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Gregory M. Rueger
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General Manager
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April 27, 1993

PG&E Letter No. DCL-93-101

U.S. Nuclear Regulatory Commission
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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 1992 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

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1992 Annual Radiological Environmental Operating Report

Diablo Canyon Power Plant

Prepared by

Angeline Ong

April 23, 1993

Report 420DC-93.342

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, 1992 through December 31, 1992. 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 DCPP, Administrative Procedure, AP A-81, "Radiological Monitoring and Controls Programs."

A review of the results from the 1992 Radiological Environmental Monitoring Program showed that all positively detected results were well below the reporting levels. The airborne radioactivity concentrations around DCPP were consistent with preoperational background measurements. The mean percent availability for all air samplers was 98.8 percent for 1992. 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 sampled 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 1992 Radiological Environmental Monitoring Program showed that the operation of DCPP had no significant radiological impact on the environment.

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Section 1

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, 1992 through December 31, 1992. During this period, 1,679 environmental samples were collected and analyzed to determine radiation levels. They consisted of 69 terrestrial samples, 206 marine samples, 515 air particulate filters, 515 iodine cartridges, and 374 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 DCPP, Administrative Procedure (AP A-81), "Radiological Monitoring and Controls Program." 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.

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 lists the indicator, special interest, and control stations for the different sample media.

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.

Table 3

Sampling Locations*

Sample Medium	Indicator Stations	Special Interest Stations	Control Stations
Airborne	MT1,0S2,1S1,8S1,8S2,7D1,5F1		2F2
Direct Radiation	MT1,WN1,0S1,5S1,6S1,8S1,8S2, 5S3,2D1,1A1,7C1,0B1,4C1,0S2, 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 description.

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)
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)

Table 4 - continued

Distances and Directions to Environmental Monitoring Stations
(Stations are shown on Figures 1 and 2)

* 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).

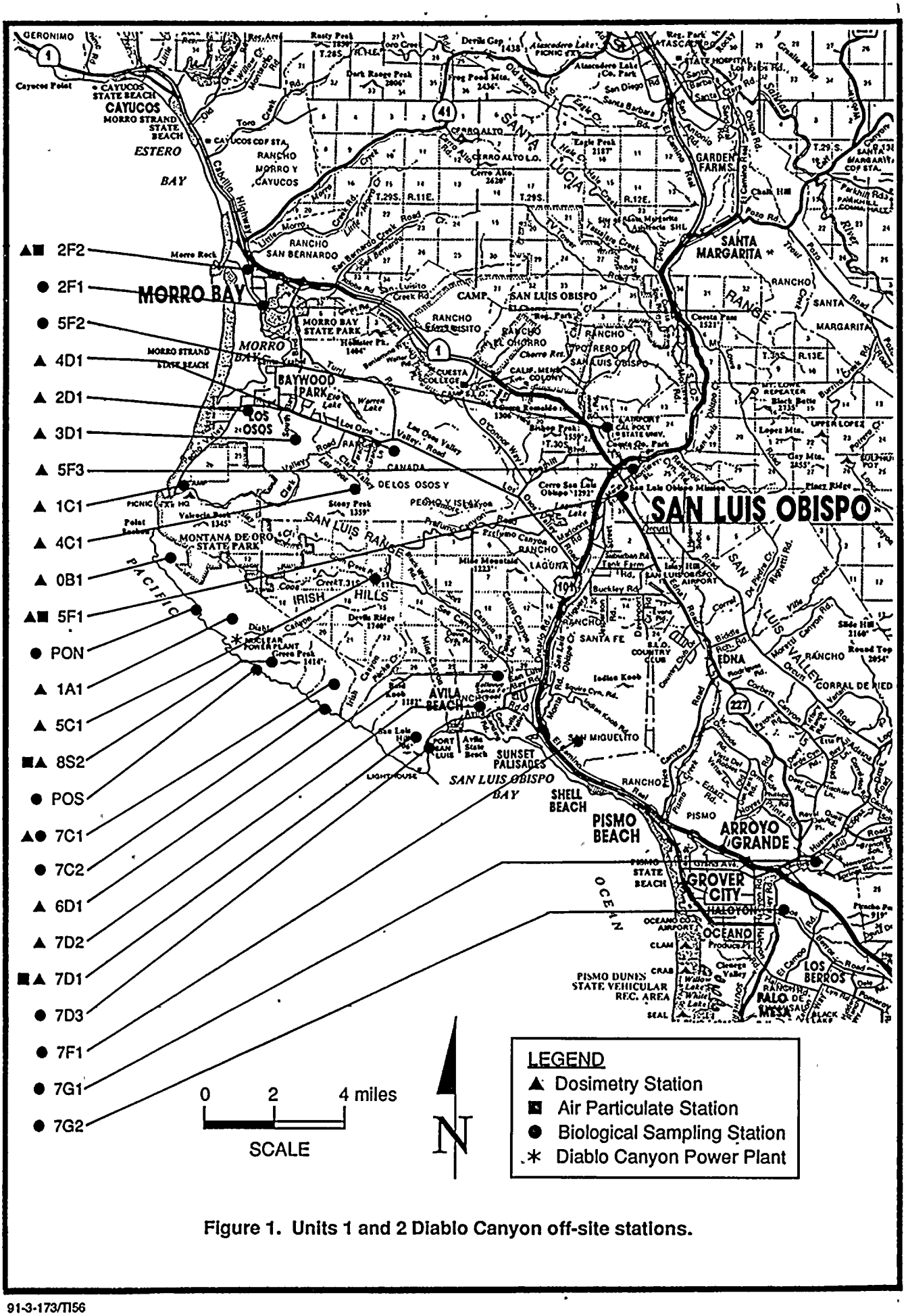

Figure 1. Units 1 and 2 Diablo Canyon off-site stations.

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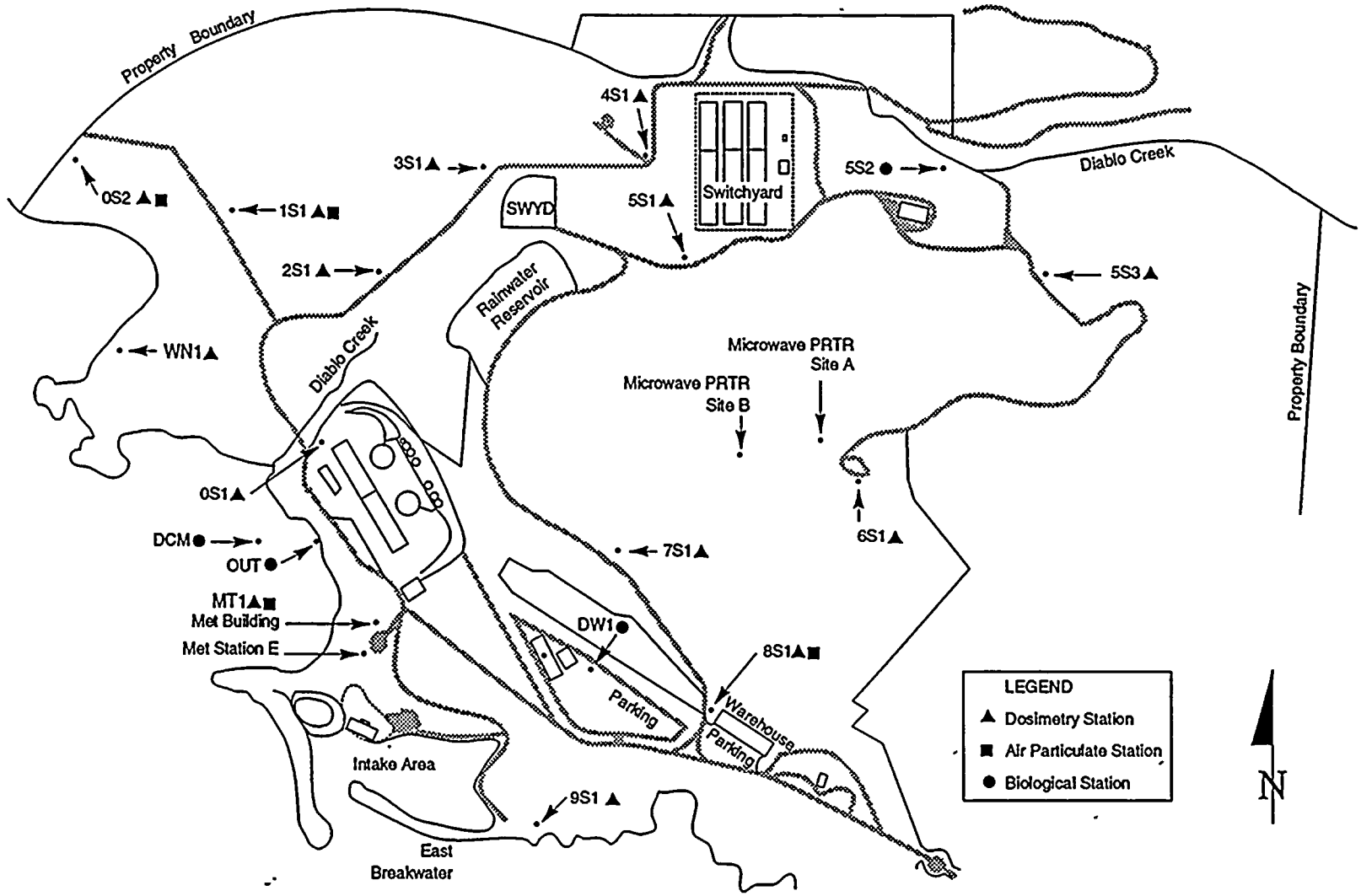

Figure 2. Units 1 and 2 Diablo Canyon on-site stations.

Section 2

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 labeled 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 labeled 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, labeled 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 labeled with sample type, sample location, date and time of collection, and the individual performing the collection, and then sent to TES for analysis.

Section 3

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.

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.

Table 5

Maximum Values for the Lower Limits of Detection (LLD)[a]

Analysis	Water (pCi/L)	Airborne Particulate or Gas (pCi/m^3)	Fish (pCi/kg, wet)	Milk (pCi/L)	Food Products (pCi/kg, wet)	Sediment (pCi/kg, dry)
Gross beta	4	$1x10^{-2}$				
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]	$7x10^{-2}$		1	60	
Cs-134	15	$5x10^{-2}$	130	15	60	150
Cs-137	18	$6x10^{-2}$	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):

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

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)

Table 5 - Continued

Maximum Values for the Lower Limits of Detection (LLD)[a]

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 sb 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.

Section 4

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 analyses performed were within the acceptable range set by EPA.

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 September 1992, a total of 27 test samples had been analyzed. As shown in Appendix A, Table A-12, seventeen of the samples involved multiple radionuclide determinations, so that a total of 63 individual measurements were made. The resulting distribution of results is summarized in Figure 3. It depicts the ratio of TES's reported value to NIST value for all results reported through September 1992.

The most recently released, 1990 state cross-check report (issued in 1993) showed that results submitted by TES were comparable to those of the state of California's S&R Laboratory. No discrepancies were found. Included in this report is the table of TES results submitted for the 1992 cross-check program (Appendix B, Table B-1).

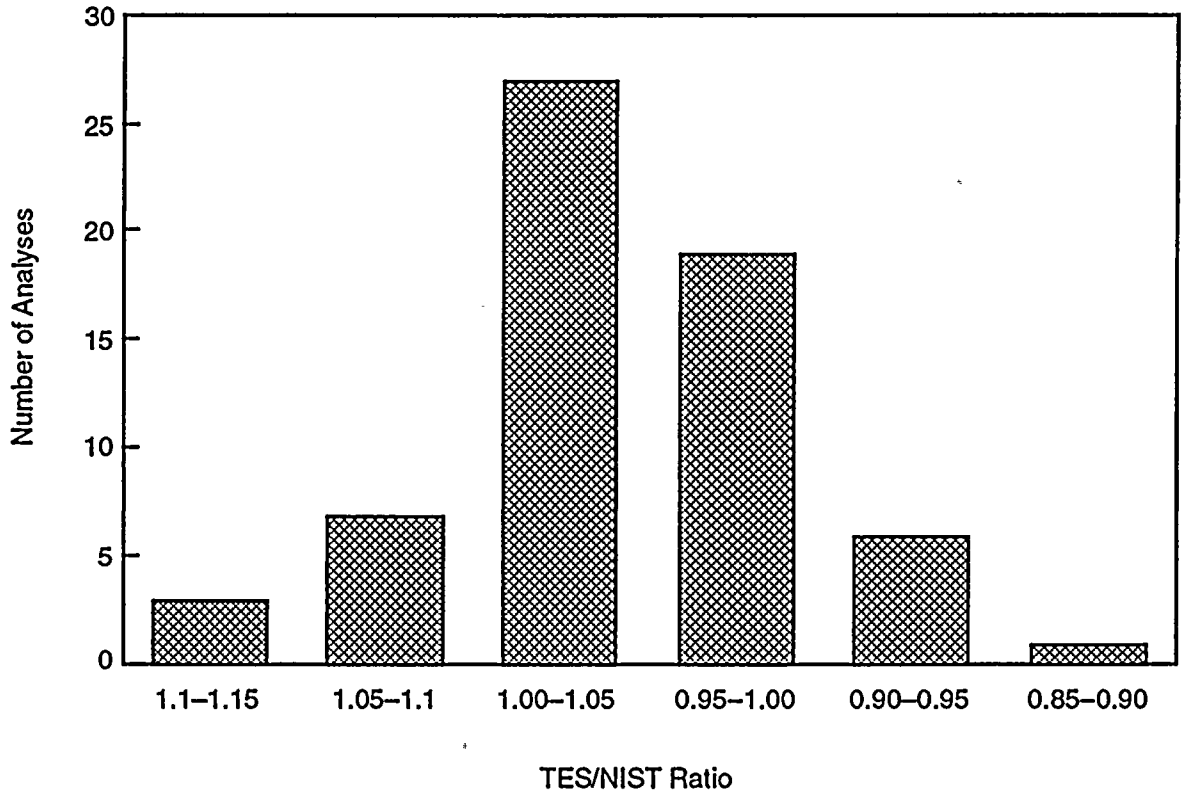

Figure 3. Distribution of USCEA/NIST results from 2/2/88 to 9/2/92.

60006551/G1/TI94A

Section 5

LAND USE CENSUS

TES conducted a land use census in the vicinity of DCPP for 1992. The land use census is required by Nuclear Regulatory Commission (NRC), Regulatory Guide 4.8, "Environmental Technical Specifications for Nuclear Power Plants", and by DCPP AP A-81, "Radiological Monitoring and Controls Program." 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, DCPP AP A-81 requires 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, 1992.

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. 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.

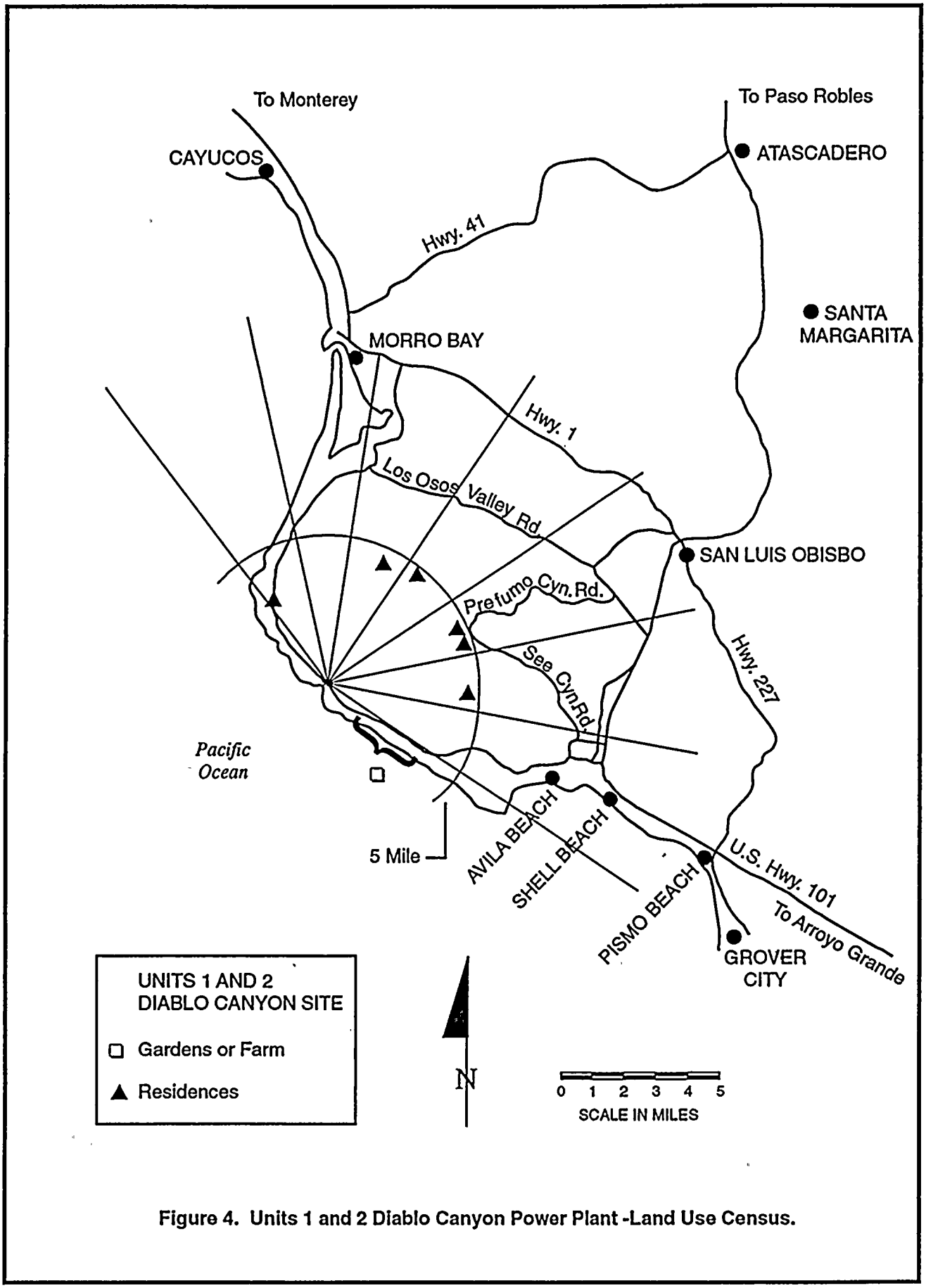

Figure 4. Units 1 and 2 Diablo Canyon Power Plant -Land Use Census.

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Section 6

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 1992 and state cross-check results.

The lower limits of detection (LLD) for the nuclides of interest listed in Table 5 were met for all analyses performed for DCPP Radiological Environmental Monitoring Program except for those samples listed in Table B-6. Four fish samples and an abalone sample did not meet the LLD for Fe-59; four seawater samples did not meet the LLD for Ba, La-140. These LLD were not met because of small sample volume due to sample availability or long elapsed time between collection and counting time.

