Pacific Gas and Electric Company

James R. Becker
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Date: February 28, 2004

**Certified Return/Receipt**
#7001-0360-0000-2103-5811

PG&E Letter DCL-2004-516

California Regional Water Quality Control Board
Central Coast Region
Attn: Monitoring and Reporting Review Section
895 Aerovista, Suite #101
San Luis Obispo, CA 93401-7906

Dear Mr. Briggs:

In accordance with Order 90-09, NPDES No. CA0003751, enclosed is the Annual Report for 2003 on Discharge Monitoring at Diablo Canyon Power Plant (Enclosure 1).

| | |
|---|---|
| **Facility Name:** | Diablo Canyon Power Plant |
| **Address:** | P.O. Box 56<br>Avila Beach, CA 93424 |
| **Contact Person:**<br>**Job Title:**<br>**Phone Number:** | Drew A. Squyres<br>Supervisor, Environmental Operations<br>545-4439 |
| **WDR/NPDES Order Number:** | Order No. 90-09, NPDES No. CA0003751 |
| **Type of Report:** (check one) | **QUARTERLY** ☐ **ANNUAL** ☒ |
| **Quarter:** (check one): | **1st** ☐ **2nd** ☐ **3rd** ☐ **4th** ☐ |
| **Year:** | 2003 (Annual Reports for **DCPP** are Jan-Dec) |
| **Violation(s)** (Place an X by the appropriate choice): * | ☐ **No** (there are no violations to report) ☐ **Yes** |

* Please see "Review of Compliance Record and Corrective Actions" section

JE25

*If Yes is marked (complete a-g):*
**a) Parameter(s) in Violation:**

**b) Section(s) of WDR/NPDES Violated:**

**c) Reported Value(s)**

**d) WDR/NPDES Limit/Condition:**

**e) Dates of Violation(s)** (reference page of report/data sheet):

**f) Explanation of Cause(s):** (attach additional information as needed) (If "YES", see overview section of attached report)

**g) Corrective Action(s):** (attach additional information as needed) (If "YES", see overview section of attached report)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. The results of the influent and effluent monitoring presented are the observed results of the measurements and analyses required by the monitoring program, and is neither an assertion of the adequacy of any instrument reading or analytical result, nor an endorsement of the appropriateness of any analytical or measurement procedure. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions, please contact Drew Squyres at (805) 545 - 4439.

Sincerely,

for J. R. Becker

Name: James R. Becker
Title: Vice President - Diablo Canyon Operations and Station Director

2004516/RDH/kmo

cc: Michael Thomas, CCRWQCB
895 Aerovista, Suite 101
San Luis Obispo, CA 93401-7906

California Department of Fish and Game
20 Lower Ragsdale, Suite 100
Monterey, California 93490

Regional Administrator, Region 9
U. S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105
Attention: Carey Houk (W-5-3)

Resident Inspector, David Proulx
U.S. Nuclear Regulatory Commission
Diablo Canyon Power Plant 104/5

Regional Administrator
U.S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Dr., Suite 400
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Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Enclosure

ENCLOSURE

# ANNUAL SUMMARY REPORT ON DISCHARGE MONITORING AT THE DIABLO CANYON POWER PLANT

## (NPDES NO. CA0003751)

## 2003

# 2003 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

## TABLE OF CONTENTS

2003 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant

## OVERVIEW

A. This annual summary report follows the format used in quarterly monitoring reports. Analytical results below the respective Reporting Limit are plotted as "zero" value in accordance with ELAP guidance. During 2003, discharges occurred from all discharge paths except 001I, 001K, and 017.

B. California Ocean Plan Table B substances that were not analyzed for have not been added to the discharge stream. The substances listed in Table B in the 1990 Ocean Plan were each analyzed for and reported in the permit renewal application for Diablo Canyon Power Plant (DCPP) submitted in October 1994 and 2001. There have been no changes in the activities conducted at the plant that would have significantly affected the results previously reported in the above referenced document.

## SUMMARY OF MONITORING PROGRAM

A. Monitoring of Plant Influent and Effluent

1. Monitoring Data

a. Appendix 1 provides a list of the discharge path names for ease of reference. Appendix 2 contains monitoring data in tabular form. Appendix 3 contains monitoring data in graphical form.

b. Annual oil and grease analyses were performed in October on Stormwater/Yard Drain Discharges 005, 008, 009, 013, and 015. All results were less than 3 mg/l. No discharges that resulted in adequate sample quantities occurred from 016 and no discharge occurred from 017 during 2003.

c. In October, Discharge 001D (Liquid Radioactive Waste Treatment System) annual grab sample for boron was collected and analyzed. In November, lithium and hydrazine annual grab samples were collected and analyzed for Discharge 001D. The results were 710 mg/l, 199 mg/l, and 246 mg/l, respectively.

2. Facility Operating and Maintenance Manual

Pacific Gas and Electric Company (PG&E) maintains a multiple volume Plant Manual (manual) at DCPP that contains procedures used for operation and maintenance activities at the plant, including those activities that relate to wastewater handling, treatment, sampling, analysis and discharge.

Plant procedures are prepared and reviewed by DCPP Staff and approved by DCPP Management. DCPP conducts biennial internal audits that review NPDES Plant procedures contained in the manual. Ongoing reviews of Plant procedures are conducted to assure that the manual remains valid, current, and complete for the facility.

3. Laboratories Used to Monitor Compliance

a. PG&E Chemistry Laboratory, DCPP, Avila Beach, California

b. Aquatic Bioassay Consultants, Ventura, California

c. FGL Environmental, Santa Paula, California

d. PG&E, Technical and Environmental Services, Geotechnical Laboratory, San Ramon, California

e. Creek Environmental, San Luis Obispo, California

f. Columbia Analytical Services, Kelso, Washington

4. Review of Compliance Record and Corrective Actions

a. Circulating Water Pump Chlorination/Acti-Brom Monitoring

The 2003 quarterly NPDES reports discuss the times when monitoring for chlorination cycles were interrupted. These are listed below with a brief description of the cause and corrective action.

When these monitoring interruptions occurred, engineering evaluations (approved by the CCRWQCB 1/13/94; PG&E Letter No. DCL-94-002) were performed. Detailed descriptions of these evaluations are included in the quarterly reports. The evaluations conclude that discharge chlorine limits were not exceeded in 2003.

| Date | Chlorination Cycle Monitoring Interrupted | Cause | Corrective Action |
|---|---|---|---|
| 5/25-26/03 | Unit 1 injection cycle monitoring readings inaccurate | Insufficient flow to monitor | Proper flow reestablished to normal by flushing monitor sample line. |
| 7/23-24/03 | Unit 1 injection cycle monitor readings inaccurate | Monitor developed low flow | Proper flow reestablished to normal. |
| 9/20-25/03 | Unit 1and 2 injection cycle monitor readings inaccurate | Sample line clogged with marine growth | Unclogged lines and reestablished proper flow. |

b. Drains of Closed Cooling Water Systems

PG&E received concurrence from the CCRWQCB in response to a letter dated July 19, 1995 (PG&E Letter DCL-95-156), for the use of biocides glutaraldehyde and isothiazoline to control microbiological growth and corrosion in DCPP's closed cooling water systems. Any drainage from these systems is discharged at a flowrate such that the chronic toxicity level is below the "No Observable Effect Concentration" (NOEC) at NPDES Discharge 001. The volumes of cooling water drained in 2003 from the component cooling water (CCW), intake cooling water (ICW), and service cooling water (SCW) systems are presented below. The glutaraldehyde and isothiazoline concentrations presented in the table below are system concentrations, not concentrations discharged.

| Date | System | Volume (gal) | Glutaraldehyde (mg/l) | Isothiazoline (mg/l) | Reason & Comment |
|---|---|---|---|---|---|
| 12/24/02 to 1/02/03 | Unit 1 ICW | 1660 | 0 | 0 | System leakage (see explain in d. below) |
| 2/04/03 | Unit 2 ICW | 1150 | 0 | 5 | Routine maintenance. |
| 2/11/03 | Unit 2 CCW | 4200 | 0 | 0 | Routine maintenance. |
| 3/17/03 | Unit 2 CCW | 1 | 213 | 0 | Routine maintenance |
| 4/08//03 | Unit 2 SCW | 50 | 0 | 0 | Routine maintenance |

| | | | | | |
|---|---|---|---|---|---|
| 4/14/03 | Unit 1 SCW | 33,000 | 0 | 2.5 | Routine maintenance |
| 8/29/03 | Unit 1 CCW | 1.9 | 185 | 0 | Routine maintenance |
| 9/26/03 | Unit 1 EDR | 1400 | 8 | 0 | Routine maintenance |
| 12/08/03 | Unit 1 CCW | 1000 | 143 | 0 | Routine maintenance |

c. January

On January 2, 2003, it was identified that between December 24, 2002, and January 2, 2003, a small leak of closed cooling water from the Unit 1 Intake Cooling Water system (ICW) occurred. The total volume over this period of time was estimated to be 1660 gallons. The leak rate was estimated to be 6.5 gallons per hour and flowed into the once-through circulating cooling water system at the intake. The leak rate of 6.5 gallons per hour is significantly below the allowable flow rate of 250 gallons per minute and NOEC described in the above letters. The leak was repaired on January 2, 2003.

d. February

On February 16, 2003, approximately 150 gallons of water containing dilute hydrazine (746 ppm) flowed to the pavement near the Unit 2 containment due to a misaligned valve and filling activity. At that time, rain washed this water into the deluge collector sump. The sump holds about 17,000 gallons so the water was significantly diluted. The sump is designed to process water through a passive oil water separator system prior to flowing to a retention basin near the intake cove. No processed water entered the ocean. The Regional Board was notified on February 16, 2003, of this event as a conservative measure even though there was no actual release to the creek or ocean. Analytical results for hydrazine collected from sediment samples in the retention basin were below published toxic levels.

e. May

Unit 1 discharge chlorine monitor had low flow from 2000 on May 25, 2003 through 1200 on May 26, 2003. Proper flow was reestablished after the 1200 injection on May 26, 2003. An engineering evaluation was completed in accordance with PG&E's January 5, 1994, letter as authorized by the CCRWQCB. The calculated value from the engineering evaluation was 27 ppb, well below the 89 ppb Ocean Plan limit.

f. July

Unit 1 discharge chlorine monitor had low flow from 1200 on July 23, 2003 through 0800 on July 24, 2003. Proper flow was reestablished for the 1200 injection on July 24, 2003. An engineering evaluation was completed in accordance with PG&E's January 5, 1994, letter as authorized by the CCRWQCB. The calculated value from the engineering evaluation was <10 ppb, well below the 89 ppb Ocean Plan limit.

g. September

Unit 1 and Unit 2 discharge chlorine monitors had reduced flow due to blockage by marine fouling during September 20, 2003 and September 25, 2003. The blockage was removed and proper flow was reestablished. An engineering evaluation was completed in accordance with PG&E's January 5, 1994, letter as authorized by the CCRWQCB. The calculated values from the engineering evaluation were for Unit 1: <10ppb (for 9/20 – 22/2003) and 21ppb (for 9/23 – 25/2003); Unit 2: 14ppb (for 9/20 – 22/2003) and 17ppb (for 9/23 – 25/2003). These values are well below the 89 ppb Ocean Plan limit.

h. October

Because there was no 001M discharge in October, 001M Oil and Grease sample was collected in November rather than in October.

