/91
91I55	BULL KELP PNEUMATOCYST	DCM	08/19/91
91I56	SEAWATER	POS	08/19/91
91I57	BULL KELP BLADE	POS	08/19/91
91I58	BULL KELP PNEUMATOCYST	POS	08/19/91
91I59	SEAWATER	7C2	08/19/91
91I60	BULL KELP BLADE	7C2	08/19/91
91I61	BULL KELP PNEUMATOCYST	7C2	08/19/91
91I86	CALIFORNIA MUSSELS	POS	08/24/91
91I87	BLACK ABALONE MEAT	POS	08/24/91
91I88	CALIFORNIA MUSSELS	PON	08/23/91
91I89	BLACK ABALONE MEAT	PON	08/23/91
91I90	CALIFORNIA MUSSELS	7C2	08/26/91
91I91	BLACK ABALONE MEAT	7C2	08/26/91
91I92	COMMERCIAL COD	7D3	08/27/91
91J43	SURFACE WATER	5S2	09/11/91
91J44	OUTFALL WATER	OUT	09/11/91
91J45	BELL PEPPER GREENS	5F2	09/11/91
91J46	SNOW PEAS	7C1	09/11/91
91J47	CELERY GREENS	7G1	09/11/91
91J66	MILK	5F2	09/16/91
91J77	BULL KELP BLADE	7C2	09/19/91
91J78	BULL KELP PNEUMATOCYST	7C2	09/19/91
91J79	SEAWATER	7C2	09/19/91
91J80	BULL KELP BLADE	PON	09/19/91
91J81	BULL KELP PNEUMATOCYST	PON	09/19/91
91J82	SEAWATER	PON	09/19/91
91J84	BULL KELP PNEUMATOCYST	POS	09/19/91
91J85	SEAWATER	POS	09/19/91
91J86	BULL KELP BLADE	DCM	09/19/91
91J87	BULL KELP PNEUMATOCYST	DCM	09/19/91
91J88	SEAWATER	DCM	09/19/91
91J89	DRINKING WATER	DW1	09/23/91
91K02	OUTFALL COMPOSITE	OUT	07/10/91
91K35	CALIFORNIA MUSSELS	DCM	09/30/91
91K36	IRIDAEA	DCM	09/30/91
91K37	IRIDAEA	7C2	09/30/91
91K41	BELL PEPPER GREENS	5F2	10/09/91
91K42	CELERY GREENS	7G1	10/09/91
91K43	SNOW PEAS	7C1	10/09/91
91K44	OUTFALL WATER	OUT	10/09/91
91K45	SURFACE WATER	5S2	10/09/91

TABLE B-6 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
LIST OF MARINE AND TERRESTRIAL SAMPLES
COLLECTED AND ANALYZED

SAMPLE NO.	DESCRIPTION	STATION NO.	COLLECTION DATE
91K84	SEAWATER	PON	10/21/91
91K85	SEAWATER	DCM	10/21/91
91K86	SEAWATER	POS	10/21/91
91K87	SEAWATER	7C2	10/21/91
91K88	MILK	5F2	10/22/91
91L01	DRINKING WATER	DW1	10/24/91
91L02	BULL KELP BLADE	PON	10/21/91
91L03	BULL KELP PNEUMATOCYST	PON	10/21/91
91L05	BULL KELP BLADE	POS	10/21/91
91L06	BULL KELP PNEUMATOCYST	POS	10/21/91
91L07	BULL KELP BLADE	7C2	10/21/91
91L08	BULL KELP PNEUMATOCYST	7C2	10/21/91
91L71	DRINKING WATER	DW1	11/13/91
91L72	BELL PEPPER GREENS	5F2	11/13/91
91L73	SNOW PEAS	7C1	11/13/91
91L74	BELL PEPPER GREENS	7G1	11/13/91
91L75	SEAWATER	PON	11/13/91
91L76	SEAWATER	DCM	11/13/91
91L77	SEAWATER	POS	11/13/91
91L78	SEAWATER	7C2	11/13/91
91L86	RED ABALONE	POS	11/11/91
91L87	PERCH	POS	11/12/91
91L88	ROCKFISH	POS	11/12/91
91L89	BULL KELP BLADE	POS	11/13/91
91L90	BULL KELP PNEUMATOCYST	POS	11/13/91
91L91	BULL KELP BLADE	7C2	11/13/91
91L92	BULL KELP PNEUMATOCYST	7C2	11/13/91
91L93	SURFACE WATER	5S2	11/18/91
91L94	OUTFALL WATER	OUT	11/18/91
91L95	MILK	5F2	11/18/91
91M72	IRIDAEA	7C2	11/22/91
91M73	CALIFORNIA MUSSEL	PON	11/22/91
91M74	CALIFORNIA MUSSEL	DCM	12/04/91
91M75	CALIFORNIA MUSSEL	POS	12/05/91
91M76	CALIFORNIA MUSSEL	7C2	11/22/91
91M77	BLACK ABALONE	PON	11/22/91
91M78	BLACK ABALONE	DCM	12/04/91
91M79	BLACK ABALONE	POS	12/05/91
91M80	BLACK ABALONE	7C2	11/22/91
91M81	SEAWATER	PON	12/11/91
91M82	SEAWATER	DCM	12/11/91
91M83	SEAWATER	POS	12/11/91
91M84	SEAWATER	7C2	12/11/91
91M97	MILK	5F2	12/16/91
91M98	ROCKFISH	7C2	12/11/91

TABLE B-6 (continued)

DIABLO CANYON POWER PLANT 1991 ANNUAL REPORT
LIST OF MARINE AND TERRESTRIAL SAMPLES
COLLECTED AND ANALYZED

SAMPLE NO.	DESCRIPTION	STATION NO.	COLLECTION DATE
91M99	RED ABALONE MEAT	7C2	12/11/91
91N00	BULL KELP BLADE	7C2	12/11/91
91N01	BULL KELP PNEUMATOCYST	7C2	12/11/91
91N02	ROCKFISH	DCM	12/11/91
91N03	RED ABALONE MEAT	DCM	11/25/91
91N04	PERCH	DCM	11/25/91
91N05	SEDIMENT	DCM	12/11/91
91N06	PERCH	PON	11/25/91
91N07	PERCH	7C2	12/11/91
91N08	BULL KELP BLADE	POS	12/11/91
91N09	BULL KELP PNEUMATOCYST	POS	12/11/91
91N10	SEDIMENT	7C2	12/11/91
91N20	BULL KELP BLADE	PON	12/17/91
91N21	BULL KELP PNEUMATOCYST	PON	12/17/91
91N22	RED ABALONE MEAT	PON	12/17/91
91N23	ROCKFISH	PON	12/17/91
91N35	DRINKING WATER	DW1	12/21/91
91N36	OUTFALL WATER	OUT	12/21/91
91N37	SURFACE WATER	5S2	12/20/91
91N46	SNOW PEAS	7C1	12/20/91
91N47	BOK CHOY	7G1	12/21/91
91N48	CAULIFLOWER	5F2	12/20/91
91N61	OUTFALL COMPOSITE	OUT	10/09/91