The analytical results for the 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 515 air particulate filters and 515 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 indicator and control stations. The range for the indicator stations was 3.0E-3 – 3.7E-2 pCi/m^3 with a mean of 1.3E-2 pCi/m^3. The range for the control station was 4.0E-3 – 4.0E-2 pCi/m^3 with a mean of 1.4E-2 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 first quarter, due to equipment failure no sample was collected at station 1S1 during the period of February 18–24, 1992.

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 515 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) and processed. The exposure level from all indicator stations ranged from 10.1 – 23.1 mR/qtr with a mean of 16.4 ± 3.7 mR/qtr. The exposure level at the control station 2F2 ranged from 11.8 – 16.1 mR/qtr with a mean of 13.7 ± 2.1 mR/qtr. The exposure levels for 1992 did not differ significantly from the previous year, nor from the pre-operational data. This indicated 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 individual 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).

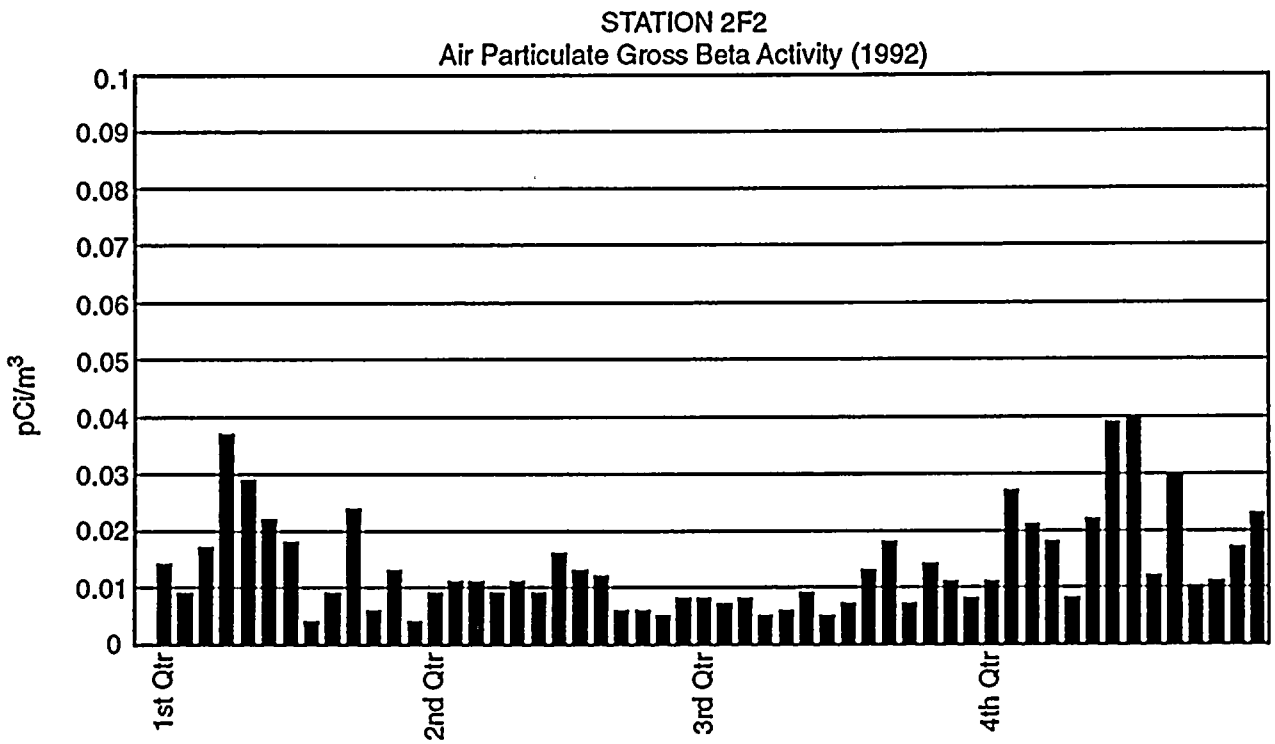
Gamma isotopic analyses were performed on all water samples. Co-58 (3.09E0 pCi/L) was detected in an outfall water sample collected in November. All other water samples showed no detectable radioactivity other than natural radioactivity.

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 142 marine samples were collected and analyzed. They included 33 fish samples, 27 abalone samples, 12 mussel samples, 68 algae samples, and 2 ocean bottom sediment samples. Table B-7 lists the marine samples collected for 1992. 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.



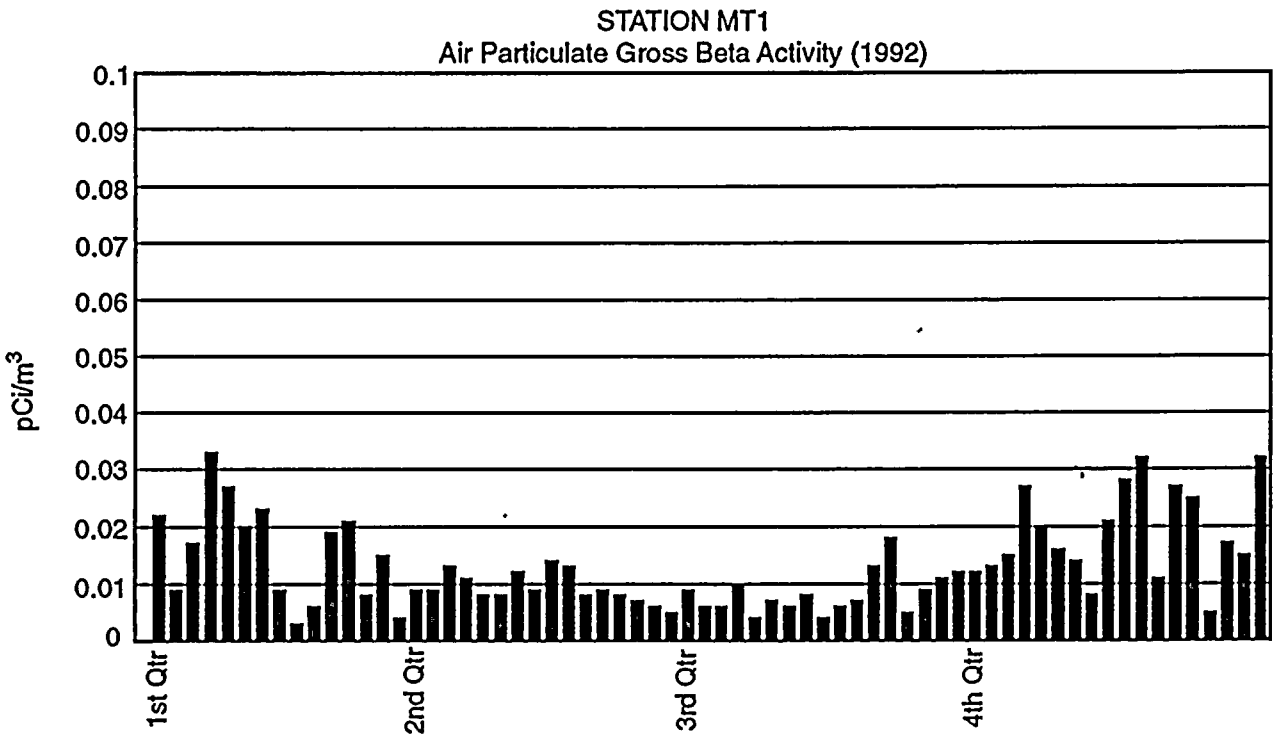


Figure 5. Air particulates gross beta activities.

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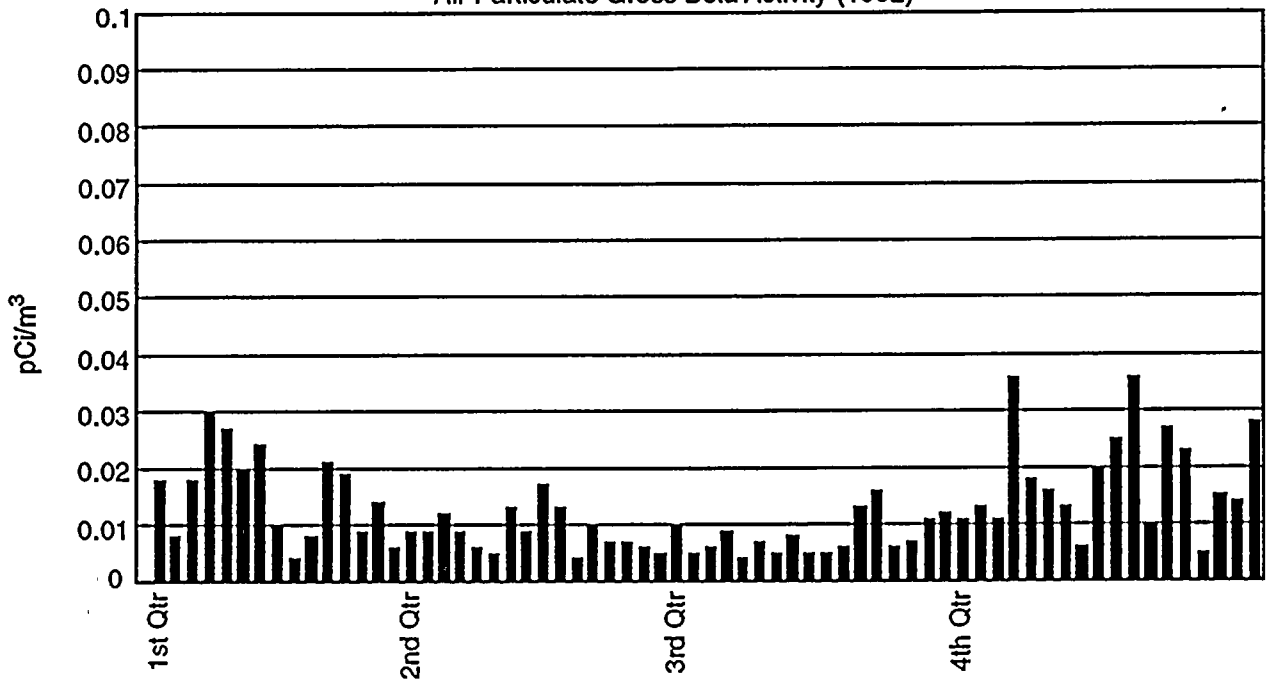

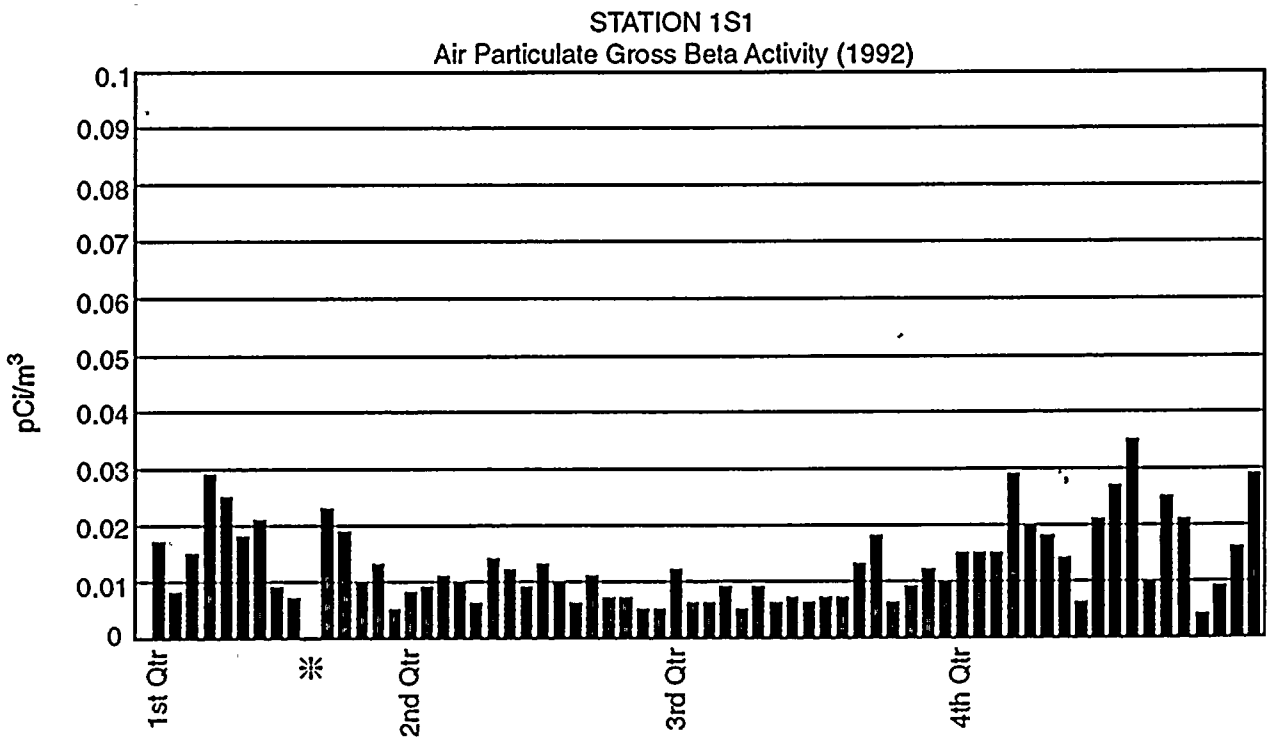

※ No sample collected due to equipment failure.

Figure 5. Continued.

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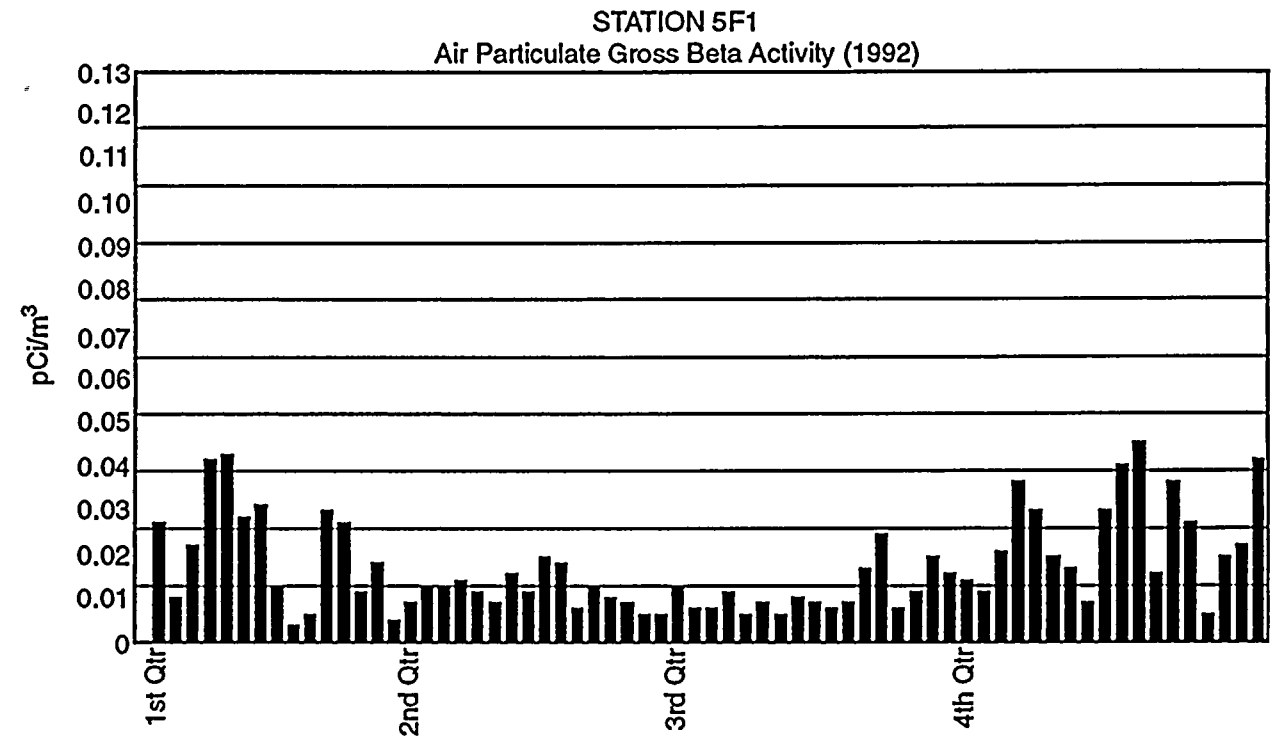

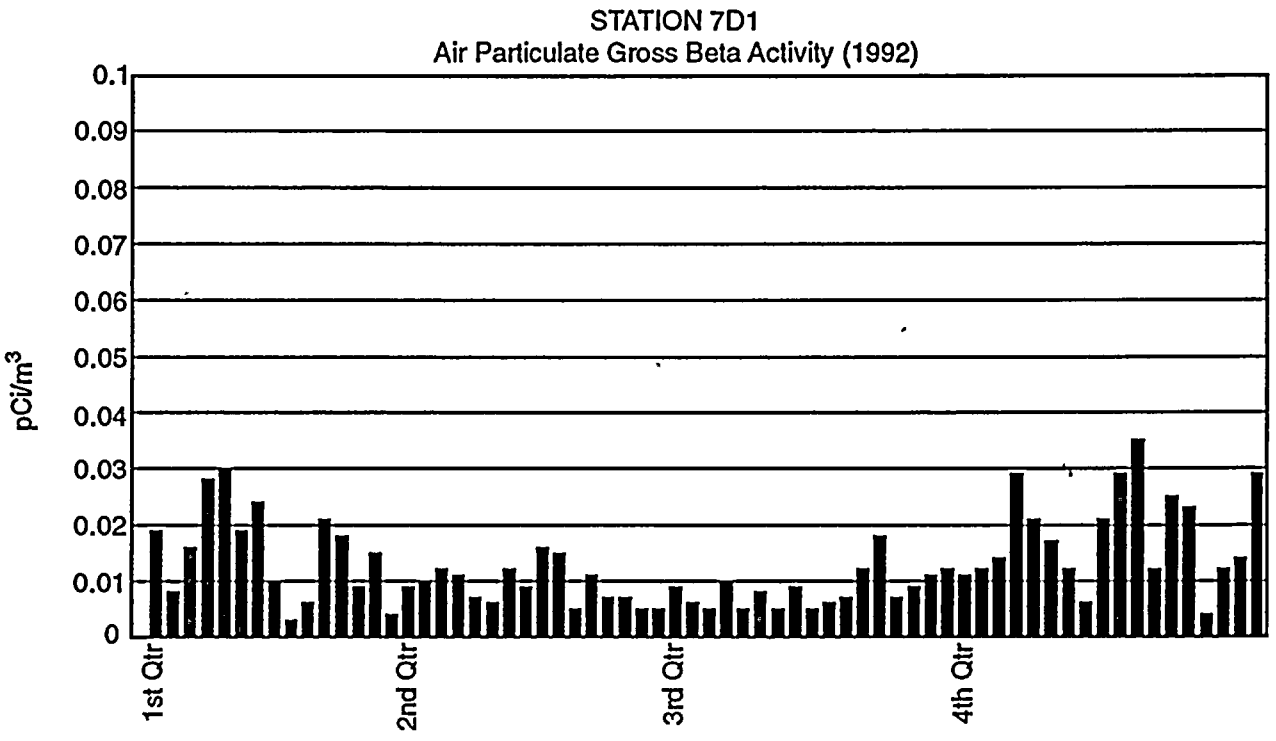

Figure 5. Continued.