October composite samples for 001D were collected as required and picked up for analysis by an ELAP Certified contract laboratory. The composite consisted of nine aliquots. In November, it was discovered that the contract lab had only analyzed five of the nine aliquots. By the time the contract lab located the other four samples, which they misplaced, the samples had exceeded required holding times rendering them invalid for analysis. An additional three aliquots for 001D were collected and the contract lab analyzed these aliquots in December. The contract lab has written a quality assurance report and reviewed sample-handling procedures with staff to minimize the potential of future occurrence.

i. December

During the week of 12/29/03, weekly NPDES samples for 001N were not collected. These samples included the following parameters: total suspended solids, settleable solids, and oil and grease. The previous week, samples collected on 12/23/03 for these parameters were well below NPDES limitations with results of 9 mg/l, ND<0.1 ml/l, and ND<5mg/l, respectively. Samples collected on 1/5/04 were also well below NPDES limitations with results of 15mg/l, ND<0.1ml/l, ND<5mg/l, respectively. On 1/5/04, there were no observed changes in the treatment plant operation from that of 12/23/03. Treatment plant flows were lower than normal for this period. Based on this information, the treatment plant is believed to have operated in compliance during the week samples were not collected. The contractor that performs sampling has implemented a new procedure and appropriate steps to ensure adequate support is available to minimize the potential of future recurrence.

B. Monitoring of Receiving Water

1. Ecological Studies at Diablo Canyon

Marine ecological monitoring was continued during 2003 under the Receiving Water Monitoring Program (RWMP) as requested in a letter from the Central Coast Regional Water Quality Control Board (CCRWQCB) dated December 9, 1998, and as detailed in a letter from PG&E dated January 8, 1999 (DCL-99-503). This program includes tasks from the Ecological Monitoring Program (EMP) with additional stations and increased sampling frequencies. This program replaces the EMP and the Thermal Effects Monitoring Program (TEMP). Several one-year-only tasks outlined in the above letters were completed in 1999 and were again not requested to be performed in 2003. Results of 2001 RWMP data were submitted to the CCRWQCB on April 30, 2002. Results for July 1995 through June 2002 were analyzed in a report submitted to the CCRWQCB on November 8, 2002. A table in Appendix 4 summarizes requirements and completed tasks for 2003.

2. In Situ Bioassay

Results of the Mussel Watch Program are reported to the CCRWQCB directly from the California Department of Fish and Game in their periodic report for this program.

C. Acti-Brom Treatment Program

During 2003, DCPP continued its integrated Acti-Brom and "foul release coating" strategy to control macrofouling in the Circulating Water System (CWS). Acti-Brom is a sodium bromide solution with

an added biodispersant that is used, in combination with sodium hypochlorite, to control settlement and growth of biofouling organisms. The program consists of six daily 20-minute injections (at four hour intervals) of a 1:1 molar ratio blend of Acti-Brom and sodium hypochlorite to all four of DCPP's intake conduits). Each injection attempts to achieve a target concentration of 200 parts per billion (ppb) Total Residual Oxidant (TRO) when measured at the inlet waterbox of the condenser. Discharge TRO, measured at the plant outfall, remained below NPDES limitations and typically are between approximately 20 ppb to 60 ppb. In conjunction with the Acti-Brom treatment, untreated portions of the CWS were previously painted with a non-toxic "foul release coating" to help prevent attachment of fouling organisms.

Unit 1 started 2003 with simultaneous sodium hypochlorite and Acti-Brom treatment six times daily. Acti-Brom injections were turned off on March 5, 2003 in anticipation of a tunnel cleaning in April 2003. The tunnel cleaning was postponed twice and Unit 1 conduits received injections of sodium hypochlorite six times daily to control microfouling in the condensers for the remainder of March, April and most of May, with a brief interruption in late March due to a programming error. Simultaneous sodium hypochlorite and Acti-Brom treatments were re-initiated in late May and continued six times daily until injections were shut down for the tunnel cleaning near the end of June. At the end of the tunnel cleaning simultaneous sodium hypochlorite and Acti-Brom treatments six times daily resumed and continued through the rest of 2003. There were brief interruptions due to maintenance activities in early July, early August, and mid September, and December.

Conduit 2-1 began 2003 with injections of sodium hypochlorite six times daily to control microfouling in the condensers in anticipation of the 2R11 refueling outage (end of January). Conduit 2-2 received simultaneous sodium hypochlorite and Acti-Brom treatment six times daily until early January when Acti-Brom was shut down in anticipation of 2R11. Both conduits received microfouling injections six times daily until the start of 2R11. Unit 2 injections remained off until early March when one of the circulating water pumps was returned to service. Through the remainder of March, treatment alternated between the two Unit 2 conduits as the circulating water pumps were turned on and then shut down for 2R11 related activities.

At the end of 2R11, an experiment was initiated to test the effectiveness of sodium bromide compared to Acti-Brom in controlling macrofouling. For the remainder of 2003, conduit 2-1 received simultaneous injections of sodium hypochlorite and Acti-Brom, while conduit 2-2 received simultaneous injections of sodium hypochlorite and sodium bromide. There were brief interruptions due to maintenance activities in early April (conduit 2-1), July, early August, September, October, and December.

## APPENDIX 1

DIABLO CANYON POWER PLANT

| NPDES DISCHARGE POINTS | |
|---|---|
| DISCHARGE NUMBER | DESCRIPTION |
| 001 | Once-Though Cooling Water |
| 001 A | Firewater Systems |
| 001 B | Auxiliary Salt Water Cooling System |
| 001 C | Discharge Deleted |
| 001 D | Liquid Radioactive Waste Treatment System |
| 001 E | Service Cooling Water System |
| 001 F | Turbine Building Sump |
| 001 G | Make-Up Water System Waste Effluent |
| 001 H | Condensate Demineralizer Regenerant |
| 001 I | Seawater Evaporator Blowdown |
| 001 J | Condensate Pumps Discharge Header Overboard |
| 001 K | Condenser Tube Sheet Leak Detection Dump Tank Overboard |
| 001 L | Steam Generator Blowdown |
| 001 M | Wastewater Holding and Treatment System |
| 001 N | Sanitary Wastewater Treatment System |
| 001 P | Seawater Reverse Osmosis System Blowdown |
| 002 | Intake Structure Building Floor Drains |
| 003 | Intake Screen Wash |
| 004 | Bio Lab and Storm Water Runoff |
| 005, 008, 009, 013, 014, 015 | Yard Storm Drains |
| 006, 007, 010, 011, 012 | Storm Water Runoff |
| 016 | Bio Lab Seawater Supply Pump Valve Drain |
| 017 | Seawater Reverse Osmosis System Blowdown Drain |

# APPENDIX 2

## TABULAR SUMMARIES OF INFLUENT AND EFFLUENT MONITORING

# 2003 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

## DISCHARGE 001

| | TEMPERATURE (DEG F) | | | | | | | | FLOW (MGD) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | INFLUENT | | | EFFLUENT | | | DELTA T | | | | |
| Month | high | low | avg | high | low | avg | high | avg | high | low | avg |
| JAN | 57.2 | 55.3 | 56.4 | 76.3 | 74.5 | 75.4 | 19.2 | 19.0 | 2486 | 2486 | 2486 |
| FEB | 57.5 | 54.2 | 55.9 | 76.5 | 72.5 | 74.7 | 19.1 | 18.8 | 2486 | 1239 | 1345 |
| MAR | 54.7 | 49.2 | 51.8 | 73.5 | 61.8 | 67.2 | 18.9 | 15.3 | 2486 | 1239 | 1814 |
| APR | 55.5 | 49.1 | 49.6 | 71.2 | 62.1 | 65.6 | 19.2 | 16.0 | 2486 | 1862 | 2168 |
| MAY | 52.6 | 49.0 | 50.5 | 71.6 | 68.0 | 69.6 | 19.6 | 19.1 | 2486 | 2486 | 2486 |
| JUN | 54.6 | 49.7 | 50.5 | 73.9 | 68.8 | 69.2 | 20.7 | 18.7 | 2486 | 1874 | 2333 |
| JUL | 58.2 | 49.4 | 52.8 | 77.9 | 68.5 | 71.9 | 19.7 | 19.2 | 2486 | 2436 | 2484 |
| AUG | 57.7 | 50.3 | 52.6 | 77.3 | 70.0 | 72.1 | 19.9 | 19.5 | 2486 | 2486 | 2486 |
| SEP | 58.8 | 51.6 | 54.4 | 78.5 | 70.9 | 73.8 | 20.0 | 19.4 | 2486 | 2486 | 2486 |
| OCT | 59.7 | 52.9 | 56.2 | 78.6 | 72.2 | 75.4 | 19.4 | 19.2 | 2486 | 2486 | 2486 |
| NOV | 59.3 | 54.0 | 56.9 | 78.7 | 73.6 | 76.3 | 19.7 | 19.4 | 2486 | 2486 | 2486 |
| DEC | 57.2 | 54.8 | 55.7 | 76.4 | 64.8 | 74.5 | 19.5 | 18.8 | 2486 | 1976 | 2466 |
| limit: | | - | | | - | | 22 | | 2760 | | |

The INFLUENT and EFFLUENT "high" and "low" values correspond to the highest and lowest daily average value for that month. The INFLUENT high and low does not necessarily correspond to the same day as the high and low for the EFFLUENT for that month. The "avg" for INFLUENT and EFFLUENT is the average for the entire month. The Monthly Delta T "high" is the highest Delta T for a day of the month based on daily average INFLUENT and EFFLUENT values. The "Avg" is calculated from INF and EFF monthly avg values.