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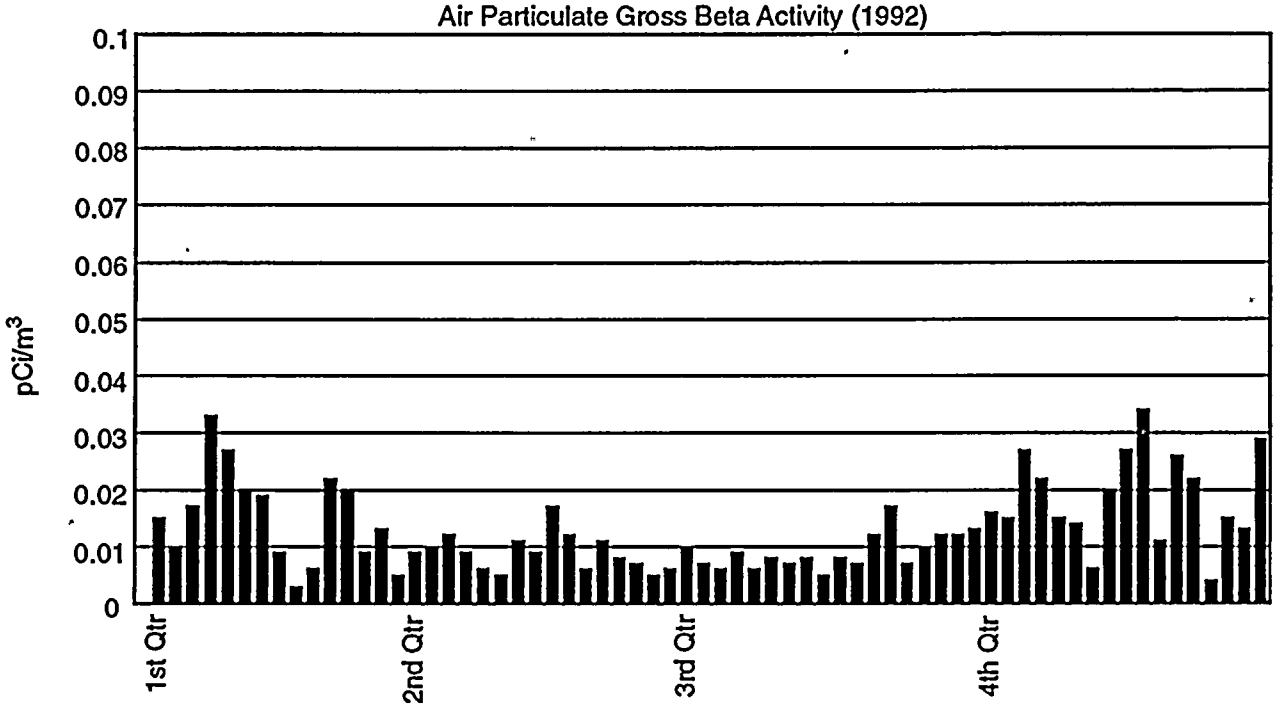

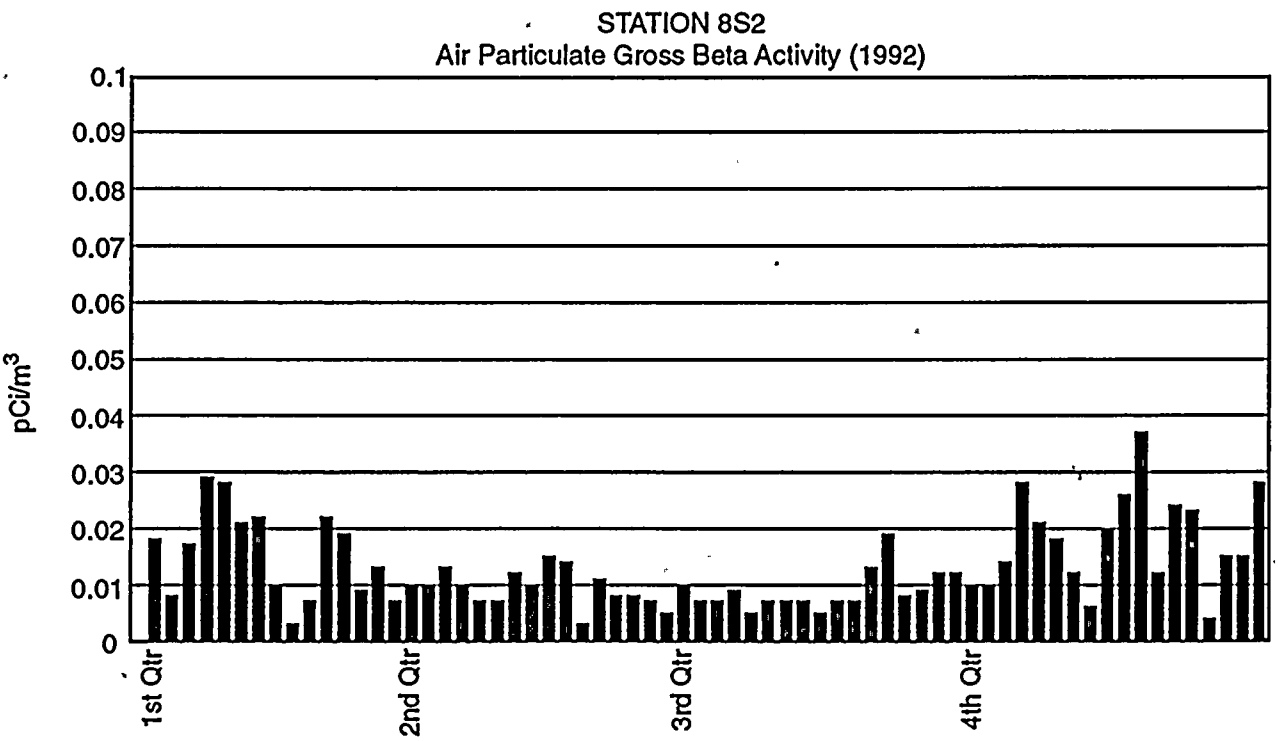

Figure 5. Continued.

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Abalone: At station DCM, a black abalone sample collected in the fourth quarter contained Co-58 (3.19E1 pCi/kg). At station PON, a red abalone sample collected in the second quarter contained Cs-137 (4.30E0 pCi/kg).

Both activity concentrations detected were well below reporting levels listed in Table 6.

California mussels: Co-60 was detected in mussels collected at station DCM and special interest station PON. Co-58 (4.48E1 pCi/kg) was detected in only one sample, a fourth quarter sample from station DCM. No Co-58 or Co-60 were detected in mussel samples from control station 7C2 or special interest station POS.

The activity concentration of Co-60 in samples with positively detected activity from station DCM ranged from 1.59E1 to 2.11E1 pCi/kg with a mean of 1.85E1 pCi/kg. At station PON, Co-60 activity ranged from 3.14E1 to 3.22E1 pCi/kg with a mean of 3.18E1 pCi/kg.

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

Fish: Cs-137 was the principal radionuclide detected in fish samples collected from stations 7D3 and DCM. Its value ranged from 3.32E0 to 8.31E0 pCi/kg with a mean of 6.71E0 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 68 algae samples (iridaea and bull kelp) was collected and analyzed from stations DCM, 7C2, PON, and POS. Co-58 and Co-60 were the main radionuclides found in the algae samples with the exception of one sample collected from station POS which contained Cs-137 (7.23E0 pCi/kg).

Iridaea samples collected in the second, third and fourth quarters from station DCM were found to contain Co-58 (range 5.82E0 – 5.69E2 pCi/kg; mean 1.95E2 pCi/kg) and Co-60 (range 1.07E1 – 5.88E1 pCi/kg; mean 2.68E1 pCi/kg). All other iridaea samples contained natural radioactivity.

Bull kelp from stations DCM and POS collected in the third quarter were found to contain Co-58 only (range 9.55E0 – 3.20E2 pCi/kg; mean 1.49E2 pCi/kg). All other kelp samples contained natural radioactivity.

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 2.14E1 pCi/kg Cs-137 (based on dry weight); the sample from DCM contained 1.81E1 pCi/kg. The Cs-137 values were 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 environmental medium.

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.

Section 7

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)
1992	0.013 (0.003-0.037)	0.014 (0.004-0.040)

Comparing the preoperational (1981-1984) and the operational (1985-1992) 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.

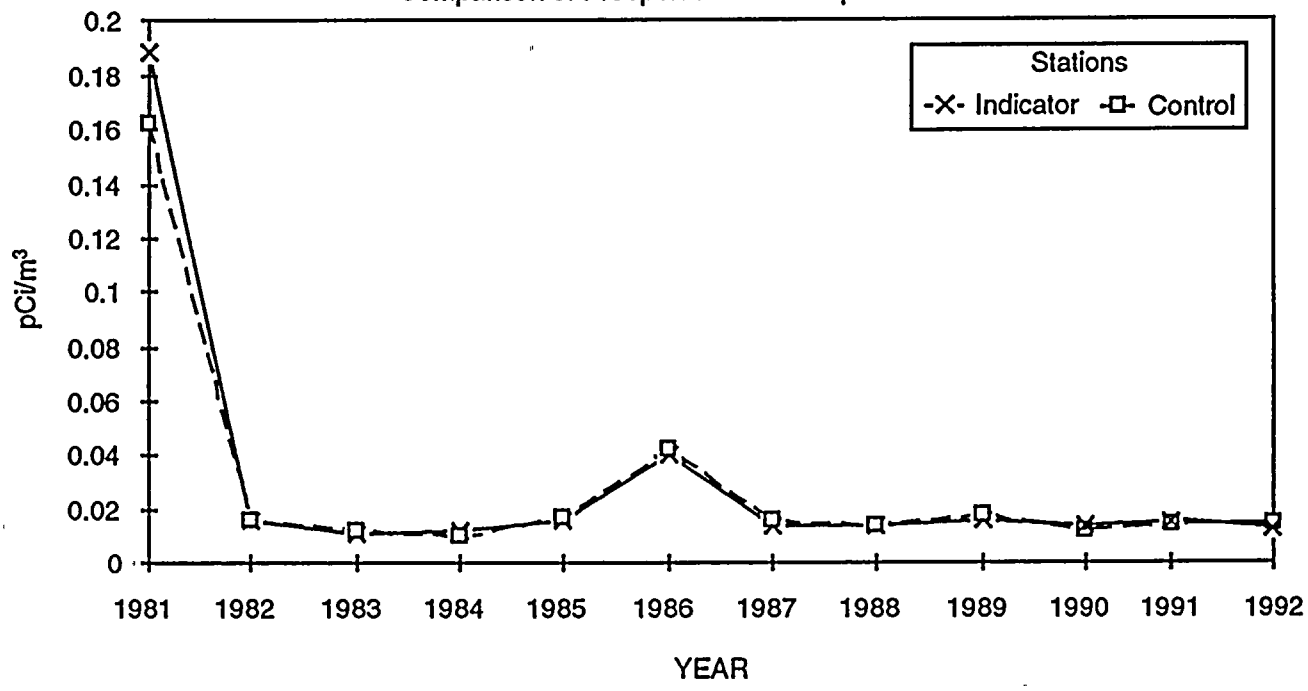

Figure 6

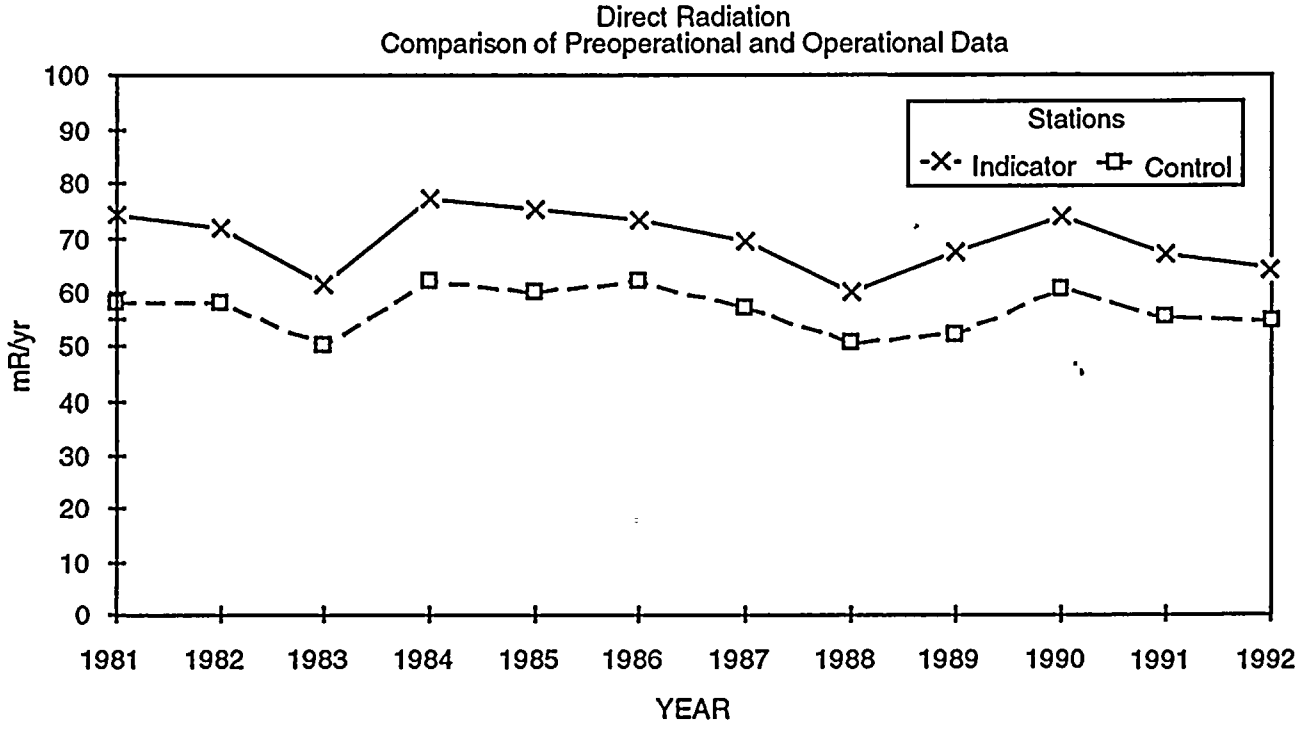

Figure 7

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 those 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 (1985-1992) 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 from 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.

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 (1985-1992) contained only naturally occurring radioactivity. 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

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
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
1992	64.5 (40.4-92.5)	54.8

* If no range is given this implies that there is only 1 station.

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 (1985-1992) 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 was detected in one outfall water sample in 1987 (6.21E2 pCi/L) and in a fourth quarter sample in 1989 (8.65E3 pCi/L). No tritium was detected in all other samples collected during the operational years. In 1992, Co-58 (3.09E0 pCi/L) was detected in a fourth quarter sample. All activity concentrations of detected nuclides were well below the reporting levels.

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 1992 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)
1992	7.6 (7.4-7.8)	None detected	5.8 (3.3-8.3)

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

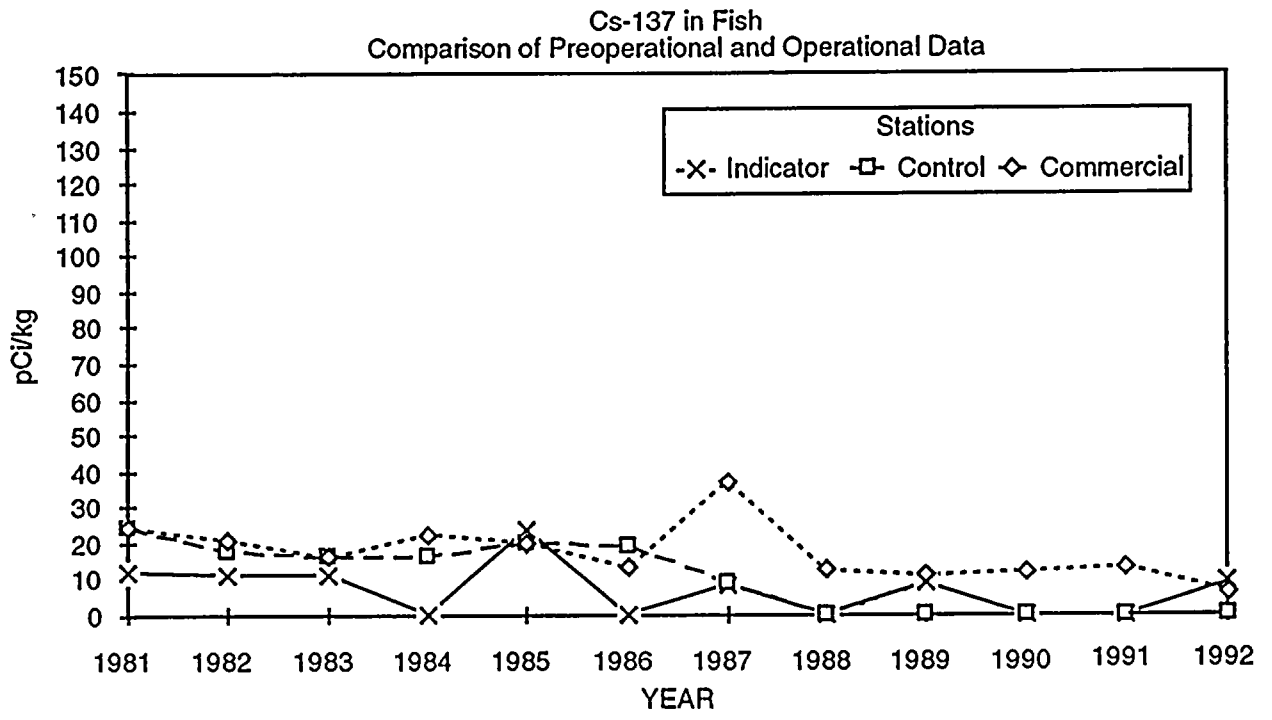

Figure 8

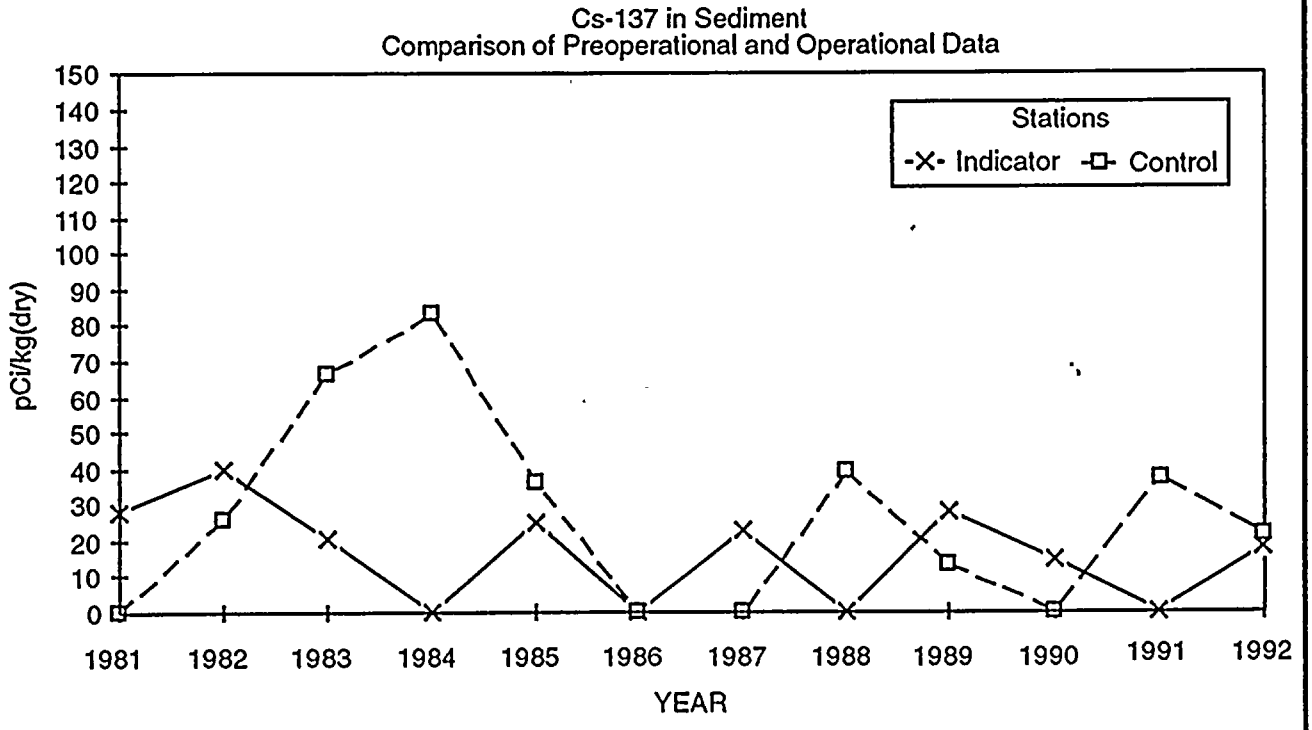

Figure 9

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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 1985-1992 some plant-related nuclides, namely, Co-58 and Co-60 were detected in abalone samples. They were as follows:

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
1992	Co-58	32 (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
1992	Co-58	45 (1 sample)	None detected
	Co-60	19 (16-21)	None detected

* Contained in the same sample.