## DISCHARGE 001

| | TOTAL RESIDUAL CHLORINE (daily max. ug/l) | | | TOTAL CHLORINE USED (lbs/day) | | |
|---|---|---|---|---|---|---|
| Month | high | low | avg | high | low | avg |
| JAN | 62 | 29 | 41 | 526 | 384 | 481 |
| FEB | 36 | <20 | <20 | 302 | 216 | 269 |
| MAR | 67 | <20 | 31 | 374 | 194 | 282 |
| APR | 61 | 19 | 31 | 461 | 228 | 361 |
| MAY | 46 | 20 | 34 | 461 | 372 | 416 |
| JUN | 46 | <10 | 30 | 432 | 144 | 388 |
| JUL | 43 | <10 | 18 | 605 | 0 | 449 |
| AUG | 62 | 14 | 41 | 792 | 533 | 641 |
| SEP | 47 | <10 | 22 | 835 | 533 | 671 |
| OCT | 39 | <10 | 13 | 907 | 475 | 679 |
| NOV | 27 | <10 | <10 | 821 | 432 | 666 |
| DEC | 39 | <10 | 21 | 576 | 418 | 545 |

Note that the residual chlorine limits in Permit CA0003751, Order 90-09 is a daily max of 200 ug/l and includes a time-based limit (per the Ocean Plan) which depends on the length of the respective chlorination cycle.

# 2003 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

## DISCHARGE 001

### METALS (monthly avg. ug/l)

| | CHROMIUM | | COPPER | | NICKEL | | *ZINC | |
|---|---|---|---|---|---|---|---|---|
| Month | Influent | Effluent | Influent | Effluent | Influent | Effluent | Influent | Effluent |
| JAN | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | 11 | ND(10) |
| FEB | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | 13 | ND(10) |
| MAR | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | 18 | ND(10) |
| APR | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | 11 | ND(10) |
| MAY | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | 10 | ND(10) |
| JUN | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) |
| JUL | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) |
| AUG | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) |
| SEP | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) |
| OCT | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) |
| NOV | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) |
| DEC | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) | ND(10) |
| 6-month median limit: | 10 | - | 10 | - | 30 | - | 70 | |

* Note: Influent zinc has been historically higher than effluent concentrations.

### DISCHARGE 001
### VARIOUS ANNUAL ANALYSES

| | (ug/l) | | 6-Mo. Med. Effluent |
|---|---|---|---|
| Parameter | Influent | Effluent | Limit |
| Arsenic | 1.3 | 1.3 | 30 |
| Cadmium | 0.11 | 0.06 | 10 |
| Cyanide | ND(10) | ND(10) | 30 |
| Lead | 0.29 | 0.04 | 10 |
| Mercury | ND(.001) | ND(.001) | 0.2 |
| Silver | 0.08 | 0.07 | 2.9 |
| Titanium | - | ND(10) | none |
| *Phenolic Cmpds (non-chlorinated) | ND(11.82) | ND(11.82) | 150 |
| **Phenolic Cmpds (chlorinated) | ND(3.36) | ND(3.36) | 10 |
| ***PCB's | ND(1.52) | ND(1.59) | none |

*Reporting limit [ND (11.82)] shown is the sum of individual Reporting Limit's for 6 target compounds.
**Reporting limit [ND (3.36)] shown is the sum of individual Reporting Limit's for 5 target compounds.
***Reporting limits [ND(1.52) and ND(1.59)] shown are each the sum of individual Reporting Limit's for 7 target compounds.

### DISCHARGE 001
AMMONIA (as N) (ug/l)

| Month | Influent | Effluent |
|---|---|---|
| JAN | ND(200) | ND(200) |
| FEB | | |
| MAR | | |
| APR | ND(200) | ND(200) |
| MAY | | |
| JUN | | |
| JUL | | |
| AUG | ND(200) | ND(200) |
| SEP | | |
| OCT | ND(200) | ND(200) |
| NOV | | |
| DEC | | |
| 6-month median limit: | 3060 | |

# 2003 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

## MONTHLY pH (averages)

| Discharge: | 001 | | 002 | 003 | 004 | 001P |
|---|---|---|---|---|---|---|
| Month | Influent | Effluent | | | | |
| JAN | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 7.8 |
| FEB | 8.1 | 8.1 | 8.1 | 8.1 | 8.1 | 8.0 |
| MAR | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 7.7 |
| APR | 7.8 | 7.8 | 7.9 | 7.7 | 7.8 | 7.6 |
| MAY | 7.8 | 7.8 | 7.8 | 7.9 | 7.8 | 7.7 |
| JUN | 7.8 | 7.8 | 8.0 | 7.8 | 8.0 | 7.7 |
| JUL | 8.0 | 8.0 | 7.8 | 7.8 | 7.9 | 7.6 |
| AUG | 7.9 | 7.9 | 8.0 | 7.9 | 8.0 | 7.8 |
| SEP | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 | 7.7 |
| OCT | 7.9 | 7.9 | 7.8 | 8.0 | 7.9 | 7.7 |
| NOV | 8.1 | 8.1 | 8.0 | 8.0 | 8.1 | 7.9 |
| DEC | 7.8 | 7.8 | 7.9 | 7.9 | 7.9 | 7.8 |

## DISCHARGE 001F

| | GREASE & OIL (mg/l) | | SUSPENDED SOLIDS (mg/l) | |
|---|---|---|---|---|
| Month | high | avg | high | avg |
| JAN | <3 | <3 | ND(5) | ND(5) |
| FEB | <3 | <3 | ND(5) | ND(5) |
| MAR | 3 | <3 | ND(5) | ND(5) |
| APR | <3 | <3 | 5 | 5 |
| MAY | <3 | <3 | 7 | 7 |
| JUN | <3 | <3 | 6 | 6 |
| JUL | <3 | <3 | ND(5) | ND(5) |
| AUG | <3 | <3 | ND(5) | ND(5) |
| SEP | <3 | <3 | ND(5) | ND(5) |
| OCT | <3 | <3 | 10 | 10 |
| NOV | <3 | <3 | ND(5) | ND(5) |
| DEC | <3 | <3 | ND(5) | ND(5) |
| limit: | 20 | 15 | 100 | 30 |

Note: "high" limits based upon Daily Maximum limits. "avg" limits based upon Monthly Average Limits.

## DISCHARGE 001N
(Monthly Summary of Weekly Data)

| | GREASE & OIL (mg/l) | | | SUSPENDED SOLIDS (mg/l) | | | SETTLEABLE SOLIDS (ml/l) | | |
|---|---|---|---|---|---|---|---|---|---|
| Month | high | low | avg | high | low | avg | high | low | avg |
| JAN | ND(5) | ND(5) | ND(5) | 24 | ND(5) | 14 | ND(0.1) | ND(0.1) | ND(0.1) |
| FEB | ND(5) | ND(5) | ND(5) | 43 | 24 | 31 | ND(0.1) | ND(0.1) | ND(0.1) |
| MAR | 17 | ND(5) | <5 | 47 | 18 | 33 | ND(0.1) | ND(0.1) | ND(0.1) |
| APR | 12 | ND(5) | <5 | 39 | 8 | 25 | ND(0.1) | ND(0.1) | ND(0.1) |
| MAY | ND(5) | ND(5) | ND(5) | 33 | 8 | 23 | ND(0.1) | ND(0.1) | ND(0.1) |
| JUN | ND(5) | ND(5) | ND(5) | 33 | 6 | 17 | ND(0.1) | ND(0.1) | ND(0.1) |
| JUL | ND(5) | ND(5) | ND(5) | 23 | 6 | 15 | ND(0.1) | ND(0.1) | ND(0.1) |
| AUG | ND(5) | ND(5) | ND(5) | 19 | 6 | 12 | ND(0.1) | ND(0.1) | ND(0.1) |
| SEP | ND(5) | ND(5) | ND(5) | 32 | 7 | 14 | ND(0.1) | ND(0.1) | ND(0.1) |
| OCT | ND(5) | ND(5) | ND(5) | 45 | ND(5) | 21 | ND(0.1) | ND(0.1) | ND(0.1) |
| NOV | ND(5) | ND(5) | ND(5) | 17 | 5 | 9 | ND(0.1) | ND(0.1) | ND(0.1) |
| DEC | ND(5) | ND(5) | ND(5) | 13 | ND(5) | 9 | ND(0.1) | ND(0.1) | ND(0.1) |
| limit: | 20 | - | 15 | - | - | 60 | 3.0 | - | 1.0 |

Note: "high" limits based upon Daily Maximum limits. "avg" limits based upon Monthly Average limits.

# 2003 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

## DISCHARGE 001D, H, L, F, METALS (avg. ug/l)

| | 001D | | | | 001 H | | | | 001L | | | | 001F | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Month | Ag | Cd | Cr | Cu | Ag | Cd | Cr | Cu | Ag | Cd | Cr | Cu | Ag | Cd | Cr | Cu |
| JAN | ND(10) | ND(5) | ND(10) | 10 | ND(10) | ND(5) | 10 | 170 | ND(10) | ND(5) | ND(10) | ND(10) | ND(10) | ND(5) | ND(10) | 10 |
| FEB | | | | | | | | | | | | | | | | |
| MAR | | | | | | | | | | | | | | | | |
| APR | ND(10) | ND(5) | ND(10) | 20 | ND(10) | ND(5) | 30 | 270 | ND(10) | ND(5) | ND(10) | <10 | ND(10) | ND(5) | ND(10) | 20 |
| MAY | | | | | | | | | | | | | | | | |
| JUN | | | | | | | | | | | | | | | | |
| JUL | ND(1) | 0.2 | 2 | ND(5) | ND(1) | 2.0 | 11 | 73 | ND(1) | 1.0 | 2 | 6 | ND(1) | 1.2 | 11 | 5 |
| AUG | | | | | | | | | | | | | | | | |
| SEP | | | | | | | | | | | | | | | | |
| OCT | ND(1) | 0.4 | ND(5) | 11 | ND(1) | 1.2 | 17 | 44 | ND(1) | ND(0.2) | ND(5) | ND(5) | 1 | 1.3 | 6 | 35 |
| NOV | | | | | | | | | | | | | | | | |
| DEC | | | | | | | | | | | | | | | | |

limit: none

Note: 001D, 001H and 001L analyses performed on quarterly composites. 001F analyses performed quarterly on a composite of weekly samples.

## DISCHARGE 001D, H, L, F, METALS (avg. ug/l)

| | 001D | | | | 001 H | | | | 001L | | | | 001F | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Month | Hg | Ni | Pb | Zn | Hg | Ni | Pb | Zn | Hg | Ni | Pb | Zn | Hg | Ni | Pb | Zn |
| JAN | ND(0.2) | 20 | 10 | 930 | ND(0.2) | 30 | ND(100) | 80 | ND(0.2) | ND(10) | ND(10) | 60 | 0.5 | ND(10) | ND(10) | 80 |
| FEB | | | | | | | | | | | | | | | | |
| MAR | | | | | | | | | | | | | | | | |
| APR | ND(0.1) | 30 | 20 | 390 | 0.2 | 50 | ND(200) | 80 | ND(0.1) | ND(10) | ND(10) | 80 | 0.2 | 10 | ND(10) | 60 |
| MAY | | | | | | | | | | | | | | | | |
| JUN | | | | | | | | | | | | | | | | |
| JUL | 0.1 | 6 | 1.2 | 90 | ND(0.1) | 20 | 9.3 | 20 | ND(0.1) | 3 | 5.9 | ND(10) | 0.1 | 12 | 3.9 | 10 |
| AUG | | | | | | | | | | | | | | | | |
| SEP | | | | | | | | | | | | | | | | |
| OCT | 0.1 | 19 | 3.4 | 199 | ND(0.1) | 15 | 8.3 | 10 | ND(0.1) | ND(1) | ND(1) | ND(10) | ND(0.1) | 7 | 3.7 | 20 |
| NOV | *ND(0.1) | | | | | | | | | | | | | | | |
| DEC | | | | | | | | | | | | | | | | |

limit: none

Note: 001D, 001H and 001L analyses performed on quarterly composites. 001F analyses performed quarterly on a composite of weekly samples.

* Second part of a quarterly composite (3 samples)

# 2003 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

## MONTHLY TOTAL SUSPENDED SOLIDS

Averages (mg/l)

| Month | 001D* | 001G | 001H | 001I | 001J | 001K | 001L | 001M | 001P | 002 | 003 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| JAN | 11 | ND(5) | ND(5) | | | | ND(5) | | ND(5) | <5 | ND(5) |
| FEB | <5 | ND(5) | 8 | | ND(5) | | ND(5) | ND(5) | ND(5) | ND(5) | <5 |
| MAR | 11 | ND(5) | ND(5) | | ND(5) | | ND(5) | ND(5) | ND(5) | ND(5) | ND(5) |
| APR | 10 | ND(5) | ND(5) | | ND(5) | | ND(5) | | 8 | 6 | ND(5) |
| MAY | 9 | ND(5) | ND(5) | | | | ND(5) | ND(5) | ND(5) | ND(5) | ND(5) |
| JUN | 10 | ND(5) | ND(5) | | | | ND(5) | | 15 | ND(5) | ND(5) |
| JUL | <5 | ND(5) | 8 | | | | ND(5) | | 9 | ND(5) | 6 |
| AUG | 10 | ND(5) | ND(5) | | | | ND(5) | | ND(5) | <5 | ND(5) |
| SEP | 5 | ND(5) | ND(5) | | | | ND(5) | ND(5) | ND(5) | ND(5) | ND(5) |
| OCT | 6 | ND(5) | ND(5) | | | | ND(5) | | ND(5) | ND(5) | ND(5) |
| NOV | 7 | 8 | ND(5) | | | | ND(5) | 7 | ND(5) | ND(5) | ND(5) |
| DEC | <5 | ND(5) | ND(5) | | | | ND(5) | | ND(5) | ND(5) | ND(5) |
| Limit: | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | - |

* Discharges from 001D are batched. Monthly averages are flow weighted.
Note: No discharges occurred from 001I and 001K during 2003.
Blank spots for other discharge points indicate that no discharge occurred during that particular month.

## QUARTERLY GREASE & OIL

Averages by Month (mg/l)

| Month | 001D* | 001G | 001H | 001I | 001J | 001K | 001L | 001M | 001P | 002 | 003 | 004 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| JAN | <3 | <3 | 3 | | | | <3 | | <3 | <3 | <3 | <3 |
| FEB | 9 | | | | <3 | | | <3 | | | | |
| MAR | | | | | | | | <3 | | | | |
| APR | <3 | <3 | <3 | | <3 | | | | | <3 | <3 | <3 |
| MAY | | | | | | | <3 | <3 | <3 | | | |
| JUN | <3 | | | | | | | | | | | |
| JUL | <3 | <3 | <3 | | | | <3 | | <3 | <3 | <3 | <3 |
| AUG | 3 | | | | | | | | | | | |
| SEP | | | <3 | | | | | <3 | | | | |
| OCT | <3 | <3 | <3 | | | | <3 | | <3 | <3 | <3 | <3 |
| NOV | <3 | | | | | | | <3 | | | | |
| DEC | | | | | | | | | | | | |
| Limit: | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |

* Discharges from 001D are batched. Monthly averages are flow weighted.
Note: No discharges occurred from 001I and 001K during 2003.

# 2003 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

## QUARTERLY ACUTE AND CHRONIC TOXICITY TESTING
(toxicity units, $tu_a$ and $tu_c$)

| Month | ACUTE Test Result | ACUTE 6-Month Median | *CHRONIC Test Result |
|---|---|---|---|
| JAN | 0.00 | 0.00 | 1.0 |
| FEB | | | |
| MAR | | | |
| APR | 0.00 | 0.00 | 1.0 |
| MAY | | | |
| JUN | | | |
| JUL | 0.00 | 0.00 | 1.0 |
| AUG | | | |
| SEP | | | |
| OCT | 0.00 | 0.00 | 1.0 |
| NOV | | | |
| DEC | | | |
| 6-month median limit: | | 0.26 | 5.1 |

* It should be noted that this parameter is monitored for the State Ocean Plan instead of the NPDES permit. A value of 1.0 indicates no chronic toxicity.

## DISCHARGE 001N
## ANNUAL ANALYSES

| Sludge Parameter | Result | Limit |
|---|---|---|
| Percent Moisture | 99% | None |
| Total Kjeldahl Nitrogen | 700 mg/kg | None |
| Ammonia (N) | 75 mg/kg | None |
| Nitrate (N) | ND(0.1) mg/kg | None |
| Total Phosphorus | 200 mg/kg | None |
| pH | 6.8 | None |
| Oil and Grease | 140 mg/kg | None |
| Boron | ND(3) mg/kg | None |
| Cadmium | ND(0.3) mg/kg | *10 X STLC |
| Copper | 5 mg/kg | 10 X STLC |
| Chromium | ND(0.5) mg/kg | 10 X STLC |
| Lead | ND(1) mg/kg | 10 X STLC |
| Nickel | ND(0.5) mg/kg | 10 X STLC |
| Mercury | ND(0.04) mg/kg | 10 X STLC |
| Zinc | 20 mg/kg | 10 X STLC |
| Volume | 0.91 tons | None |

Note: Annual samples were collected in October
* STLC = Soluble Threshold Limit Concentration