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
1992	Co-58	204 (6-569)	None detected
	Co-60	27 (11-59)	None detected

* Contained in the same sample.

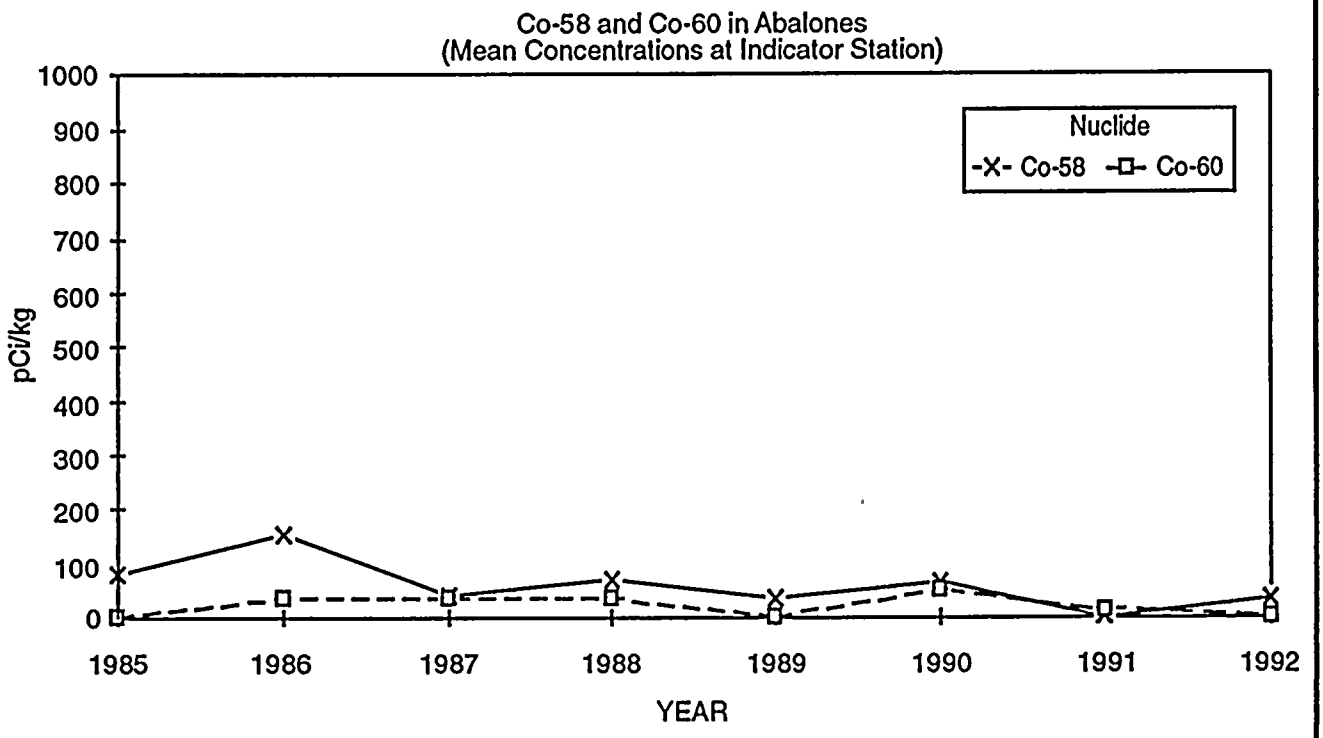

Figure 10

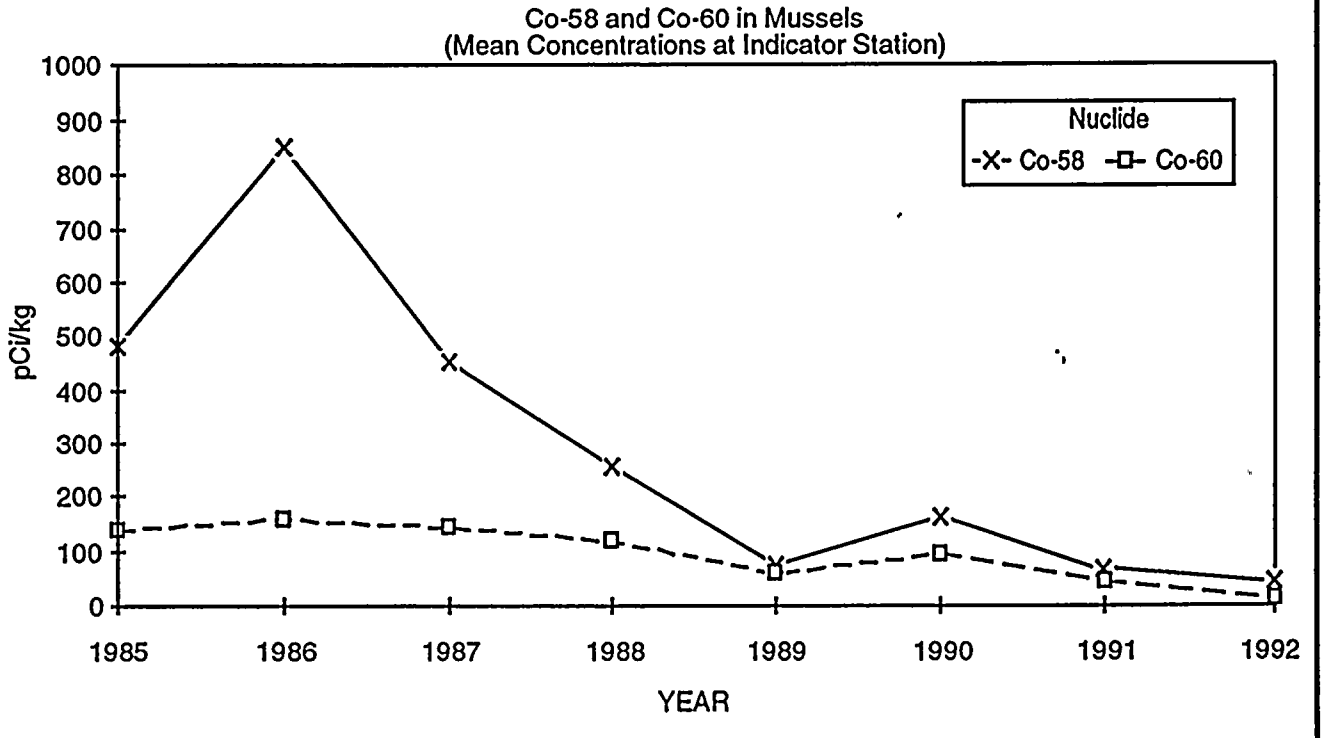

Figure 11

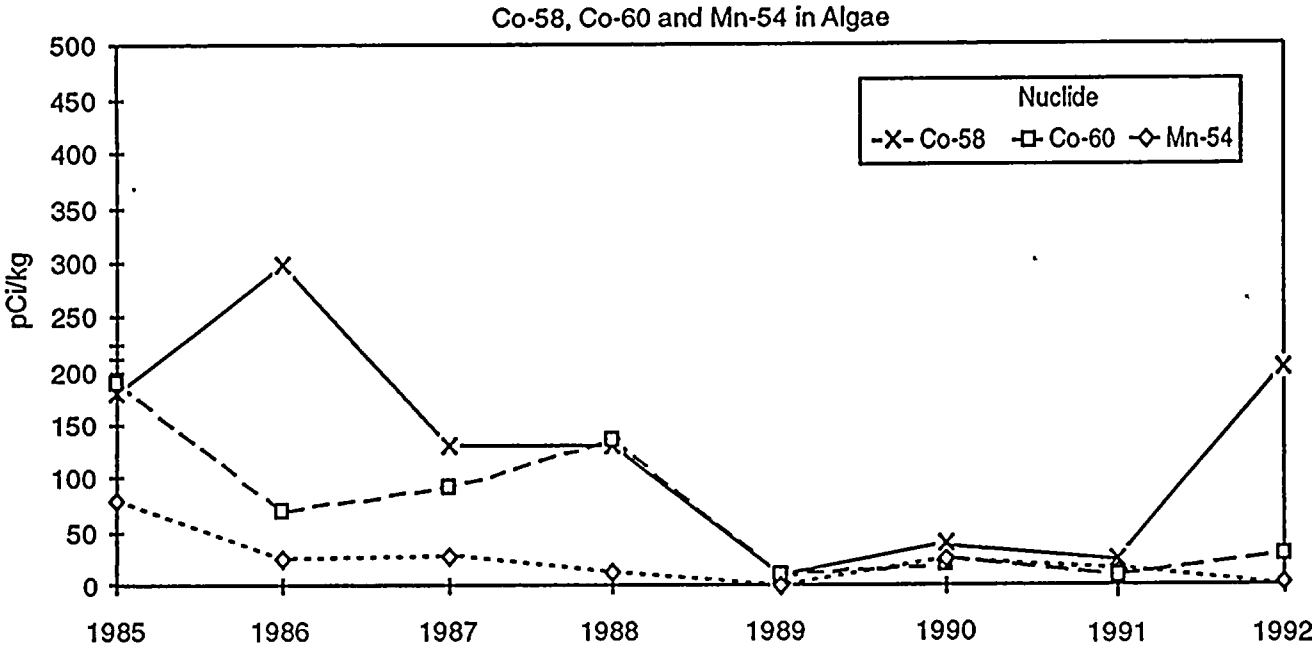

Figure 12

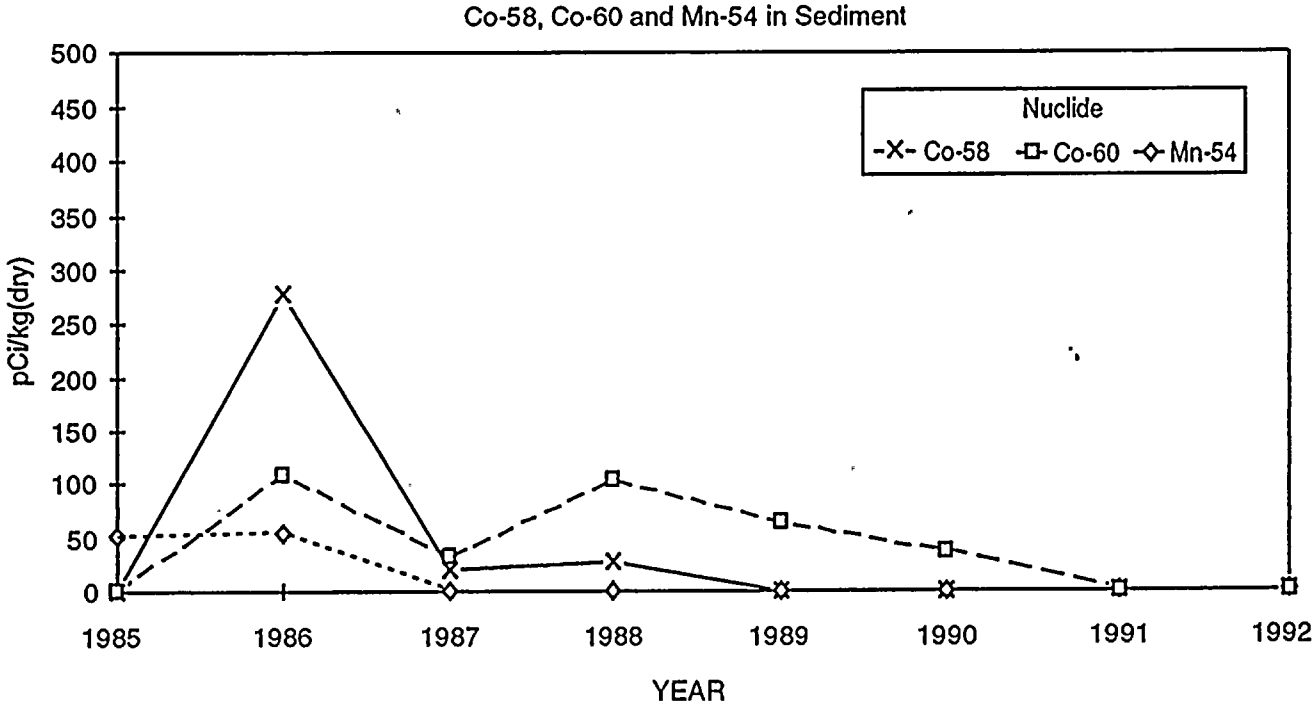

Figure 13

60006551/G2/TI94A

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 isotopes 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)
1992	Cs-137	18 (1 sample)	21 (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.

Besides Cs-137, sediment samples collected at indicator station DCM from 1985 to 1990 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. None of these three isotopes were detected in 1992. 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.

Section 8

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. No sample was collected at station 1S1 for the collection period (February 18–24, 1992) because the fuse blew out shortly after the exchange was made.

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 98.8 percent (i.e. on the average, all samplers were up and running 98.8 percent of the time).

Table 16

Diablo Canyon Power Plant 1992 Annual Report
Summary of Air Sampler Unavailability

Station	Collection Period	Problem Description
0S2	02/12/92-02/18/92	Power outage.
0S2	02/18/92-02/24/92	Power outage.
0S2	10/08/92-10/14/92	Time lost due to equipment failure.
1S1	02/12/92-02/18/92	Power outage.
1S1	02/18/92-02/24/92	No sample collected due to equipment failure.
1S1	02/24/92-02/28/92	Power outage.
2F2	07/15/92-07/22/92	Time lost due to equipment failure.
7D1	04/30/92-05/06/92	Time lost due to equipment failure.
7D1	05/06/92-05/12/92	Time lost due to equipment failure.
7D1	05/12/92-05/18/92	Time lost due to equipment failure.
8S2	05/18/92-05/22/92	Time lost due to equipment failure.
MT1	03/17/92-03/23/92	Time lost due to equipment failure.

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 7C2, perch was unavailable for collection during the first and fourth quarters and rockfish during the first quarter. During

the first quarter red abalone was unavailable at station 7C2. During the second quarter black abalone was unavailable at stations 7C2 and POS. During the fourth quarter red abalone was unavailable at stations 7C2 and DCM. Mussels were unavailable at station 7C2 during the second quarter, at station POS during the second and third quarters, and at station PON during the fourth quarter.

Attempts were made to sample monthly for bull kelp and quarterly for iridaea. At station PON, bull kelp was available only in February, April and November. At station DCM, bull kelp was available only in July, August and September; iridaea was unavailable during the first quarter. At station 7C2, iridaea was unavailable during the second quarter. Bull kelp blade was not present on kelp collected from station DCM in July and from station PON in September.

TERRESTRIAL SAMPLES

Vegetative greens are collected monthly at three stations: 5F2, 7G1, and 7C1. Due to seasonal unavailability vegetative greens were not collected at station 2F2 in November and at station 7G1 in June and December.

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 5-323

Location of Facility: San Luis Obispo, California (County, State) — Report Period: 1/1/92 - 12/31/92

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection[a] (LLD)	Indicator with Highest Annual Mean: Name, Distance and Direction	Indicator 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 (24)						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, La	2.93E1[c]			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) A priori LLD not met due to elasped time between collection and count date. Value listed is worst case. Table B-6 gives all samples for which required LLDs were not met.

Table A-1b

Environmental Radiological Monitoring Program Summary

Name of Facility	Diablo Canyon Power Plant	Docket No.	50-275 and 5-323
Location of Facility	San Luis Obispo, California (County, State)	Report Period.	1/1/92 - 12/31/92

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection[a] (LLD)	Locations[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, La			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 5-323
Location of Facility	San Luis Obispo, California (County, State)	Report Period.	1/1/92 - 12/31/92

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection[a] (LLD)	Locations[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, La			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 5-323

Location of Facility: San Luis Obispo, California (County, State) — Report Period.: 1/1/92 - 12/31/92

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection[a] (LLD)	Locations[c] Name, Distance and Direction	Mean[b] Range[b]	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			3.09E0 (1/12)	
	60Co			None detected	
	65Zn			None detected	
	95Zr			None detected	
	95Nb			None detected	
	131I			None detected	
	134Cs			None detected	
	137Cs			None detected	
	140Ba, La			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 5-323
Location of Facility	San Luis Obispo, California (County, State)	Report Period.	1/1/92 - 12/31/92

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection[a] (LLD)	Indicator 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]			
Airborne (pCi/m^3)	131I (cartridge) (515)				None detected	None detected	0
	Gross Beta (air particulates) (515)		Sta. 5F1 11.2 mi, 68°	1.3E-2 3.0E-3–3.5E-2	1.3E-2(461/461) 3.0E-3–3.7E-2	1.4E-2(54/54) 4.0E-3–4.0E-2	0
	Gamma Isotopic (air particulates) (515)				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 5-323

Location of Facility: San Luis Obispo, California (County, State) — Report Period: 1/1/92 - 12/31/92

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 Locations Mean[b] Range[b]	All Control Locations Mean[b] Range[b]	Number of Reportable Occurrences
Fish (pCi/L)	Gamma Isotopic (13)		Sta. DCM 0.2 mi., 270°	Sta. DCM	Sta. 7C2	0
	54Mn			None detected	None detected	
	59Fe	3.58E2[d]		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			7.61E0(2/8) 7.40E0–7.82E0	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 station location for this sample type.
(d) A priori LLD met due to elasped time between collection and count dates. Value listed is worst case. Table B-6 gives all samples for which required LLD's were not met.

Table A-4

Environmental Radiological Monitoring Program Summary

Name of Facility	Diablo Canyon Power Plant	Docket No.	50-275 and 5-323
Location of Facility	San Luis Obispo, California (County, State)	Report Period.	1/1/92 - 12/31/92

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 Locations Mean[b] Range[b]	All Control Locations Mean[b] Range[b]	Number of Reportable Occurrences
Abalone (pCi/L wet)	Gamma Isotopic (12)		Sta. DCM 0.2 mi., 270°	Sta. DCM	Sta. 7C2	0
	54Mn			None detected	None detected	
	59Fe	3.01E2[d]		None detected	None detected	
	58Co			3.19E1(1/7)	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 station location for this sample type.
(d) A priori LLD not met due to elasped time between collection and count date. Value listed is worst case. Table B-6 gives all samples for which required LLDs were not met.

Table A-5

Environmental Radiological Monitoring Program Summary

Name of Facility: Diablo Canyon Power Plant — Docket No.: 50-275 and 5-323

Location of Facility: San Luis Obispo, California (County, State) — Report Period.: 1/1/92 - 12/31/92

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 Locations Mean[b] Range[b]	All Control Locations Mean[b] Range[b]	Number of Reportable Occurrences
Mussels (pCi/L wet)	Gamma Isotopic (7)		Sta. DCM 0.2 mi., 270°	Sta. DCM	Sta. 7C2	0
	54Mn			None detected	None detected	
	59Fe			None detected	None detected	
	58Co			4.48E1(1/4)	None detected	
	60Co			1.85E1(2/4) 1.59E1–2.11E1	None detected 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 station 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 5-323
Location of Facility	San Luis Obispo, California (County, State)	Report Period.	1/1/92 - 12/31/92

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 Locations Mean[b] Range[b]	All Control Locations Mean[b] Range[b]	Number of Reportable Occurrences
Algae (pCi/L wet)	Gamma Isotopic (40)		Sta. DCM 0.2 mi., 270°	Sta. DCM	Sta. 7C2	0
	54Mn			None detected	None detected	
	59Fe			None detected	None detected	
	57Co			None detected	None detected	
	58Co			2.04E2(5/13) 5.82E0–5.69E2	None detected None detected	
	60Co			2.68E1(3/13) 1.07E1–5.88E1	None detected None detected	
	131I			None detected	None detected	
	110Ag			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.
(c) Only one station 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 5-323

Location of Facility: San Luis Obispo, California (County, State) — Report Period: 1/1/92 - 12/31/92

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 Locations Mean[b] Range[b]	All Control Locations Mean[b] Range[b]	Number of Reportable Occurrences
Sediment (pCi/L wet)	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			1.81E1(1/1)	2.14E1(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 station 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 5-323
Location of Facility	San Luis Obispo, California (County, State)	Report Period.	1/1/92 - 12/31/92

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection[a] (LLD)	Indicator 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]			
Milk (pCi/L)	131I (12)					Sta. 5F2 None detected	0
	Gamma Isotopic (11)						
	134Cs					None detected	
	137Cs					None detected	
	140Ba					None detected	
	140La					None detected	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-9

Environmental Radiological Monitoring Program Summary

Name of Facility	Diablo Canyon Power Plant	Docket No.	50-275 and 5-323
Location of Facility	San Luis Obispo, California (County, State)	Report Period.	1/1/92 - 12/31/92

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection[a] (LLD)	Indicator 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/L)	Gamma Isotopic (33)				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 — Docket No.: 50-275 and 5-323

Location of Facility: San Luis Obispo, California (County, State) — Report Period: 1/1/92 - 12/31/92

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection[a] (LLD)	Indicator with Highest Annual Mean: Name, Distance and Direction	Indicator 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
Direct radiation (mR)	TLD Packet[c] (384)	3 mR/qtr	Sta. 5S1 0.4 mi, 58°	23.1 mR/qtr (12/12) 21.1–25.4 mR/qtr 92.5 mR/yr	16.1 mR/qtr (372/372) 10.1–23.1 mR/qtr 64.5 mR/yr (372/373) 40.4–92.5 mR/yr	Sta. 5F2 13.7 mR/qtr (12/12) 11.8–16.1 mR/qtr 54.8 mR/yr	0

(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 1992 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.	8.00	7.00	8.35	1.14	0.96
		Aug.	3.03	3.00	3.09	1.01	0.98
	Gross Beta	Mar.	4.50	4.10	4.23	1.10	1.06
		Aug.	7.50	6.90	7.20	1.09	1.04
	Cs-137	Mar.	1.67	1.00	1.10	1.67	1.52
		Aug.	2.00	1.80	1.97	1.11	1.02
	Sr-90	Mar.	1.57	1.50	1.46	1.05	1.08
		Aug.	2.37	2.50	2.43	0.95	0.98
Milk	I-131	Apr.	8.43	7.80	7.85	1.08	1.07
		Sep.	1.13	1.00	1.01	1.13	1.12
	Cs-137	Apr.	4.50	3.90	4.03	1.15	1.12
		Sep.	1.67	1.50	1.61	1.11	1.04
	K-40	Apr.	1.62	1.71	1.70	0.95	0.95
		Sep.	1.66	1.75	1.71	0.95	0.97
Water	H-3	Feb.	7.56	7.90	7.94	0.96	0.95
		Jun.	2.13	2.13	2.19	1.00	0.97
		Oct.	6.20	5.96	6.00	1.04	1.03
	Sr-89	Jan.	5.03	5.10	4.71	0.99	1.07
		May	2.67	2.90	2.81	0.92	0.95
	Sr-90	Jan.	1.97	2.00	1.93	0.98	1.02
		May	7.00	8.00	7.74	0.88	0.90
	I-131	Feb.	6.10	5.90	6.02	1.03	1.01
		Aug.	4.50	4.50	4.59	1.00	0.98
	Co-60	Feb.	3.77	4.00	4.01	0.94	0.94
		Jun.	1.87	2.00	2.06	0.94	0.91
		Oct.	9.33	10.00	10.96	0.93	0.85
	Zn-65	Feb.	1.48	1.48	1.49	1.00	0.99
		Jun.	10.20	9.90	10.47	1.03	0.97
		Oct.	1.53	1.48	1.57	1.03	0.97
	Ru-106	Feb.	1.83	2.03	1.95	0.90	0.94
		Jun.	1.25	1.41	1.38	0.89	0.91
		Oct.	1.50	1.75	1.61	0.86	0.93
	Ba-133	Feb.	7.33	7.60	7.51	0.96	0.98
		Jun.	9.27	9.80	9.62	0.95	0.96
		Oct.	7.07	7.40	7.31	0.96	0.97
	Cs-134	Feb.	2.83	3.10	2.94	0.91	0.96
		Jun.	1.43	1.50	1.48	0.95	0.97
		Oct.	7.00	8.00	8.14	0.88	0.86

(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 outliers are excluded.

Table A-11 - Continued

Diablo Canyon Power Plant 1992 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.	5.07	4.90	5.07	1.03	1.00
		Jun.	1.53	1.50	1.61	1.02	0.95
		Oct.	7.07	8.00	8.73	0.88	0.81
	Gross Alpha	Jan.	1.30	3.00	2.40	0.43	0.54
		May	1.20	1.50	1.43	0.80	0.84
		Sep.	3.20	4.50	3.65	0.71	0.88
	Gross Beta	Jan.	3.17	3.00	2.99	1.06	1.06
		May	4.53	4.40	4.28	1.03	1.06
		Sep.	3.87	5.00	4.86	0.77	0.80
Performance Evaluation Sample	Gross Alpha	Apr.	2.67	4.00	3.98	0.67	0.67
		Oct.	1.97	2.90	2.84	0.68	0.69
	Gross Beta	Apr.	1.39	1.40	1.18	0.99	1.18
		Oct.	4.27	5.30	4.65	0.81	0.92
	Sr-89	Apr.	1.43	1.50	1.55	0.95	0.92
		Oct.	8.33	8.00	8.60	1.04	0.97
	Sr-90	Apr.	1.57	1.70	1.59	0.92	0.99
		Oct.	0.97	1.00	1.05	0.97	0.92
	Co-60	Apr.	5.17	5.60	5.64	0.92	0.92
		Oct.	1.27	1.50	1.53	0.85	0.83
	Cs-134	Apr.	2.33	2.40	2.34	0.97	1.00
		Oct.	4.67	5.00	5.33	0.93	0.88
	Cs-137	Apr.	2.33	2.20	2.32	1.06	1.00
		Oct.	7.00	8.00	8.86	0.88	0.79

(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 outliers are excluded.

Table A-12

NIST Summary Report For Blind Sample

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	

Table A-12 - Continued

NIST Summary Report For Blind Sample

Date	Number	Nuclide	TES/NIST Ratio	Geometry	Remark
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	
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
12/12/91	53	Sr-89	1.0485	LB5100	
	54	Sr-90	0.9834	LB5100	
03/02/92	55	I-131	0.9522	500B-0	
05/13/92	56	Zn-65	0.9861	AIRS-1	
	57	Y-88	0.9559	AIRS-1	
	58	Cs-134	0.9012	AIRS-1	
	59	Ce-144	0.9912	AIRS-1	
	60	Am-241	0.9827	AIRS-1	
09/02/92	61	Mn-54	1.0031	500B-0	
	62	Ce-144	1.0754	500B-0	
	63	Am-241	0.9856	500B-0	
Ratio Average			1.0075		
Sigma			0.0514		

Appendix B

SAMPLE ANALYTICAL RESULTS

Table B-1

Diablo Canyon Power Plant 1992 Annual Report
1992 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	92A31	01/15/92	ND	31±12	ND	ND
		92B33	02/19/92	ND	68±15	ND	ND
		92C54	03/18/92	ND	84±23	ND	ND
		92D62	04/20/92	ND	-6±9	ND	ND
		92E69	05/20/92	ND	1±22	ND	ND
		92F70	06/17/92	ND	15±10	ND	ND
		92H18	07/29/92	ND	71±21	ND	ND
		92I14	08/26/92	ND	12±17	ND	ND
		92J41	09/24/92	ND	142±19	ND	ND
		92K26	10/21/92	ND	183±22	ND	ND
		92L42	11/18/92	ND	(0.6±0.2)*	ND	ND
		92M48	12/16/92	ND	163±18	ND	ND

* MDA for this analysis is 1.35 pCi/L.

Table B-1 - Continued

Diablo Canyon Power Plant 1992 Annual Report
1992 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
Milk	5F2	92A58	01/21/92	ND	1460±52	—	ND
		92B32	02/19/92	ND	1240±45	—	ND
		92C38	03/17/92	ND	1300±51	—	ND
		92D63	04/20/92	ND	1320±48	—	ND
		92E66	05/18/92	ND	1330±76	—	ND
		92F61	06/15/92	ND	1330±36	—	ND
		92G86	07/21/92	ND	1180±51	—	ND
		92H83	08/18/92	ND	1310±52	—	ND
		92J07	09/22/92	ND	1350±41	—	ND
		92K18	10/20/92	ND	1340±36	—	ND
		92L13	11/17/92	ND	1620±56	—	ND
		92M36	12/15/92	ND	1260±50	—	ND

Table B-1 - Continued

Diablo Canyon Power Plant 1992 Annual Report
1992 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	92D39	01/08, 02/12, 03/11/92	ND	542±43	ND	—
		92G85	04/20, 05/13, 06/15/92	ND	484±29	ND	—
		92J06	07/08, 08/13, 09/09/92	ND	472±36	ND	—
		92M89	10/12, 11/10, 12/11/92	ND	449±28	ND	—
Surface Water	5S2	92B20	02/12/92	ND	ND	ND	—
		92E48	05/13/92	ND	9±13	ND	—
		92H68	08/13/92	ND	150±17	ND	—
		92K88	11/10/92	ND	173±17	ND	—
Abalone Meat	DCM	92B40	02/05/92	ND	2910±268	—	—
		92E03	04/28/92	ND	3150±356	—	—
		92J00	08/28/92	ND	2350±309	—	—
		92K82	10/26/92	58Co=31.9±12.4	2480±208	—	—
Bull Kelp**	DCM	92I18	08/26/92	ND	20900±511	—	—
		92M17	11/23/92	ND	19600±323	—	—

** No sample available in the first and second quarter 1992.

Table B-1 - Continued

Diablo Canyon Power Plant 1992 Annual Report
1992 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
Vegetable Greens	7G1	92B17	02/12/92	ND	2890±244	—	—
		92E50	05/13/92	ND	3730±228	—	—
		92H19	07/29/92	ND	1160±537	—	—
		92K86	11/10/92	ND	3450±138	—	—
Sediment	DCM	92L24	11/12/92	137Cs=18.1±6.0	9650±285	—	—

Section 9

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. 1981–1991. 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.

Table B-2

Diablo Canyon Power Plant 1992 Annual Report
Marine and Terrestrial Sample Data
Detected Nuclides (Nonnaturally Occurring) - pCi/kg Original

Description	Sta. No.	Collection Date	Sam. No.	58Co	60Co	Mn54	I131	Cs134	Cs137	Other
Black Abalone	DCM	10/26/92	92K82	3.19E+01±1.24E+01						
Red Abalone Meat	PON	04/28/92	92E00						4.30E+00±4.08E+00	
Bull Kelp Blade	DCM	09/21/92	92J16	3.20E+02±1.59E+01						
Bull Kelp Blade	POS	09/21/92	92J36	9.55E+00±3.24E+00						
Bull Kelp Pneumatocyst	DCM	09/21/92	92J17	1.17E+02±1.13E+01						
Bull Kelp Pneumatocyst	POS	04/22/92	92D97						7.23E+00±3.70E+00	
California Mussels	DCM	05/19/92	92E72		2.11E+01±7.74E+00					
California Mussels	DCM	10/26/92	92K80	4.48E+01±9.67E+00	1.59E+01±7.80E+00					
California Mussels	PON	05/19/92	92E70		3.14E+01±6.75E+00					
California Mussels	PON	07/17/92	92H01		3.22E+01±1.21E+01					
Iridaea	DCM	05/19/92	92E73	1.05E+01±5.49E+00	1.07E+01±4.53E+00					
Iridaea	DCM	07/17/92	92H00	5.82E+00±2.99E+00	1.08E+01±3.15E+00					
Iridaea	DCM	10/26/92	92K81	5.69E+02±1.23E+01	5.88E+01±4.98E+00					
Perch	DCM	10/14/92	92L22						7.40E+00±2.79E+00	
Rockfish	DCM	10/14/92	92L23						7.82E+00±1.94E+00	
Commercial Rock Cod	7D3	12/16/92	92M53						3.32E+00±1.89E+00	
Commercial Salmon	7D3	03/25/92	92C66						8.31E+00±3.60E+00	
Sediment*	7C2	11/23/92	92M33						2.14E+01±5.87E+00	
Sediment*	DCM	11/17/92	92L24						1.81E+01±5.97E+00	
Outfall**	OUT	11/10/92	92K87	3.09E+00±1.46E+00						

* pCi/kg dry weight
** pCi/L

Table B-3

Diablo Canyon Power Plant 1992 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
12/30/91 - 01/03/92	282.6	01/09/92	.014	.002	
01/03 - 01/08/92	349.4	01/13/92	.009	.002	
01/08 - 01/15/92	485.0	01/24/92	.017	.002	
01/15 - 01/22/92	486.2	01/30/92	.037	.004	
01/22 - 01/29/92	498.4	02/08/92	.029	.003	
01/29 - 02/05/92	497.4	02/21/92	.022	.002	
02/05 - 02/12/92	496.1	02/22/92	.018	.002	
02/12 - 02/19/92	502.3	03/02/92	.004	.001	
02/19 - 02/26/92	500.9	03/08/92	.009	.001	
02/26 - 03/04/92	501.6	03/09/92	.024	.002	
03/04 - 03/11/92	482.2	03/21/92	.006	.001	
03/11 - 03/18/92	496.5	03/22/92	.013	.001	
03/18 - 03/25/92	493.0	03/29/92	.004	.001	
03/25 - 04/01/92	503.3	04/08/92	.009	.001	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
12/30/91 - 04/01/92	05/01/92	ND	

1 Unless specified, Iodene-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 1992 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
04/01/92 - 04/08/92	482.5	04/14/92	.011	.001	
04/08 - 04/15/92	498.2	04/19/92	.011	.001	
04/15 - 04/22/92	500.3	04/25/92	.009	.001	
04/22 - 04/29/92	485.1	05/07/92	.011	.001	
04/29 - 05/06/92	502.6	05/13/92	.009	.001	
05/06 - 05/13/92	523.9	05/20/92	.016	.002	
05/13 - 05/20/92	506.7	05/22/92	.013	.001	
05/20 - 05/27/92	510.5	06/04/92	.012	.001	
05/27 - 06/03/92	513.7	06/16/92	.006	.001	
06/03 - 06/10/92	497.8	06/18/92	.006	.001	
06/10 - 06/17/92	514.6	06/19/92	.005	.001	
06/17 - 06/24/92	517.5	06/30/92	.008	.001	
06/24 - 07/01/92	302.0	07/10/92	.008	.001	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
04/01/92 - 07/01/92	07/20/92	ND	

1 Unless specified, Iodene-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 1992 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
07/01/92 - 07/08/92	459.8	07/10/92	.007	.001	
07/08 - 07/15/92	463.7	07/22/92	.008	.001	
07/15 - 07/22/92[3]	108.9	08/01/92	.005	.003	
07/22 - 07/29/92	407.7	08/03/92	.006	.001	
07/29 - 08/05/92	440.6	08/18/92	.009	.001	
08/05 - 08/12/92	456.0	08/18/92	.005	.001	
08/12 - 08/19/92	461.8	08/22/92	.007	.001	
08/19 - 08/26/92	463.3	09/01/92	.013	.001	
08/26 - 09/02/92	474.7	09/04/92	.018	.002	
09/02 - 09/09/92	474.7	09/17/92	.007	.001	
09/09 - 09/16/92	475.0	09/19/92	.014	.002	
09/16 - 09/23/92	474.5	09/28/92	.011	.002	
09/23 - 09/30/92	475.4	10/07/92	.008	.001	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
07/01/92 - 09/30/92	10/21/92	ND	

1 Unless specified, Iodene-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 1992 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
09/30/92 - 10/07/92	480.3	10/14/92	.011	.001	
10/07 - 10/14/92	482.5	10/21/92	.027	.003	
10/14 - 10/21/92	474.3	10/27/92	.021	.002	
10/21 - 10/28/92	475.9	11/06/92	.018	.002	
10/28 - 11/04/92	481.1	11/12/92	.008	.001	
11/04 - 11/10/92	429.3	11/17/92	.022	.002	
11/10 - 11/13/92	213.6	11/17/92	.039	.004	
11/13 - 11/18/92	333.4	11/25/92	.040	.004	
11/18 - 11/25/92	472.8	12/10/92	.012	.001	
11/25 - 12/02/92	494.6	12/10/92	.030	.003	
12/02 - 12/09/92	463.1	12/18/92	.010	.001	
12/09 - 12/16/92	481.7	12/29/92	.011	.001	
12/16 - 12/23/92	477.5	12/30/92	.017	.002	
12/23 - 12/30/92	485.3	01/08/93	.023	.002	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
09/30/92 - 12/30/92	01/27/93	ND	