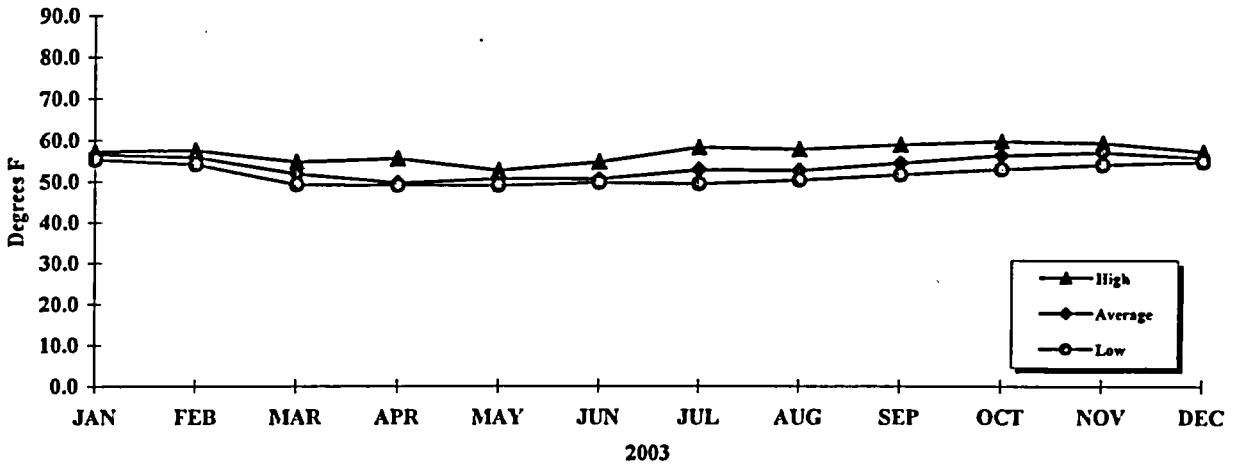
# APPENDIX 3

## GRAPHICAL SUMMARIES OF INFLUENT AND EFFLUENT MONITORING

# 2003 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

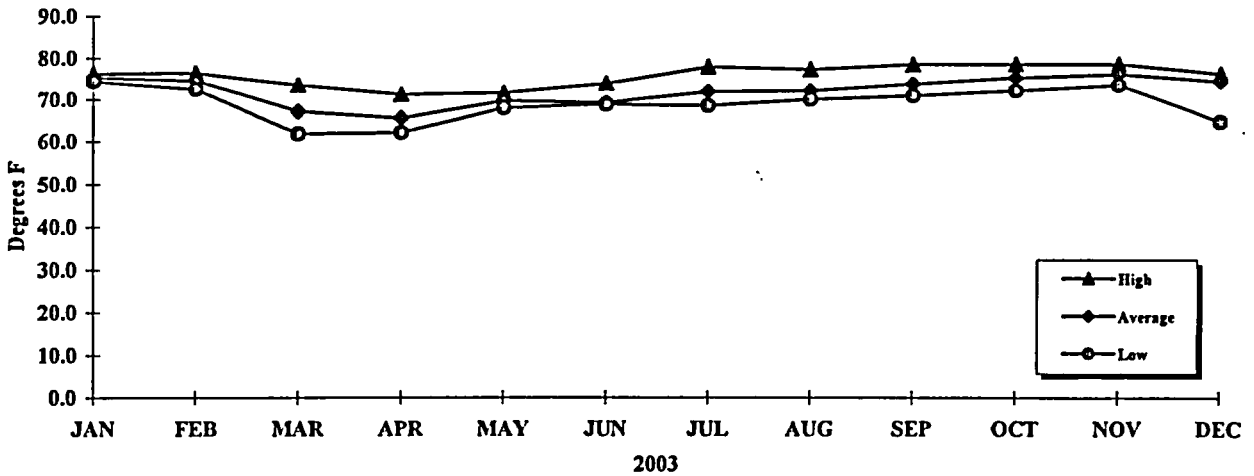
**DISCHARGE 001 INFLUENT**

*Temperature (°F)*




**DISCHARGE 001 EFFLUENT**

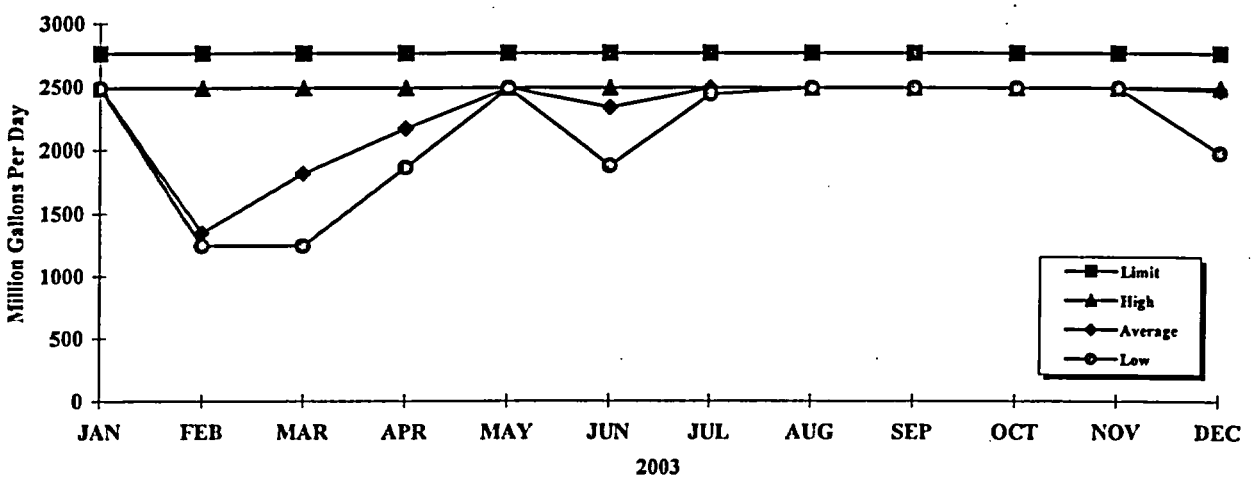
*Temperature (°F)*



# 2003 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

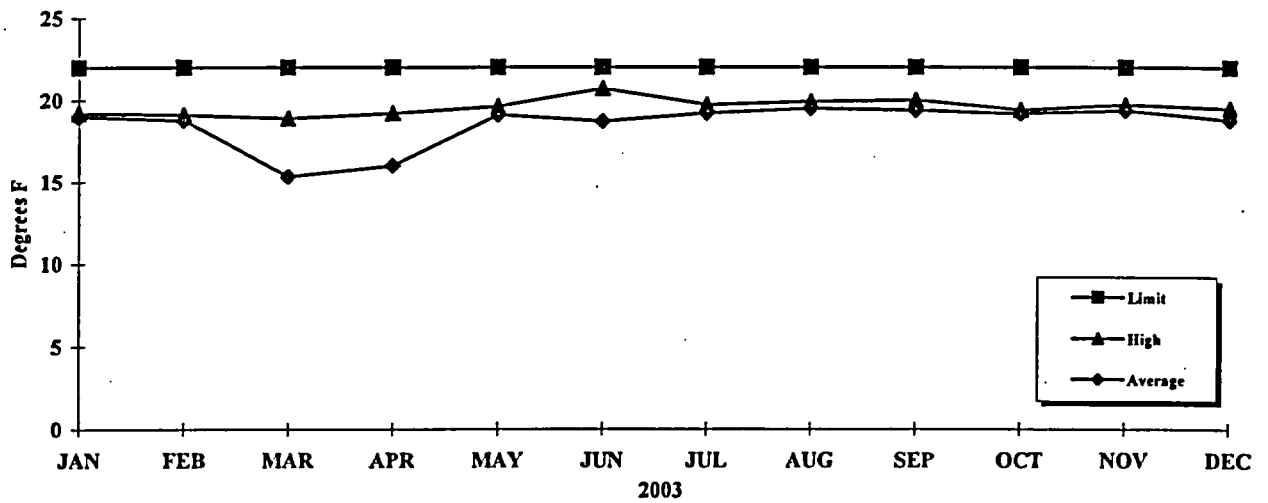
**DISCHARGE 001 EFFLUENT**

*Flow (MGD)*



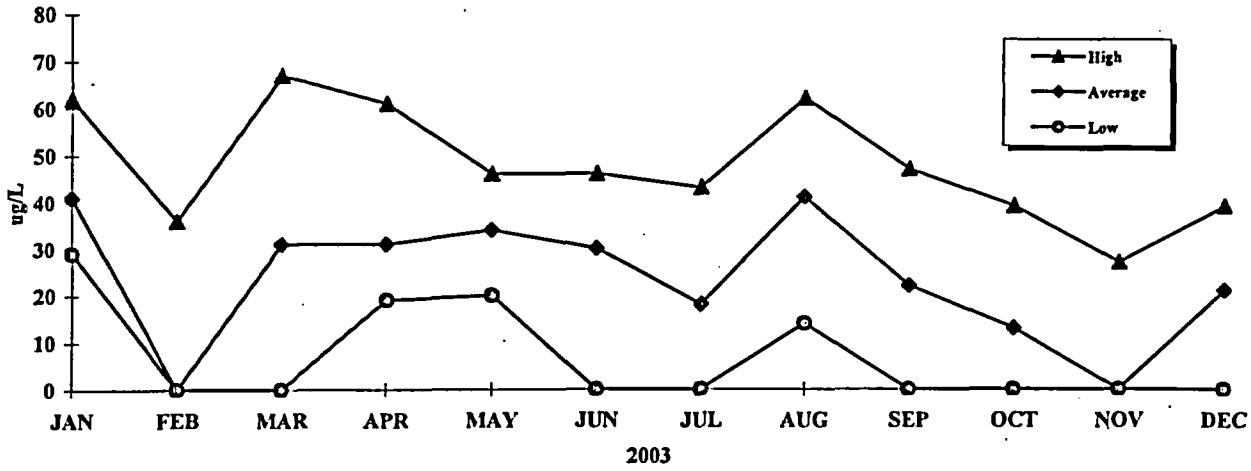

**DISCHARGE 001 EFFLUENT**

*Monthly Delta T (°F)*



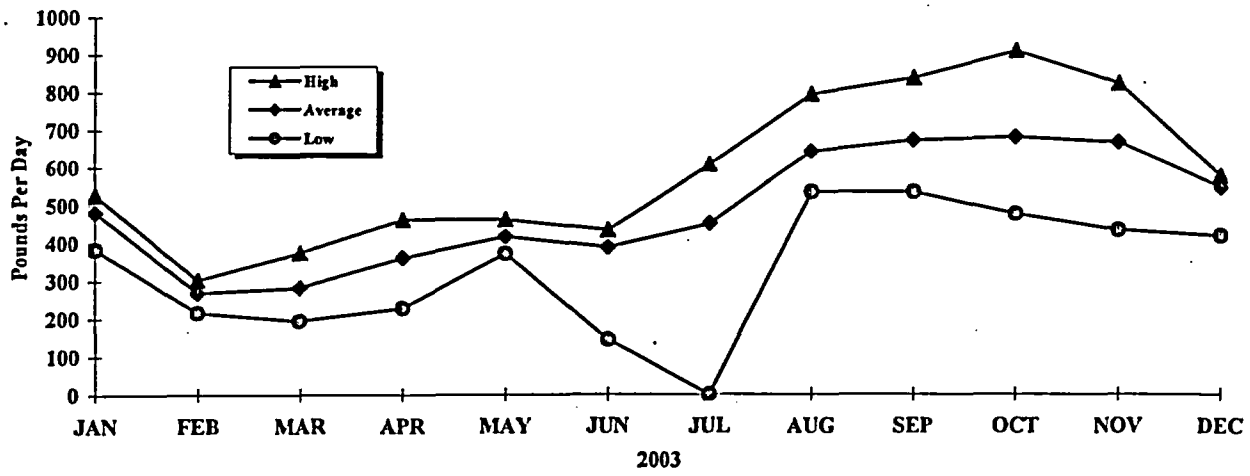
# 2003 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

**DISCHARGE 001**
*Total Chlorine Residual*




Note: Values plotted at zero were below the reporting limit.