1 Unless specified, Iodene-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 1992 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
12/31/91 - 01/03/92	197.6	01/09/92	.022	.003	
01/03 - 01/09/92	402.6	01/14/92	.009	.001	
01/09 - 01/15/92	413.0	01/24/92	.017	.002	
01/15 - 01/21/92	415.4	01/30/92	.033	.003	
01/21 - 01/27/92	414.6	01/30/92	.027	.003	
01/27 - 01/31/92	273.5	02/09/92	.020	.002	
01/31 - 02/06/92	410.5	02/21/92	.023	.002	
02/06 - 02/12/92	396.1	02/22/92	.009	.001	
02/12 - 02/18/92	404.0	03/02/92	.003	.001	
02/18 - 02/24/92	394.7	03/08/92	.006	.001	
02/24 - 02/28/92	268.7	03/08/92	.019	.002	
02/28 - 03/05/92	402.7	03/11/92	.021	.002	
03/05 - 03/11/92	410.7	03/22/92	.008	.001	
03/11 - 03/17/92	404.2	03/22/92	.015	.002	
03/17 - 03/23/92[3]	417.1	03/29/92	.004	.001	
03/23 - 03/27/92	253.5	04/04/92	.009	.002	
03/27 - 04/02/92	433.2	04/08/92	.009	.001	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
12/31/91 - 04/02/92	05/01/92	ND	

1 Unless specified, Iodene-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 1992 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
04/02/92 - 04/08/92	413.7	04/14/92	.013	.002	
04/08 - 04/14/92	480.6	04/19/92	.011	.001	
04/14 - 04/20/92	470.9	04/24/92	.008	.001	
04/20 - 04/24/92	282.0	04/28/92	.008	.002	
04/24 - 04/30/92	398.8	05/07/92	.012	.002	
04/30 - 05/06/92	387.7	05/13/92	.009	.001	
05/06 - 05/12/92	401.3	05/20/92	.014	.002	
05/12 - 05/18/92	423.1	05/22/92	.013	.002	
05/18 - 05/22/92	255.7	05/28/92	.008	.002	
05/22 - 05/28/92	416.8	06/04/92	.009	.001	
05/28 - 06/03/92	383.7	06/16/92	.008	.001	
06/03 - 06/09/92	419.8	06/17/92	.007	.001	
06/09 - 06/15/92	390.1	06/19/92	.006	.001	
06/15 - 06/19/92	258.8	06/26/92	.005	.001	
06/19 - 06/25/92	400.4	07/01/92	.009	.001	
06/25 - 07/01/92	403.4	07/10/92	.006	.001	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
04/02/92 - 07/01/92	07/20/92	ND	

1 Unless specified, Iodene-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 1992 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
07/01/92 - 07/07/92	408.5	07/15/92	.006	.001	
07/07 - 07/13/92	401.2	07/21/92	.010	.001	
07/13 - 07/17/92	284.3	07/22/92	.004	.001	
07/17 - 07/23/92	389.9	08/01/92	.007	.001	
07/23 - 07/29/92	423.5	08/03/92	.006	.001	
07/29 - 08/04/92	392.1	08/12/92	.008	.001	
08/04 - 08/10/92	410.7	08/18/92	.004	.001	
08/10 - 08/14/92	269.0	08/21/92	.006	.001	
08/14 - 08/20/92	409.1	08/26/92	.007	.001	
08/20 - 08/26/92	409.3	09/01/92	.013	.002	
08/26 - 09/01/92	428.1	09/04/92	.018	.002	
09/01 - 09/04/92	186.7	09/13/92	.005	.002	
09/04 - 09/10/92	415.2	09/17/92	.009	.001	
09/10 - 09/16/92	426.1	09/19/92	.011	.001	
09/16 - 09/22/92	405.9	09/28/92	.012	.002	
09/22 - 09/28/92	422.2	10/07/92	.012	.002	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
07/01/92 - 09/28/92	10/20/92	ND	

1 Unless specified, Iodene-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 1992 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
09/28/92 - 10/02/92	267.4	10/14/92	.013	.002	
10/02 - 10/08/92	422.3	10/21/92	.015	.002	
10/08 - 10/14/92	416.4	10/29/92	.027	.003	
10/14 - 10/20/92	420.8	10/27/92	.020	.002	
10/20 - 10/26/92	417.8	11/03/92	.016	.002	
10/26 - 10/30/92	280.1	11/06/92	.014	.002	
10/30 - 11/03/92	283.5	11/13/92	.008	.002	
11/03 - 11/09/92	390.9	11/17/92	.021	.002	
11/09 - 11/13/92	278.0	11/17/92	.028	.003	
11/13 - 11/19/92	415.1	11/25/92	.032	.003	
11/19 - 11/25/92	426.0	12/10/92	.011	.001	
11/25 - 12/01/92	420.0	12/10/92	.027	.003	
12/01 - 12/07/92	431.1	12/18/92	.025	.003	
12/07 - 12/11/92	262.5	12/18/92	.005	.001	
12/11 - 12/17/92	421.0	12/29/92	.017	.002	
12/17 - 12/23/92	412.1	12/30/92	.015	.002	
12/23 - 12/29/92	418.8	01/08/93	.032	.003	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
09/28/92 - 12/29/92	01/27/93	ND	

1 Unless specified, Iodene-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 1992 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
12/31/92- 01/03/92	210.4	01/09/92	.018	.002	
01/03 - 01/09/92	387.8	01/15/92	.008	.001	
01/09 - 01/15/92	395.4	01/24/92	.018	.002	
01/15 - 01/21/92	397.6	01/30/92	.030	.003	
01/21 - 01/27/92	393.7	01/30/92	.027	.003	
01/27 - 01/31/92	264.6	02/09/92	.020	.002	
01/31 - 02/06/92	391.6	02/21/92	.024	.003	
02/06 - 02/12/92	383.5	02/22/92	.010	.001	
02/12 - 02/18/92[4]	206.1	03/03/92	.004	.002	
02/18 - 02/24/92[4]	228.4	03/08/92	.008	.002	
02/24 - 02/28/92	257.1	03/09/92	.021	.003	
02/28 - 03/05/92	373.0	03/11/92	.019	.002	
03/05 - 03/11/92	381.7	03/22/92	.009	.001	
03/11 - 03/17/92	373.1	03/22/92	.014	.002	
03/17 - 03/23/92	393.5	03/29/92	.006	.001	
03/23 - 03/27/92	233.5	04/04/92	.009	.002	
03/27 - 04/02/92	413.2	04/08/92	.009	.001	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
12/31/91 - 04/02/92	05/11/92	ND	

1 Unless specified, Iodene-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 1992 Annual Report
Airborne Radioactivity
Station 0S2 (pCi/m^3) 2nd Quarter

Collection Period	Volume (m^3)	Counting Date	Gross Beta Activity	2Sigma	Gamma Scan[1] I-131
04/02/92 - 04/08/92	399.7	04/15/92	.012	.002	
04/08 - 04/14/92	550.9	04/19/92	.009	.001	
04/14 - 04/20/92	516.4	04/24/92	.006	.001	
04/20 - 04/24/92	260.1	04/28/92	.005	.002	
04/24 - 04/30/92	395.3	05/07/92	.013	.002	
04/30 - 05/06/92	356.5	05/13/92	.009	.001	
05/06 - 05/12/92	365.8	05/20/92	.017	.002	
05/12 - 05/18/92	388.6	05/22/92	.013	.002	
05/18 - 05/22/92	238.1	05/28/92	.004	.001	
05/22 - 05/28/92	392.9	06/04/92	.010	.001	
05/28 - 06/03/92	372.0	06/16/92	.007	.001	
06/03 - 06/09/92	409.2	06/18/92	.007	.001	
06/09 - 06/15/92	378.1	06/19/92	.006	.001	
06/15 - 06/19/92	257.0	06/27/92	.005	.001	
06/19 - 06/25/92	392.3	07/01/92	.010	.001	
06/25 - 07/01/92	395.5	07/10/92	.005	.001	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
04/02/92 - 07/01/92	07/28/92	ND	

1 Unless specified, Iodene-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

Diablo Canyon Power Plant 1992 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
07/01/92 - 07/07/92	405.2	07/16/92	.006	.001	
07/07 - 07/13/92	389.9	07/21/92	.009	.001	
07/13 - 07/17/92	281.4	07/22/92	.004	.001	
07/17 - 07/23/92	397.9	08/01/92	.007	.001	
07/23 - 07/29/92	425.9	08/03/92	.005	.001	
07/29 - 08/04/92	407.7	08/12/92	.008	.001	
08/04 - 08/10/92	428.2	08/18/92	.005	.001	
08/10 - 08/14/92	280.2	08/21/92	.005	.001	
08/14 - 08/20/92	426.1	08/26/92	.006	.001	
08/20 - 08/26/92	428.1	09/01/92	.013	.001	
08/26 - 09/01/92	452.2	09/04/92	.016	.002	
09/01 - 09/04/92	198.0	09/13/92	.006	.002	
09/04 - 09/10/92	431.2	09/17/92	.007	.001	
09/10 - 09/16/92	451.8	09/19/92	.011	.001	
09/16 - 09/22/92	428.7	09/28/92	.012	.002	
09/22 - 09/28/92	439.2	10/07/92	.011	.001	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
07/01/92 - 09/28/92	10/22/92	ND	

1 Unless specified, Iodene-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 1992 Annual Report
Airborne Radioactivity
Station 0S2 (pCi/m^3) 4th Quarter

Collection Period	Volume (m^3)	Counting Date	Gross Beta Activity	2Sigma	Gamma Scan[1] I-131
09/28/92 - 10/02/92	278.3	10/14/92	.013	.002	
10/02 - 10/08/92	415.5	10/21/92	.011	.001	
10/08 - 10/14/92	113.3	10/27/92	.036	.005	
10/14 - 10/20/92	418.5	10/27/92	.018	.002	
10/20 - 10/26/92	415.4	11/03/92	.016	.002	
10/26 - 10/30/92	297.3	11/07/92	.013	.002	
10/30 - 11/03/92	287.8	11/13/92	.006	.001	
11/03 - 11/09/92	405.8	11/18/92	.020	.002	
11/09 - 11/13/92	286.9	11/17/92	.025	.003	
11/13 - 11/19/92	436.2	11/25/92	.036	.004	
11/19 - 11/25/92	434.6	12/10/92	.010	.001	
11/25 - 12/01/92	445.9	12/10/92	.027	.003	
12/01 - 12/07/92	445.5	12/18/92	.023	.002	
12/07 - 12/11/92	276.1	12/18/92	.005	.001	
12/11 - 12/17/92	433.2	12/29/92	.015	.002	
12/17 - 12/23/92	424.0	12/30/92	.014	.002	
12/23 - 12/29/92	434.2	01/08/93	.028	.003	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
09/28/92 - 12/29/92	02/02/93	ND	

1 Unless specified, Iodene-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 1992 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
12/31/91 - 01/03/92	207.4	01/09/92	.017	.002	
01/03 - 01/09/92	398.8	01/15/92	.008	.001	
01/09 - 01/15/92	424.5	01/24/92	.015	.002	
01/15 - 01/21/92	426.2	01/30/92	.029	.003	
01/21 - 01/27/92	422.6	01/30/92	.025	.003	
01/27 - 01/31/92	285.4	02/09/92	.018	.002	
01/31 - 02/06/92	424.3	02/22/92	.021	.002	
02/06 - 02/12/92	418.7	02/22/92	.009	.001	
02/12 - 02/18/92[4]	119.8	03/03/92	.007	.003	
02/18 - 02/24/92[2]					
02/24 - 02/28/92[4]	105.6	03/09/92	.023	.004	
02/28 - 03/05/92	310.2	03/11/92	.019	.002	
03/05 - 03/11/92	312.8	03/22/92	.010	.001	
03/11 - 03/17/92	311.8	03/22/92	.013	.002	
03/17 - 03/23/92	370.8	03/29/92	.005	.001	
03/23 - 03/27/92	236.7	04/04/92	.008	.002	
03/27 - 04/02/92	403.8	04/08/92	.009	.001	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
12/31/91 - 04/02/92	05/11/92	ND	

1 Unless specified, Iodene-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 1992 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
04/02/92 - 04/08/92	383.9	04/15/92	.011	.001	
04/08 - 04/14/92	420.5	04/19/92	.010	.001	
04/14 - 04/20/92	414.3	04/24/92	.006	.001	
04/20 - 04/24/92	274.8	04/28/92	.014	.002	
04/24 - 04/30/92	384.8	05/07/92	.012	.002	
04/30 - 05/06/92	393.1	05/13/92	.009	.001	
05/06 - 05/12/92	398.0	05/20/92	.013	.002	
05/12 - 05/18/92	411.7	05/22/92	.010	.001	
05/18 - 05/22/92	256.2	05/28/92	.006	.002	
05/22 - 05/28/92	417.4	06/04/92	.011	.001	
05/28 - 06/03/92	384.9	06/16/92	.007	.001	
06/03 - 06/09/92	423.9	06/18/92	.007	.001	
06/09 - 06/15/92	397.7	06/19/92	.005	.001	
06/15 - 06/19/92	266.9	06/27/92	.005	.001	
06/19 - 06/25/92	399.6	07/01/92	.012	.002	
06/25 - 07/01/92	409.9	07/10/92	.006	.001	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
04/02/92 - 07/01/92	07/23/92	ND	

1 Unless specified, Iodene-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 1992 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
07/01/92 - 07/07/92	413.9	07/16/92	.006	.001	
07/07 - 07/13/92	390.5	07/21/92	.009	.001	
07/13 - 07/17/92	275.6	07/22/92	.005	.001	
07/17 - 07/23/92	381.2	08/01/92	.009	.001	
07/23 - 07/29/92	406.3	08/03/92	.006	.001	
07/29 - 08/04/92	387.1	08/12/92	.007	.001	
08/04 - 08/10/92	400.9	08/18/92	.006	.001	
08/10 - 08/14/92	264.8	08/21/92	.007	.001	
08/14 - 08/20/92	402.3	08/26/92	.007	.001	
08/20 - 08/26/92	402.1	09/01/92	.013	.002	
08/26 - 09/01/92	425.0	09/04/92	.018	.002	
09/01 - 09/04/92	189.0	09/13/92	.006	.002	
09/04 - 09/10/92	429.3	09/17/92	.009	.001	
09/10 - 09/16/92	427.0	09/19/92	.012	.001	
09/16 - 09/22/92	399.6	09/28/92	.010	.002	
09/22 - 09/28/92	418.0	10/07/92	.015	.002	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
07/01/92 - 09/28/92	10/22/92	ND	

1 Unless specified, Iodene-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 1992 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
09/28/92 - 10/02/92	264.1	10/14/92	.015	.002	
10/02 - 10/08/92	412.3	10/21/92	.015	.002	
10/08 - 10/14/92	406.5	10/27/92	.029	.003	
10/14 - 10/20/92	413.8	10/27/92	.020	.002	
10/20 - 10/26/92	407.0	11/03/92	.018	.002	
10/26 - 10/30/92	281.3	11/07/92	.014	.002	
10/30 - 11/03/92	273.5	11/13/92	.006	.001	
11/03 - 11/09/92	385.6	11/18/92	.021	.002	
11/09 - 11/13/92	273.2	11/17/92	.027	.003	
11/13 - 11/19/92	409.5	11/25/92	.035	.004	
11/19 - 11/25/92	410.1	12/10/92	.010	.001	
11/25 - 12/01/92	414.3	12/10/92	.025	.003	
12/01 - 12/07/92	426.9	12/18/92	.021	.002	
12/07 - 12/11/92	257.8	12/18/92	.004	.001	
12/11 - 12/17/92	668.7	12/29/92	.009	.001	
12/17 - 12/23/92	404.7	12/30/92	.016	.002	
12/23 - 12/29/92	408.8	01/08/93	.029	.003	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
09/28/92 - 12/29/92	02/02/93	ND	

1 Unless specified, Iodene-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 1992 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
12/31/91 - 01/03/92	210.1	01/09/92	.021	.003	
01/03 - 01/09/92	403.6	01/15/92	.008	.001	
01/09 - 01/15/92	425.2	01/24/92	.017	.002	
01/15 - 01/21/92	434.8	01/30/92	.032	.003	
01/21 - 01/27/92	436.4	01/30/92	.033	.003	
01/27 - 01/31/92	292.6	02/09/92	.022	.003	
01/31 - 02/06/92	428.8	02/21/92	.024	.003	
02/06 - 02/12/92	425.9	02/22/92	.010	.001	
02/12 - 02/18/92	435.4	03/02/92	.003	.001	
02/18 - 02/24/92	419.8	03/08/92	.005	.001	
02/24 - 02/28/92	288.4	03/08/92	.023	.003	
02/28 - 03/05/92	427.2	03/11/92	.021	.002	
03/05 - 03/11/92	429.0	03/22/92	.009	.001	
03/11 - 03/17/92	431.4	03/22/92	.014	.002	
03/17 - 03/23/92	453.0	03/29/92	.004	.001	
03/23 - 03/27/92	256.6	04/04/92	.007	.001	
03/27 - 04/02/92	451.2	04/08/92	.010	.001	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
12/31/91 - 04/02/92	05/01/92	ND	

1 Unless specified, Iodene-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 1992 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
4/02/92 - 04/08/92	402.3	04/15/92	.010	.001	
04/08 - 04/14/92	451.3	04/19/92	.011	.001	
04/14 - 04/20/92	414.1	04/24/92	.009	.001	
04/20 - 04/24/92	258.4	04/28/92	.007	.002	
04/24 - 04/30/92	438.6	05/07/92	.012	.002	
04/30 - 05/06/92	387.7	05/13/92	.009	.001	
05/06 - 05/12/92	413.2	05/20/92	.015	.002	
05/12 - 05/18/92	422.3	05/22/92	.014	.002	
05/18 - 05/22/92	274.3	05/28/92	.006	.001	
05/22 - 05/28/92	440.0	06/04/92	.010	.001	
05/28 - 06/03/92	395.2	06/16/92	.008	.001	
06/03 - 06/09/92	439.2	06/18/92	.007	.001	
06/09 - 06/15/92	392.0	06/19/92	.005	.001	
06/15 - 06/19/92	276.4	06/26/92	.005	.001	
06/19 - 06/25/92	415.0	07/01/92	.010	.001	
06/25 - 07/01/92	427.1	07/10/92	.006	.001	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
04/02/92 - 07/01/92	07/20/92	ND	