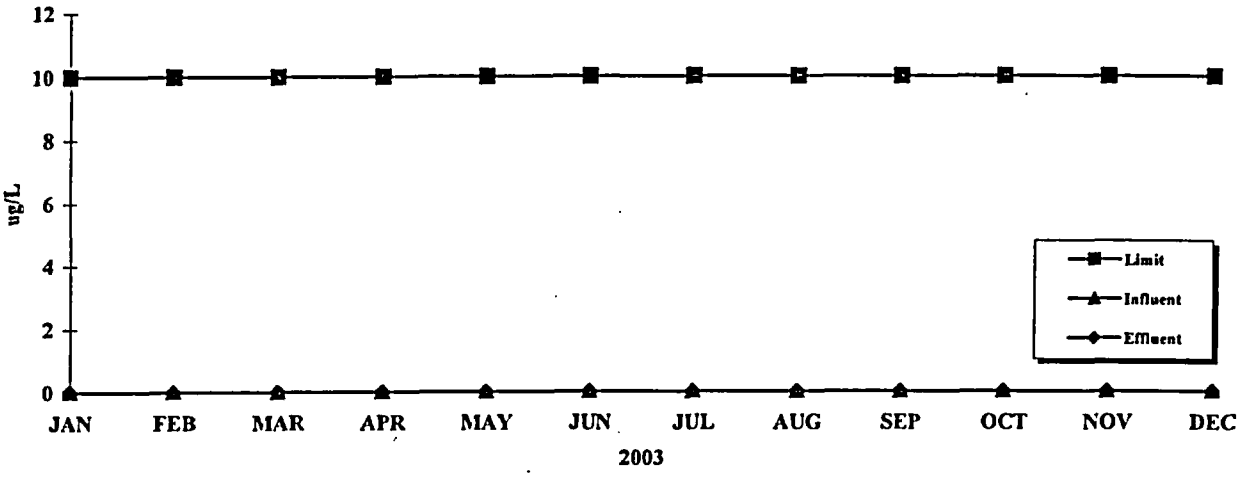
**DISCHARGE 001**
*Total Chlorine Used*



# 2003 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

## DISCHARGE 001

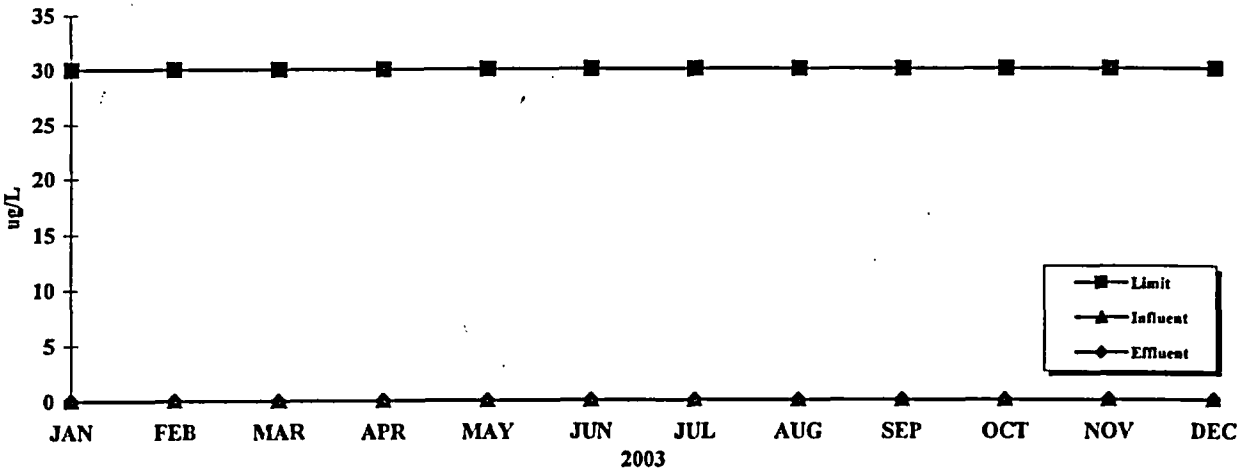
*Copper (monthly average)*




Note: The analyte was not detected at or above the reporting limit for values plotted at zero.
The 6-month median limit is plotted on this chart.

## DISCHARGE 001

*Nickel (monthly average)*

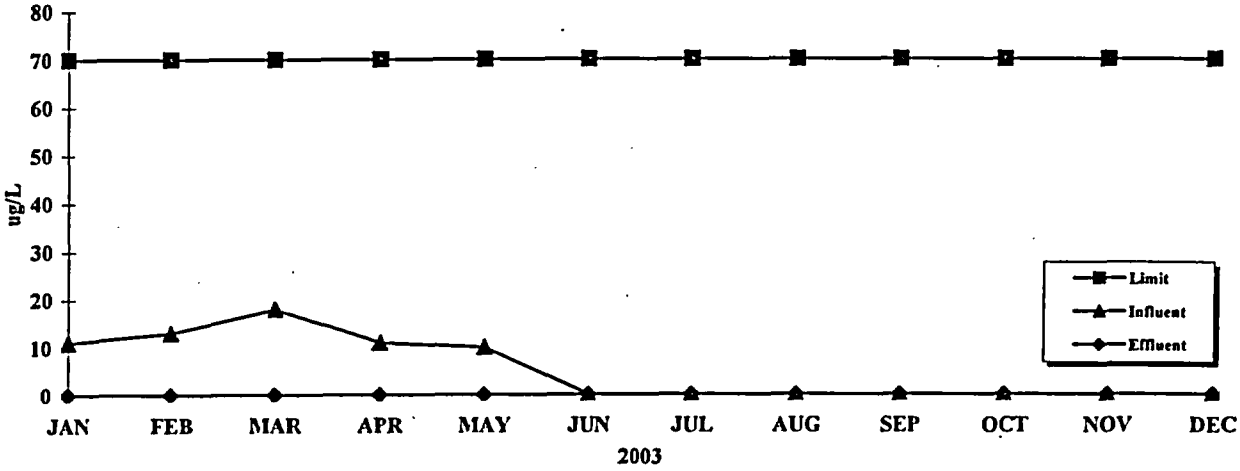



Note: The analyte was not detected at or above the reporting limit for values plotted at zero.
The 6-month median limit is plotted on this chart.

# 2003 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

## DISCHARGE 001

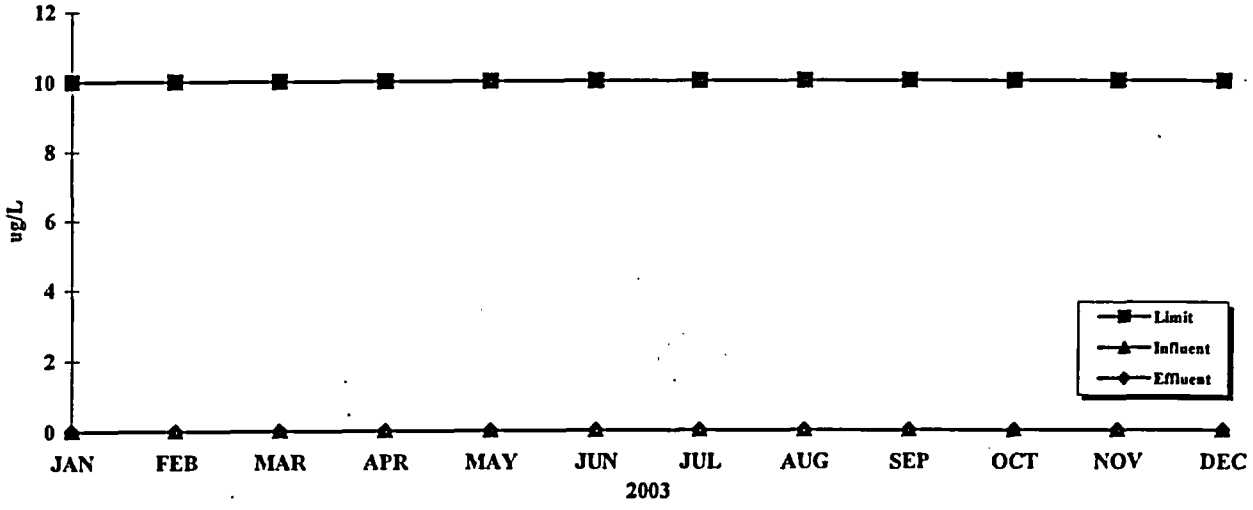
*Zinc (monthly average)*




Note: The analyte was not detected at or above the reporting limit for values plotted at zero.
The 6-month median limit is plotted on this chart.

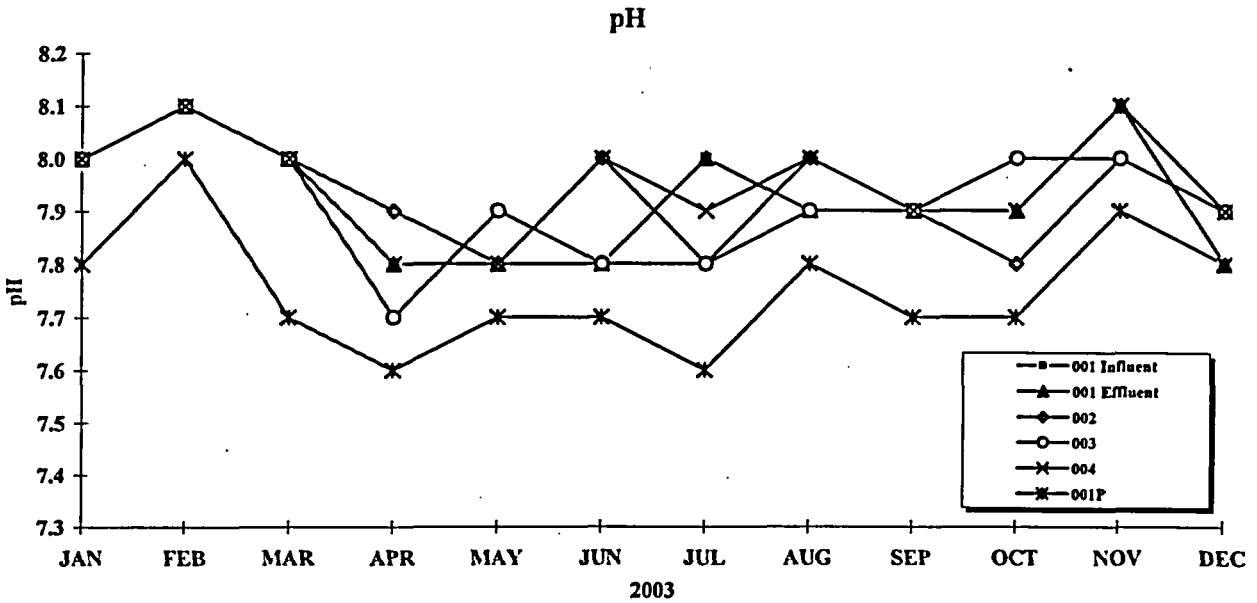
## DISCHARGE 001

*Chromium (monthly average)*

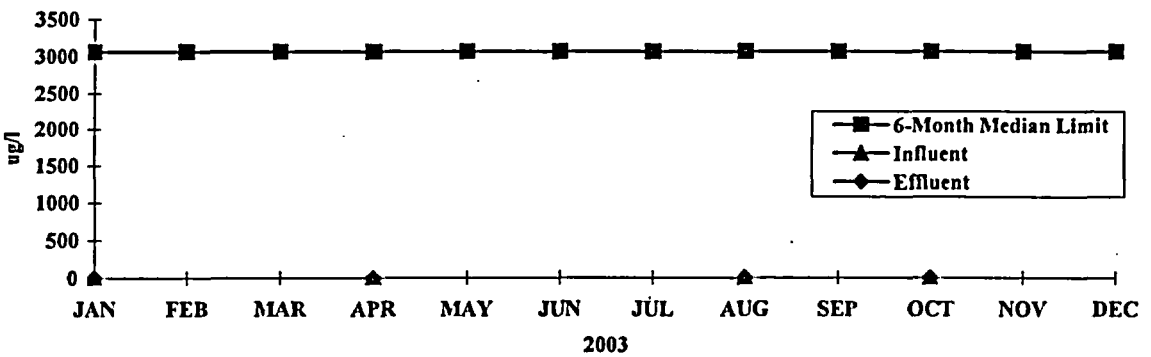



Note: The analyte was not detected at or above the reporting limit for values plotted at zero.
The 6-month median limit is plotted on this chart.

# 2003 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant




Note: Several data points on this chart overlap.



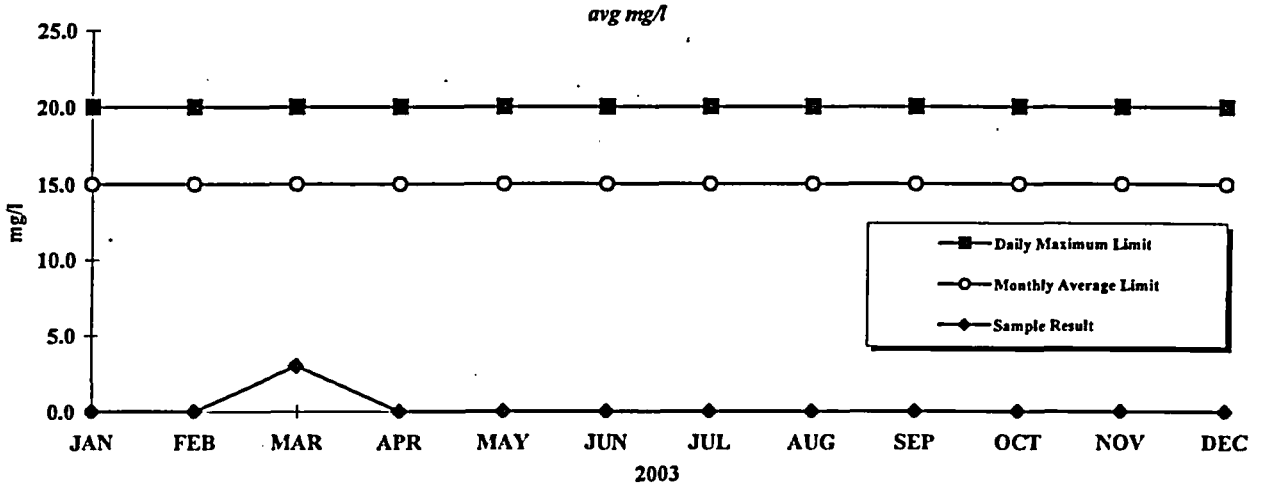

Note: The analyte was not detected at or above the reporting limit for values plotted at zero.
Influent and Effluent values overlap at four points on this plot.

# 2003 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

**DISCHARGE 001F**

***Oil & Grease***

***avg mg/l***

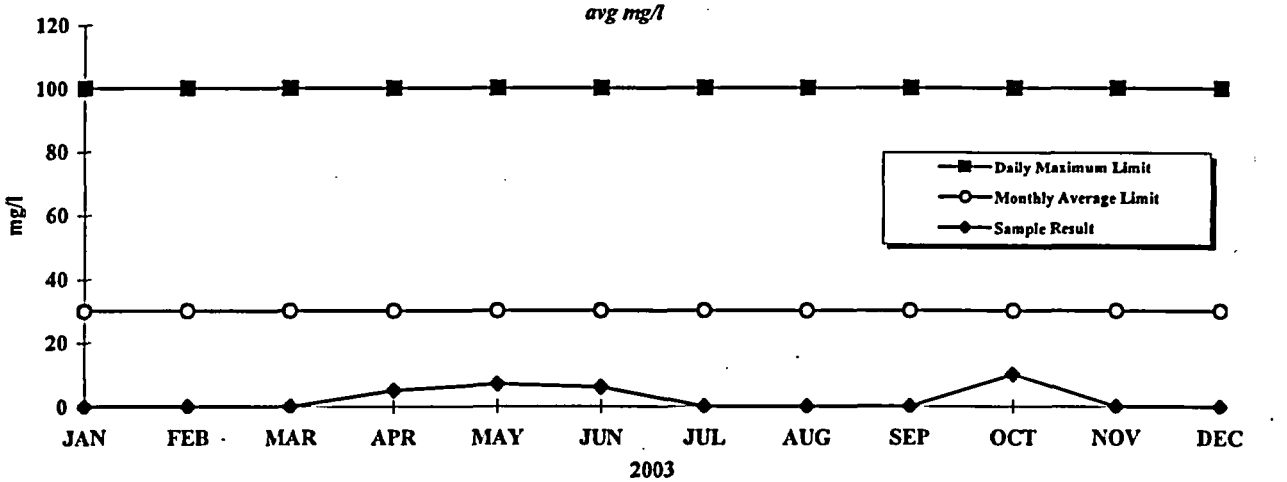



**Note: Values plotted at zero were below the reporting limit.**

**DISCHARGE 001F**

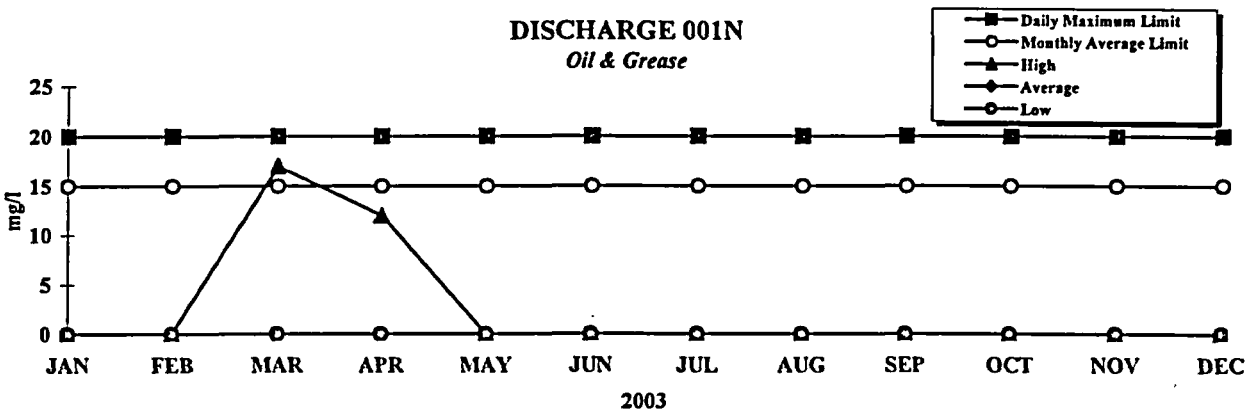
***Suspended Solids***

***avg mg/l***

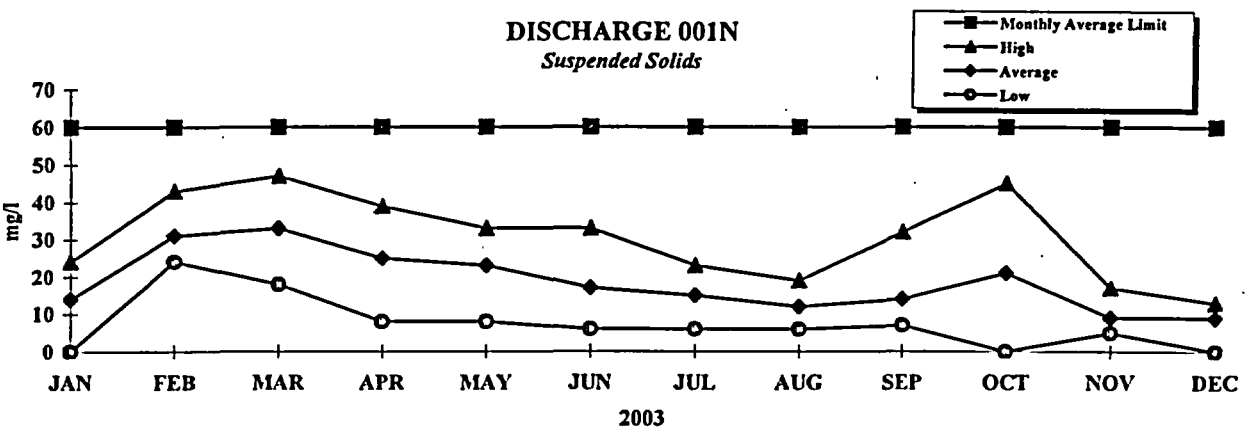



**Note: The analyte was not detected at or above the reporting limit for values plotted at zero. When sample values were above the detection limit, the maximum values are plotted (April, May, June and October).**

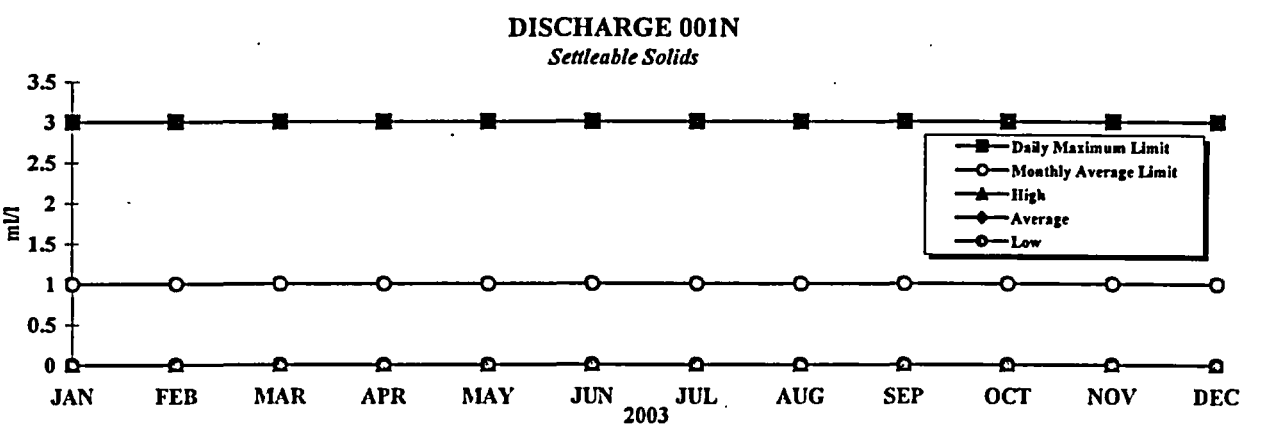
# 2003 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant




Note: Values plotted at zero were below the reporting limit.
Low and average values overlap at twelve points on this plot.