1 Unless specified, Iodene-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 1992 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
07/01/92 - 07/07/92	421.1	07/15/92	.006	.001	
07/07 - 07/13/92	404.8	07/21/92	.009	.001	
07/13 - 07/17/92	296.4	07/22/92	.005	.001	
07/17 - 07/23/92	393.6	08/01/92	.007	.001	
07/23 - 07/29/92	428.7	08/03/92	.005	.001	
07/29 - 08/04/92	412.4	08/12/92	.008	.001	
08/04 - 08/10/92	424.0	08/18/92	.007	.001	
08/10 - 08/14/92	277.1	08/21/92	.006	.001	
08/14 - 08/20/92	422.5	08/27/92	.007	.001	
08/20 - 08/26/92	426.1	09/01/92	.013	.001	
08/26 - 09/01/92	452.8	09/04/92	.019	.002	
09/01 - 09/04/92	189.7	09/13/92	.006	.002	
09/04 - 09/10/92	462.3	09/17/92	.009	.001	
09/10 - 09/16/92	480.0	09/19/92	.015	.002	
09/16 - 09/22/92	437.6	09/28/92	.012	.002	
09/22 - 09/28/92	478.7	10/07/92	.011	.001	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
07/01/92 - 09/28/92	10/19/92	ND	

1 Unless specified, Iodene-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 1992 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
09/28/92 - 10/02/92	294.6	10/06/92	.009	.001	
10/02 - 10/08/92	429.8	10/21/92	.016	.002	
10/08 - 10/14/92	426.9	10/29/92	.028	.003	
10/14 - 10/20/92	427.5	10/22/92	.023	.002	
10/20 - 10/26/92	428.5	11/03/92	.015	.002	
10/26 - 10/30/92	282.9	11/06/92	.013	.002	
10/30 - 11/03/92	280.7	11/13/92	.007	.001	
11/03 - 11/09/92	401.7	11/17/92	.023	.003	
11/09 - 11/13/92	286.6	11/17/92	.031	.003	
11/13 - 11/19/92	428.3	11/25/92	.035	.004	
11/19 - 11/25/92	428.1	12/10/92	.012	.002	
11/25 - 12/01/92	431.5	12/10/92	.028	.003	
12/01 - 12/07/92	441.7	12/18/92	.021	.002	
12/07 - 12/11/92	270.5	12/18/92	.005	.001	
12/11 - 12/17/92	433.4	12/29/92	.015	.002	
12/17 - 12/23/92	418.1	12/30/92	.017	.002	
12/23 - 12/29/92	428.0	01/08/93	.032	.003	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
09/28/92 - 12/29/92	01/19/93	ND	

1 Unless specified, Iodene-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 1992 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
12/31/92 - 01/03/92	201.7	01/07/92	.019	.003	
01/03 - 01/09/92	408.0	01/15/92	.008	.001	
01/09 - 01/15/92	411.4	01/24/92	.016	.002	
01/15 - 01/21/92	416.3	01/30/92	.028	.003	
01/21 - 01/27/92	412.0	01/30/92	.030	.003	
01/27 - 01/31/92	279.2	02/09/92	.019	.002	
01/31 - 02/06/92	409.5	02/21/92	.024	.003	
02/06 - 02/12/92	415.0	02/22/92	.010	.001	
02/12 - 02/18/92	419.1	03/02/92	.003	.001	
02/18 - 02/24/92	406.6	03/08/92	.006	.001	
02/24 - 02/28/92	278.3	03/09/92	.021	.002	
02/28 - 03/05/92	412.0	03/11/92	.018	.002	
03/05 - 03/11/92	418.5	03/22/92	.009	.001	
03/11 - 03/17/92	417.5	03/22/92	.015	.002	
03/17 - 03/23/92	427.7	03/29/92	.004	.001	
03/23 - 03/27/92	254.7	04/04/92	.009	.002	
03/27 - 04/02/92	437.1	04/08/92	.010	.001	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
12/31/91 - 04/02/92	05/01/92	ND	

1 Unless specified, Iodene-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 1992 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
04/02/92 - 4/08/92	394.8	04/15/92	.012	.002	
04/08 - 04/14/92	433.0	04/19/92	.011	.001	
04/14 - 04/20/92	410.3	04/24/92	.007	.001	
04/20 - 04/24/92	256.1	04/28/92	.006	.002	
04/24 - 04/30/92	410.0	05/07/92	.012	.002	
04/30 - 05/06/92[3]	349.4	05/13/92	.009	.001	
05/06 - 05/12/92[3]	364.7	05/20/92	.016	.002	
05/12 - 05/18/92[3]	370.3	05/22/92	.015	.002	
05/18 - 05/22/92	261.6	05/28/92	.005	.001	
05/22 - 05/28/92	420.5	06/04/92	.011	.001	
05/28 - 06/03/92	381.7	06/16/92	.007	.001	
06/03 - 06/09/92	420.8	06/18/92	.007	.001	
06/09 - 06/15/92	392.4	06/19/92	.005	.001	
06/15 - 06/19/92	250.0	06/27/92	.005	.001	
06/19 - 06/25/92	398.1	07/01/92	.009	.001	
06/25 - 07/01/92	396.1	07/10/92	.006	.001	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
04/02/92 - 07/01/92	07/20/92	ND	

1 Unless specified, Iodene-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 1992 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
07/01/92 - 07/07/92	398.1	07/16/92	.005	.001	
07/07 - 07/13/92	395.0	07/21/92	.010	.001	
07/13 - 07/17/92	281.8	07/22/92	.005	.001	
07/17 - 07/23/92	378.5	08/01/92	.008	.001	
07/23 - 07/29/92	411.8	08/03/92	.005	.001	
07/29 - 08/04/92	392.5	08/12/92	.009	.001	
08/04 - 08/10/92	401.7	08/18/92	.005	.001	
08/10 - 08/14/92	263.0	08/21/92	.006	.001	
08/14 - 08/20/92	399.0	08/26/92	.007	.001	
08/20 - 08/26/92	397.5	09/01/92	.012	.001	
08/26 - 09/01/92	423.8	09/04/92	.018	.002	
09/01 - 09/04/92	181.1	09/13/92	.007	.002	
09/04 - 09/10/92	401.9	09/17/92	.009	.001	
09/10 - 09/16/92	416.5	09/19/92	.011	.001	
09/16 - 09/22/92	393.3	09/28/92	.012	.002	
09/22 - 09/28/92	413.0	10/07/92	.011	.002	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
07/01/92 - 09/28/92	10/19/92	ND	

1 Unless specified, Iodene-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 1992 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
09/28/92 - 10/02/92	263.7	10/14/92	.012	.002	
10/02 - 10/08/92	417.1	10/21/92	.014	.002	
10/08 - 10/14/92	409.6	10/27/92	.029	.003	
10/14 - 10/20/92	423.5	10/27/92	.021	.002	
10/20 - 10/26/92	411.4	11/03/92	.017	.002	
10/26 - 10/30/92	277.4	11/06/92	.012	.002	
10/30 - 11/03/92	275.7	11/13/92	.006	.001	
11/03 - 11/09/92	390.8	11/18/92	.021	.002	
11/09 - 11/13/92	277.3	11/17/92	.029	.003	
11/13 - 11/19/92	414.1	11/25/92	.035	.004	
11/19 - 11/25/92	412.8	12/10/92	.012	.001	
11/25 - 12/01/92	415.2	12/10/92	.025	.003	
12/01 - 12/07/92	426.1	12/18/92	.023	.002	
12/07 - 12/11/92	260.9	12/18/92	.004	.001	
12/11 - 12/17/92	418.0	12/29/92	.012	.002	
12/17 - 12/23/92	413.8	12/30/92	.014	.002	
12/23 - 12/29/92	419.6	01/08/93	.029	.003	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
09/28/92 - 12/29/92	01/19/93	ND	

1 Unless specified, Iodene-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 1992 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
12/31/91 - 01/03/92	205.2	01/09/92	.015	.002	
01/03 - 01/09/92	395.2	01/15/92	.010	.001	
01/09 - 01/15/92	402.0	01/24/92	.017	.002	
01/15 - 01/21/92	409.0	01/30/92	.033	.003	
01/21 - 01/27/92	409.4	01/30/92	.027	.003	
01/27 - 01/31/92	277.3	02/09/92	.020	.002	
01/31 - 02/06/92	393.4	02/21/92	.019	.002	
02/06 - 02/12/92	389.0	02/22/92	.009	.001	
02/12 - 02/18/92	402.3	03/03/92	.003	.001	
02/18 - 02/24/92	397.7	03/08/92	.006	.001	
02/24 - 02/28/92	274.6	03/09/92	.022	.003	
02/28 - 03/05/92	409.9	03/11/92	.020	.002	
03/05 - 03/11/92	420.5	03/22/92	.009	.001	
03/11 - 03/17/92	417.3	03/22/92	.013	.002	
03/17 - 03/23/92	426.3	03/29/92	.005	.001	
03/23 - 03/27/92	254.9	04/04/92	.009	.002	
03/27 - 04/02/92	437.5	04/08/92	.010	.001	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
12/31/91 - 04/02/92	05/11/92	ND	

1 Unless specified, Iodene-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 1992 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
04/02/92 - 04/08/92	410.2	04/15/92	.012	.002	
04/08 - 04/14/92	661.1	04/19/92	.009	.001	
04/14 - 04/20/92	628.7	04/24/92	.006	.001	
04/20 - 04/24/92	249.8	04/28/92	.005	.002	
04/24 - 04/30/92	375.4	05/07/92	.011	.002	
04/30 - 05/06/92	365.1	05/13/92	.009	.001	
05/06 - 05/12/92	383.0	05/20/92	.017	.002	
05/12 - 05/18/92	408.0	05/22/92	.012	.002	
05/18 - 05/22/92	244.4	05/28/92	.006	.002	
05/22 - 05/28/92	405.4	06/04/92	.011	.001	
05/28 - 06/03/92	371.8	06/16/92	.008	.001	
06/03 - 06/09/92	410.5	06/18/92	.007	.001	
06/09 - 06/15/92	380.6	06/19/92	.005	.001	
06/15 - 06/19/92	251.8	06/27/92	.006	.001	
06/19 - 06/25/92	392.4	07/01/92	.010	.001	
06/25 - 07/01/92	393.0	07/10/92	.007	.001	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
04/02/92 - 07/01/92	07/23/92	ND	

1 Unless specified, Iodene-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 1992 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
07/01/92 - 07/07/92	403.8	07/16/92	.006	.001	
07/07 - 07/13/92	359.6	07/21/92	.009	.001	
07/13 - 07/17/92	256.7	07/22/92	.006	.001	
07/17 - 07/23/92	357.3	08/01/92	.008	.001	
07/23 - 07/29/92	399.9	08/03/92	.007	.001	
07/29 - 08/04/92	378.4	08/12/92	.008	.001	
08/04 - 08/10/92	394.0	08/18/92	.005	.001	
08/10 - 08/14/92	257.8	08/21/92	.008	.002	
08/14 - 08/20/92	393.4	08/26/92	.007	.001	
08/20 - 08/26/92	394.6	09/01/92	.012	.002	
08/26 - 09/01/92	416.2	09/04/92	.017	.002	
09/01 - 09/04/92	182.6	09/13/92	.007	.002	
09/04 - 09/10/92	401.8	09/17/92	.010	.001	
09/10 - 09/16/92	418.0	09/19/92	.012	.001	
09/16 - 09/22/92	393.5	09/28/92	.012	.002	
09/22 - 09/28/92	410.6	10/07/92	.013	.002	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
07/01/92 - 09/28/92	10/21/92	ND	

1 Unless specified, Iodene-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 1992 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
09/28/92 - 10/02/92	256.4	10/14/92	.016	.002	
10/02 - 10/08/92	399.7	10/21/92	.015	.002	
10/08 - 10/14/92	404.9	10/27/92	.027	.003	
10/14 - 10/20/92	415.9	10/28/92	.022	.002	
10/20 - 10/26/92	412.0	11/03/92	.015	.002	
10/26 - 10/30/92	277.9	11/06/92	.014	.002	
10/30 - 11/03/92	276.3	11/13/92	.006	.001	
11/03 - 11/09/92	393.2	11/18/92	.020	.002	
11/09 - 11/13/92	277.9	11/17/92	.027	.003	
11/13 - 11/19/92	411.9	11/25/92	.034	.003	
11/19 - 11/25/92	413.1	12/10/92	.011	.001	
11/25 - 12/01/92	416.2	12/10/92	.026	.003	
12/01 - 12/07/92	428.2	12/18/92	.022	.002	
12/07 - 12/11/92	259.8	12/18/92	.004	.001	
12/11 - 12/17/92	415.8	12/29/92	.015	.002	
12/17 - 12/23/92	407.0	12/30/92	.013	.002	
12/23 - 12/29/92	410.6	01/08/93	.029	.003	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
09/28/92 - 12/29/92	02/02/93	ND	

1 Unless specified, Iodene-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 1992 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
12/31/91 - 01/03/92	200.5	01/09/92	.018	.003	
01/03 - 01/09/92	404.2	01/15/92	.008	.001	
01/09 - 01/15/92	411.7	01/24/92	.017	.002	
01/15 - 01/21/92	416.9	01/30/92	.029	.003	
01/21 - 01/27/92	411.5	01/30/92	.028	.003	
01/27 - 01/31/92	276.9	02/09/92	.021	.003	
01/31 - 02/06/92	410.6	02/21/92	.022	.002	
02/06 - 02/12/92	406.6	02/22/92	.010	.001	
02/12 - 02/18/92	401.9	03/03/92	.003	.001	
02/18 - 02/24/92	395.7	03/08/92	.007	.001	
02/24 - 02/28/92	273.5	03/09/92	.022	.003	
02/28 - 03/05/92	404.5	03/11/92	.019	.002	
03/05 - 03/11/92	411.2	03/22/92	.009	.001	
03/11 - 03/17/92	406.3	03/22/92	.013	.002	
03/17 - 03/23/92	419.9	03/29/92	.007	.001	
03/23 - 03/27/92	246.0	04/04/92	.010	.002	
03/27 - 04/02/92	427.8	04/08/92	.010	.001	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
12/31/91 - 04/02/92	05/11/92	ND	

1 Unless specified, Iodene-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 1992 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
04/02/92 - 04/08/92	403.4	04/15/92	.013	.002	
04/08 - 04/14/92	472.0	04/19/92	.010	.001	
04/14 - 04/20/92	467.8	04/24/92	.007	.001	
04/20 - 04/24/92	262.8	04/28/92	.007	.002	
04/24 - 04/30/92	383.1	05/07/92	.012	.002	
04/30 - 05/06/92	369.8	05/13/92	.010	.001	
05/06 - 05/12/92	385.8	05/20/92	.015	.002	
05/12 - 05/18/92	411.0	05/22/92	.014	.002	
05/18 - 05/22/92[3]	150.5	05/28/92	.003	.002	
05/22 - 05/28/92	396.4	06/04/92	.011	.001	
05/28 - 06/03/92	358.6	06/16/92	.008	.001	
06/03 - 06/09/92	390.7	06/18/92	.008	.001	
06/09 - 06/15/92	364.2	06/19/92	.007	.001	
06/15 - 06/19/92	240.6	06/27/92	.005	.001	
06/19 - 06/25/92	371.1	07/01/92	.010	.001	
06/25 - 07/01/92	372.6	07/10/92	.007	.001	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
04/02/92 - 07/01/92	07/24/92	ND	

1 Unless specified, Iodene-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 1992 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
07/01/92 - 07/07/92	381.8	07/16/92	.007	.001	
07/07 - 07/13/92	396.0	07/21/92	.009	.001	
07/13 - 07/17/92	279.6	07/22/92	.005	.001	
07/17 - 07/23/92	380.6	08/01/92	.007	.001	
07/23 - 07/29/92	412.7	08/03/92	.007	.001	
07/29 - 08/04/92	392.5	08/12/92	.007	.001	
08/04 - 08/10/92	407.7	08/18/92	.005	.001	
08/10 - 08/14/92	263.3	08/22/92	.007	.001	
08/14 - 08/20/92	401.3	08/26/92	.007	.001	
08/20 - 08/26/92	402.7	09/01/92	.013	.002	
08/26 - 09/01/92	425.8	09/04/92	.019	.002	
09/01 - 09/04/92	182.8	09/13/92	.008	.002	
09/04 - 09/10/92	395.8	09/17/92	.009	.001	
09/10 - 09/16/92	410.2	09/19/92	.012	.002	
09/16 - 09/22/92	382.7	09/28/92	.012	.002	
09/22 - 09/28/92	403.6	10/07/92	.010	.001	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
07/01/92 - 09/28/92	10/21/92	ND	

1 Unless specified, Iodene-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 1992 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
09/28/92 - 10/02/92	255.7	10/14/92	.010	.002	
10/02 - 10/08/92	398.0	10/21/92	.014	.002	
10/08 - 10/14/92	389.3	10/27/92	.028	.003	
10/14 - 10/20/92	398.8	10/28/92	.021	.002	
10/20 - 10/26/92	389.6	11/03/92	.018	.002	
10/26 - 10/30/92	261.1	11/06/92	.012	.002	
10/30 - 11/03/92	259.0	11/13/92	.006	.002	
11/03 - 11/09/92	368.4	11/18/92	.020	.002	
11/09 - 11/13/92	259.9	11/17/92	.026	.003	
11/13 - 11/19/92	390.7	11/25/92	.037	.004	
11/19 - 11/25/92	388.7	12/10/92	.012	.001	
11/25 - 12/01/92	392.4	12/10/92	.024	.003	
12/01 - 12/07/92	402.5	12/18/92	.023	.002	
12/07 - 12/11/92	245.1	12/18/92	.004	.001	
12/11 - 12/17/92	391.3	12/29/92	.015	.002	
12/17 - 12/23/92	382.3	12/30/92	.015	.002	
12/23 - 12/29/92	386.2	01/08/93	.028	.003	

Gamma Activity On Filter Composites

Collection Period	Counting Date	Nuclide	Concentration (pCi/m^3)
09/28/92 - 12/29/92	02/02/93	ND	

1 Unless specified, Iodene-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 1992 Annual Report
Environmental Dosimetry

Station	Quarterly Totals* (mR) 1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Annual Total	Quarterly Average	±2σ
MT1	19.6±0.6	20.1±0.4	20.5±1.3	22.7±0.6	82.9	20.7	1.4
WN1	11.9±0.3	13.6±2.4	13.0±0.4	15.1±0.6	53.6	13.4	1.3
OS1	19.7±1.5	20.0±0.6	20.4±1.5	23.7±0.8	83.8	21.0	1.9
5S1	21.1±0.5	22.0±0.8	24.0±0.6	25.4±1.0	92.5	23.1	1.9
6S1	12.3±0.4	14.6±1.1	14.4±0.4	16.2±0.5	57.5	14.4	1.6
8S1	14.7±0.5	17.3±2.4	16.4±0.5	18.0±0.8	66.4	16.6	1.4
8S2	18.5±0.5	18.9±0.9	20.3±0.6	23.3±1.6	81.0	20.3	2.2
5S3	16.7±0.5	17.4±0.9	18.6±0.8	21.1±0.7	73.8	18.5	1.9
2F2	11.8±0.3	12.0±0.4	16.1±5.8	14.9±0.5	54.8	13.7	2.1
2D1	11.9±1.0	11.2±0.3	13.5±0.8	14.5±0.6	51.1	12.8	1.5
4D1	10.0±0.3	11.1±0.3	12.3±0.8	13.8±0.5	47.2	11.8	1.6
5F1	19.3±4.2	16.0±0.3	17.7±0.8	19.7±1.0	72.7	18.2	1.7
1A1	10.5±0.3	11.1±0.6	12.7±0.4	14.3±0.6	48.6	12.2	1.7
7D2	15.1±0.3	16.4±0.7	17.6±0.7	20.0±0.6	69.1	17.3	2.1
7G2	15.7±0.6	16.6±0.8	17.8±0.7	20.3±0.9	70.4	17.6	2.0
7C1	16.2±0.4	17.4±0.5	18.7±0.5	21.1±0.9	73.4	18.4	2.1
7F1	15.0±0.5	16.5±0.6	16.6±0.7	19.1±1.0	67.2	16.8	1.7
OB1	9.0±0.2	9.8±0.3	10.5±0.6	11.1±0.5	40.4	10.1	0.9
7D1	10.2±0.3	11.3±0.3	11.8±04	12.6±0.4	45.9	11.5	1.0
4C1	11.0±0.9	10.7±0.2	12.1±1.0	11.8±0.4	45.6	11.4	0.7
OS2	15.3±0.6	16.4±0.6	15.2±0.6	17.7±0.8	64.6	16.2	1.2
1S1	14.7±0.3	16.4±0.5	15.6±0.7	17.0±0.5	63.7	15.9	1.0
2S1	14.1±0.3	16.4±0.6	15.7±0.5	17.7±0.7	63.9	16.0	1.5
3S1	18.4±0.6	19.4±0.8	18.5±0.6	21.9±1.0	78.2	19.6	1.6
4S1	16.0±0.6	18.0±0.6	18.0±0.7	19.7±0.9	71.7	17.9	1.5
7S1	16.2±1.7	17.6±0.6	16.3±0.8	18.6±0.7	68.7	17.2	1.1
9S1	19.2±0.7	22.4±0.6	21.1±0.7	23.6±0.9	86.3	21.6	1.9
1C1	12.6±0.3	12.7±0.8	11.7±0.4	13.7±0.5	50.7	12.7	0.8
5C1	14.1±0.5	17.3±0.8	16.1±0.5	17.7±0.6	65.2	16.3	1.6
3D1	10.8±0.4	12.4±0.3	11.5±0.5	12.9±0.4	47.7	11.9	0.9
6D1	14.1±0.3	15.6±0.3	15.3±0.7	17.4±1.0	62.4	15.6	1.4
5F3	20.7±0.8	15.0±0.3	20.0±0.6	25.0±0.7	80.7	20.2	4.1

* The exposure (mR) has been normalized for a standard quarter (i.e. for a 90-day period).

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 1992 Annual Report
Sensitivity Limits (LLD) Exceeded
(pCi/kg Original or pCi/L)

Sample	Station No.	Date Collected	54Mn	59Fe	58Co	60Co	65Zn	134Cs	137Cs	140Ba-La
Perch	DCM	04/28/92		2.66E2						
Perch	POS	04/28/92		2.64E2						
Perch	POS	10/14/92		3.58E2						
Rockfish	POS	10/14/92		2.75E2						
Red Abalone	7C2	04/28/92		3.01E2						
Seawater*	DCM	07/27/92								2.71E1
Seawater*	7C2	07/27/92								2.93E1
Seawater*	PON	07/27/92								2.72E1
Seawater*	POS	07/27/92								2.80E1

* pCi/L

Table B-7

Diablo Canyon Power Plant 1992 Annual Report
List of Marine and Terrestrial Samples
Collected and Analyzed

Sample No.	Description	Station No.	Collection Date
92A13	Outfall Water	OUT	1/08/92
92A14	Surface Water	5S2	1/08/92
92A15	Snow Peas	7C1	1/08/92
92A16	Lettuce	7G1	1/08/92
92A17	Cauliflower	5F2	1/08/92
92A31	Drinking Water	DW1	1/15/92
92A45	Seawater	DCM	1/17/92
92A46	Seawater	POS	1/17/92
92A47	Seawater	7C2	1/17/92
92A48	Seawater	PON	1/17/92
92A58	Milk	5F2	1/21/92
92A59	Bull Kelp Blade	POS	1/21/92
92A60	Bull Kelp Pneumatocyst	POS	1/21/92
92A61	Bull Kelp Blade	7C2	1/21/92
92A62	Bull Kelp Pneumatocyst	7C2	1/21/92
92B17	Lettuce	7G1	2/12/92
92B18	Cauliflower	5F2	2/12/92
92B19	Outfall Water	OUT	2/12/92
92B20	Surface Water	5S2	2/12/92
92B32	Milk	5F2	2/19/92
92B33	Drinking Water	DW1	2/19/92
92B34	Snow Peas	7C1	2/19/92
92B35	Red Abalone Meat	PON	2/05/92
92B36	Perch	PON	2/05/92
92B37	Rockfish	PON	2/05/92
92B38	California Mussels	PON	2/18/92
92B39	Black Abalone	PON	2/18/92
92B40	Red Abalone Meat	DCM	2/05/92
92B41	Perch	DCM	2/05/92
92B42	Rockfish	DCM	2/05/92
92B43	California Mussels	DCM	2/18/92
92B44	Black Abalone	DCM	2/18/92
92B45	Red Abalone Meat	POS	2/05/92
92B46	Perch	POS	2/05/92
92B47	Rockfish	POS	2/05/92
92B58	Seawater	PON	2/25/92
92B59	Seawater	DCM	2/25/92
92B60	Seawater	POS	2/25/92
92B61	Seawater	7C2	2/25/92
92B68	Bull Kelp Blade	PON	2/25/92

Table B-7 (continued)

Diablo Canyon Power Plant 1992 Annual Report
List Marine and Terrestrial Samples
Collected and Analyzed

Sample No.	Description	Station No.	Collection Date
92B69	Bull Kelp Pneumatocyst	PON	2/25/92
92B70	Bull Kelp Blade	POS	2/25/92
92B71	Bull Kelp Pneumatocyst	POS	2/25/92
92B72	Bull Kelp Blade	7C2	2/25/92
92B73	Bull Kelp Pneumatocyst	7C2	2/25/92
92C21	Surface Water	5S2	3/11/92
92C22	Outfall Water	OUT	3/11/92
92C23	Snow Peas	7C1	3/11/92
92C24	Lettuce	7G1	3/11/92
92C25	Cauliflower	5F2	3/11/92
92C38	Milk	5F2	3/17/92
92C48	Iridaea	7C2	3/18/92
92C49	California Mussels	POS	3/18/92
92C50	Seawater	POS	3/19/92
92C51	Seawater	7C2	3/19/92
92C52	Seawater	DCM	3/19/92
92C53	Seawater	PON	3/19/92
92C54	Drinking Water	DW1	3/18/92
92C55	Black Abalone	POS	3/18/92
92C56	California Mussels	7C2	3/18/92
92C66	Commercial Salmon	7D3	3/25/92
92C67	Bull Kelp Blade	7C2	3/19/92
92C68	Bull Kelp Pneumatocyst	7C2	3/19/92
92C69	Bull Kelp Blade	POS	3/19/92
92C70	Bull Kelp Pneumatocyst	POS	3/19/92
92D01	Black Abalone	7C2	3/18/92
92D33	Surface Water	5S2	4/08/92
92D34	Cauliflower	5F2	4/08/92
92D35	Snow Peas	7C1	4/08/92
92D36	Lettuce	7G1	4/08/92
92D39	Outfall Water Composite	OUT	1/08/92
92D62	Drinking Water	DW1	4/20/92
92D63	Milk	5F2	4/20/92
92D64	Outfall Water	OUT	4/20/92
92D65	Seawater	PON	4/22/92
92D66	Seawater	DCM	4/22/92
92D67	Seawater	POS	4/22/92
92D68	Seawater	7C2	4/22/92
92D94	Bull Kelp Blade	PON	4/22/92
92D95	Bull Kelp Pneumatocyst	PON	4/22/92

Table B-7 (continued)

Diablo Canyon Power Plant 1992 Annual Report
List Marine and Terrestrial Samples
Collected and Analyzed

Sample No.	Description	Station No.	Collection Date
92D96	Bull Kelp Blade	POS	4/22/92
92D97	Bull Kelp Pneumatocyst	POS	4/22/92
92D98	Bull Kelp Blade	7C2	4/22/92
92D99	Bull Kelp Pneumatocyst	7C2	4/22/92
92E00	Red Abalone Meat	PON	4/28/92
92E01	Perch	PON	4/28/92
92E02	Rockfish	PON	4/28/92
92E03	Red Abalone Meat	DCM	4/28/92
92E04	Perch	DCM	4/28/92
92E05	Rockfish	DCM	4/28/92
92E06	Red Abalone Meat	POS	4/28/92
92E07	Perch	POS	4/28/92
92E08	Rockfish	POS	4/28/92
92E09	Red Abalone Meat	7C2	4/28/92
92E10	Perch	7C2	4/28/92
92E11	Rockfish	7C2	4/28/92
92E47	Outfall Water	OUT	5/13/92
92E48	Surface Water	5S2	5/13/92
92E49	Snow Peas	7C1	5/13/92
92E50	Celery Greens	7G1	5/13/92
92E51	Cauliflower	5F2	5/13/92
92E66	Milk	5F2	5/18/92
92E69	Drinking Water	DW1	5/20/92
92E70	California Mussels	PON	5/19/92
92E71	Black Abalone	PON	5/19/92
92E72	California Mussels	DCM	5/19/92
92E73	Iridaea	DCM	5/19/92
92E74	Black Abalone	DCM	5/19/92
92E93	Seawater	DCM	5/20/92
92E94	Seawater	PON	5/20/92
92F22	Seawater	7C2	5/27/92
92F23	Bull Kelp Blade	7C2	5/27/92
92F24	Bull Kelp Pneumatocyst	7C2	5/27/92
92F25	Seawater	POS	5/27/92
92F26	Bull Kelp Blade	POS	5/27/92
92F27	Bull Kelp Pneumatocyst	POS	5/27/92
92F49	Surface Water	5S2	6/15/92
92F50	Outfall Water	OUT	6/15/92
92F51	Snow Peas	7C1	6/15/92
92F61	Milk	5F2	6/15/92

Table B-7 (continued)

Diablo Canyon Power Plant 1992 Annual Report
List Marine and Terrestrial Samples
Collected and Analyzed

Sample No.	Description	Station No.	Collection Date
92F70	Drinking Water	DW1	6/17/92
92G02	Tomato Greens	5F2	6/25/92
92G03	Bull Kelp Blade	POS	6/24/92
92G04	Bull Kelp Pneumatocyst	POS	6/24/92
92G05	Bull Kelp Blade	7C2	6/24/92
92G06	Bull Kelp Pneumatocyst	7C2	6/24/92
92G07	Seawater	PON	6/24/92
92G08	Seawater	DCM	6/24/92
92G09	Seawater	POS	6/24/92
92G10	Seawater	7C2	6/24/92
92G47	Tomato Greens	5F2	7/08/92
92G48	Snow Peas	7C1	7/08/92
92G49	Outfall Water	OUT	7/08/92
92G50	Surface Water	5S2	7/08/92
92G85	Outfall Water Composite	OUT	4/20/92
92G86	Milk	5F2	7/21/92
92H00	Iridaea	DCM	7/17/92
92H01	California Mussels	PON	7/17/92
92H02	Black Abalone	PON	7/17/92
92H03	California Mussels	7C2	7/17/92
92H04	Black Abalone	7C2	7/17/92
92H07	Commercial Rock Cod	7D3	5/20/92
92H18	Drinking Water	DW1	7/29/92
92H19	Bell Peppers	7G1	7/29/92
92H20	Seawater	PON	7/27/92
92H21	Seawater	DCM	7/27/92
92H22	Bull Kelp Blade	DCM	7/27/92
92H23	Bull Kelp Pneumatocyst	DCM	7/27/92
92H24	Seawater	POS	7/27/92
92H25	Bull Kelp Blade	POS	7/27/92
92H26	Bull Kelp Pneumatocyst	POS	7/27/92
92H27	Seawater	7C2	7/27/92
92H28	Bull Kelp Blade	7C2	7/27/92
92H29	Bull Kelp Pneumatocyst	7C2	7/27/92
92H41	Black Abalone	DCM	7/31/92
92H42	California Mussels	DCM	7/31/92
92H43	Black Abalone	POS	7/31/92
92H44	Iridaea	7C2	7/31/92
92H62	Red Abalone Meat	PON	7/27/92
92H63	Rockfish	PON	7/27/92

Table B-7 (continued)

Diablo Canyon Power Plant 1992 Annual Report
List Marine and Terrestrial Samples
Collected and Analyzed

Sample No.	Description	Station No.	Collection Date
92H64	Rockfish	DCM	7/27/92
92H65	Red Abalone Meat	POS	7/27/92
92H66	Rockfish	POS	7/27/92
92H67	Bell Peppers	5F2	8/12/92
92H68	Surface Water	5S2	8/13/92
92H69	Bell Peppers	7G1	8/13/92
92H70	Outfall Water	OUT	8/13/92
92H83	Milk	5F2	8/18/92
92I13	Snow Peas	7C1	8/27/92
92I14	Drinking Water	DW1	8/26/92
92I15	Seawater	PON	8/26/92
92I16	Seawater	DCM	8/26/92
92I17	Bull Kelp Blade	DCM	8/26/92
92I18	Bull Kelp Pneumatocyst	DCM	8/26/92
92I19	Seawater	POS	8/26/92
92I20	Bull Kelp Blade	POS	8/26/92
92I21	Bull Kelp Pneumatocyst	POS	8/26/92
92I22	Seawater	7C2	8/26/92
92I23	Bull Kelp Blade	7C2	8/26/92
92I24	Bull Kelp Pneumatocyst	7C2	8/26/92
92I66	Surface Water	5S2	9/09/92
92I67	Outfall Water	OUT	9/09/92
92I77	Snow Peas	7C1	9/10/92
92I78	Bell Peppers	7G1	9/10/92
92I79	Bell Peppers	5F2	9/10/92
92I91	Perch	DCM	9/14/92
92J00	Red Abalone Meat	DCM	8/28/92
92J06	Outfall Water Composite	OUT	7/08/92
92J07	Milk	5F2	9/22/92
92J08	Seawater	POS	9/21/92
92J10	Bull Kelp Pneumatocyst	PON	9/21/92
92J11	Seawater	PON	9/21/92
92J12	Seawater	7C2	9/21/92
92J13	Bull Kelp Blade	7C2	9/21/92
92J14	Bull Kelp Pneumatocyst	7C2	9/21/92
92J15	Seawater	DCM	9/21/92
92J16	Bull Kelp Blade	DCM	9/21/92
92J17	Bull Kelp Pneumatocyst	DCM	9/21/92
92J18	Rockfish	7C2	9/21/92
92J35	Perch	PON	9/21/92

Table B-7 (continued)

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List Marine and Terrestrial Samples
Collected and Analyzed

Sample No.	Description	Station No.	Collection Date
92J36	Bull Kelp Blade	POS	9/21/92
92J37	Bull Kelp Pneumatocyst	POS	9/21/92
92J38	Red Abalone Meat	7C2	9/21/92
92J39	Perch	POS	9/21/92
92J40	Perch	7C2	9/21/92
92J41	Drinking Water	DW1	9/24/92
92J58	Commercial Sole	7D3	9/30/92
92J91	Celery Greens	7G1	10/12/92
92J92	Bell Peppers	5F2	10/12/92
92J93	Snow Peas	7C1	10/13/92
92J94	Surface Water	5S2	10/12/92
92J95	Outfall Water	OUT	10/12/92
92K18	Milk	5F2	10/20/92
92K26	Drinking Water	DW1	10/21/92
92K31	Seawater	PON	10/22/92
92K33	Seawater	DCM	10/22/92
92K34	Bull Kelp Blade	POS	10/22/92
92K35	Bull Kelp Pneumatocyst	POS	10/22/92
92K36	Seawater	POS	10/22/92
92K37	Bull Kelp Blade	7C2	10/22/92
92K38	Bull Kelp Pneumatocyst	7C2	10/22/92
92K39	Seawater	7C2	10/22/92
92K79	Black Abalone	PON	10/26/92
92K80	California Mussels	DCM	10/26/92
92K81	Iridaea	DCM	10/26/92
92K82	Black Abalone	DCM	10/26/92
92K85	Snow Peas	7C1	11/10/92
92K86	Celery Greens	7G1	11/10/92
92K87	Outfall Water	OUT	11/10/92
92K88	Surface Water	5S2	11/10/92
92L13	Milk	5F2	11/17/92
92L19	Red Abalone Meat	PON	11/04/92
92L20	Perch	PON	11/04/92
92L21	Rockfish	PON	11/04/92
92L22	Perch	DCM	10/14/92
92L23	Rockfish	DCM	10/14/92
92L24	Sediment	DCM	11/17/92
92L25	Red Abalone Meat	POS	10/14/92
92L26	Rockfish	POS	10/14/92
92L27	Rockfish	7C2	11/10/92

Table B-7 (continued)

Diablo Canyon Power Plant 1992 Annual Report
List Marine and Terrestrial Samples
Collected and Analyzed

Sample No.	Description	Station No.	Collection Date
92L42	Drinking Water	DW1	11/18/92
92M13	Outfall Water	OUT	12/11/92
92M14	Surface Water	5S2	12/11/92
92M15	Perch	POS	10/14/92
92M17	Bull Kelp Pneumatocyst	DCM	11/23/92
92M18	Seawater	PON	11/23/92
92M19	Bull Kelp Blade	PON	11/23/92
92M20	Bull Kelp Pneumatocyst	PON	11/23/92
92M21	Seawater	POS	11/23/92
92M22	Bull Kelp Blade	POS	11/23/92
92M23	Bull Kelp Pneumatocyst	POS	11/23/92
92M24	California Mussels	POS	12/09/92
92M25	Black Abalone	7C2	12/09/92
92M26	Iridaea	7C2	12/09/92
92M27	California Mussels	7C2	12/09/92
92M28	Bull Kelp Blade	7C2	11/23/92
92M29	Bull Kelp Pneumatocyst	7C2	11/23/92
92M30	Black Abalone	POS	12/09/92
92M31	Seawater	DCM	11/23/92
92M32	Seawater	7C2	11/23/92
92M33	Sediment	7C2	11/23/92
92M34	Snow Peas	7C1	12/14/92
92M35	Artichoke	5F2	12/15/92
92M36	Milk	5F2	12/15/92
92M48	Drinking Water	DW1	12/16/92
92M49	Seawater	PON	12/16/92
92M50	Seawater	DCM	12/16/92
92M51	Seawater	POS	12/16/92
92M52	Seawater	7C2	12/16/92
92M53	Commercial Rock Cod	7D3	12/16/92
92M54	Bull Kelp Blade	POS	12/16/92
92M55	Bull Kelp Pneumatocyst	POS	12/16/92
92M56	Bull Kelp Blade	7C2	12/16/92
92M57	Bull Kelp Pneumatocyst	7C2	12/16/92
92M89	Outfall Water Composite	OUT	10/12/92