Note: Values plotted at zero were below the reporting limit.

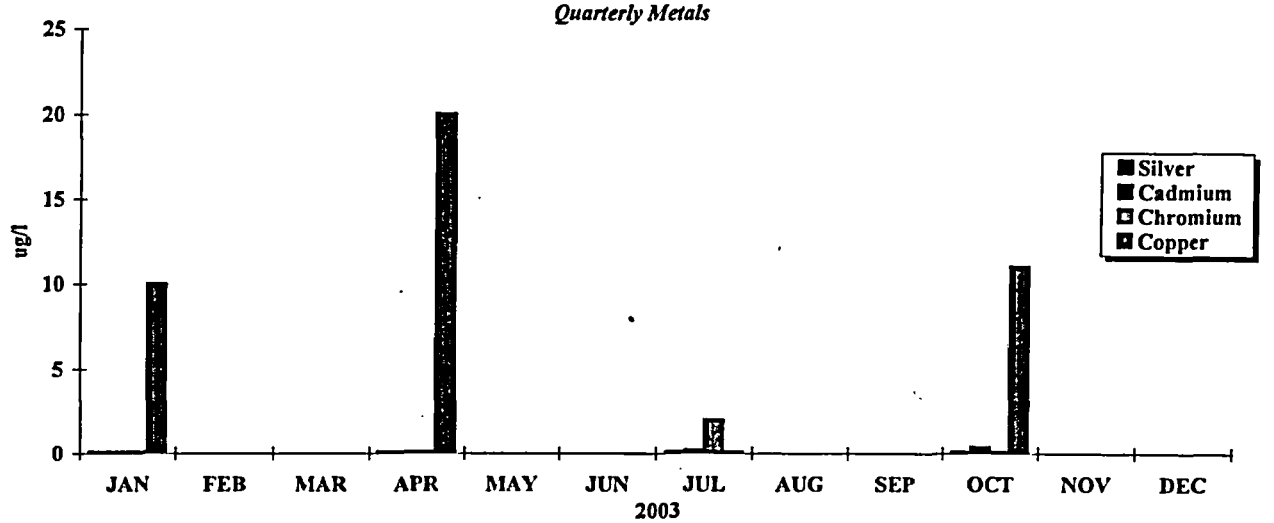



Note: Values plotted at zero were below the reporting limit.
High, average, and low values overlap at twelve points on this plot.

# 2003 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

**DISCHARGE 001D**

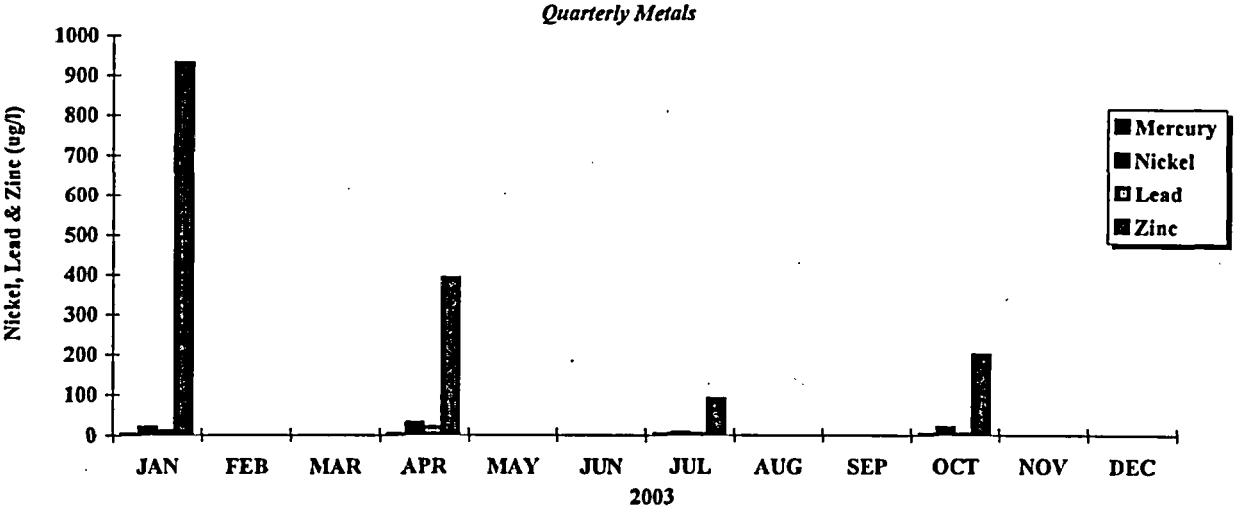
*Quarterly Metals*




Note: The analyte was not detected at or above the reporting limit for values plotted at zero.

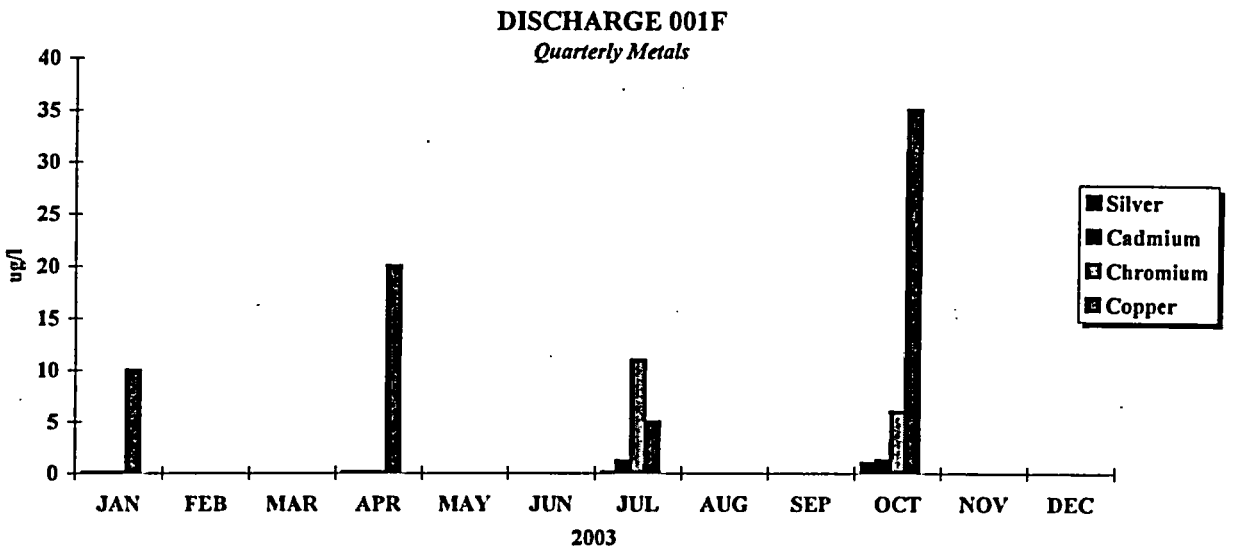
**DISCHARGE 001D**

*Quarterly Metals*

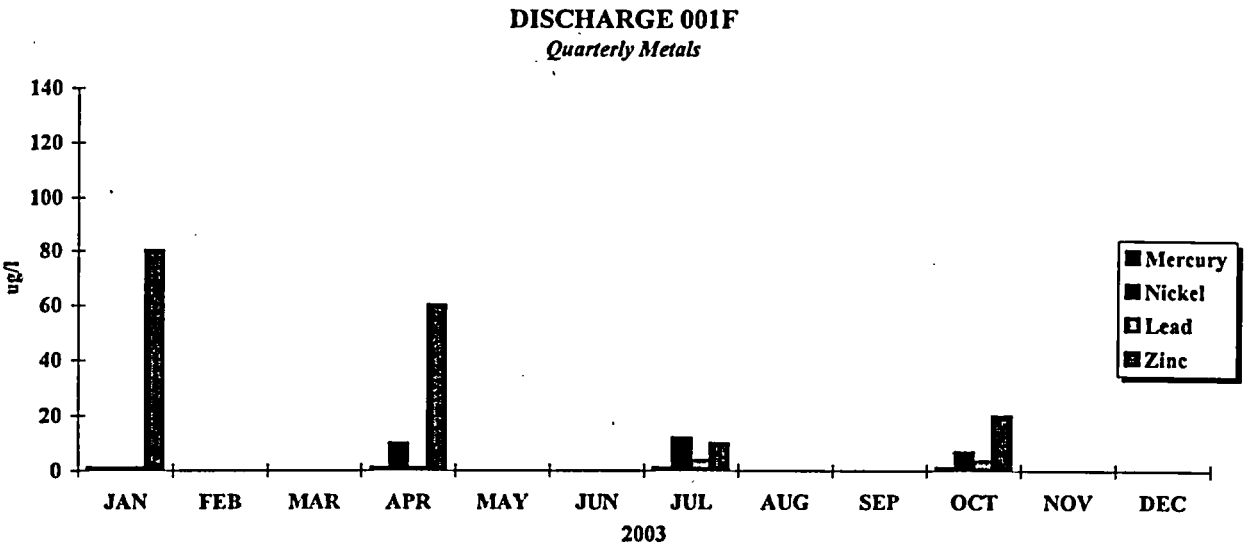



Note: The analyte was not detected at or above the reporting limit for values plotted at zero.

# 2003 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant




Note: The analyte was not detected at or above the reporting limit for values plotted at zero.

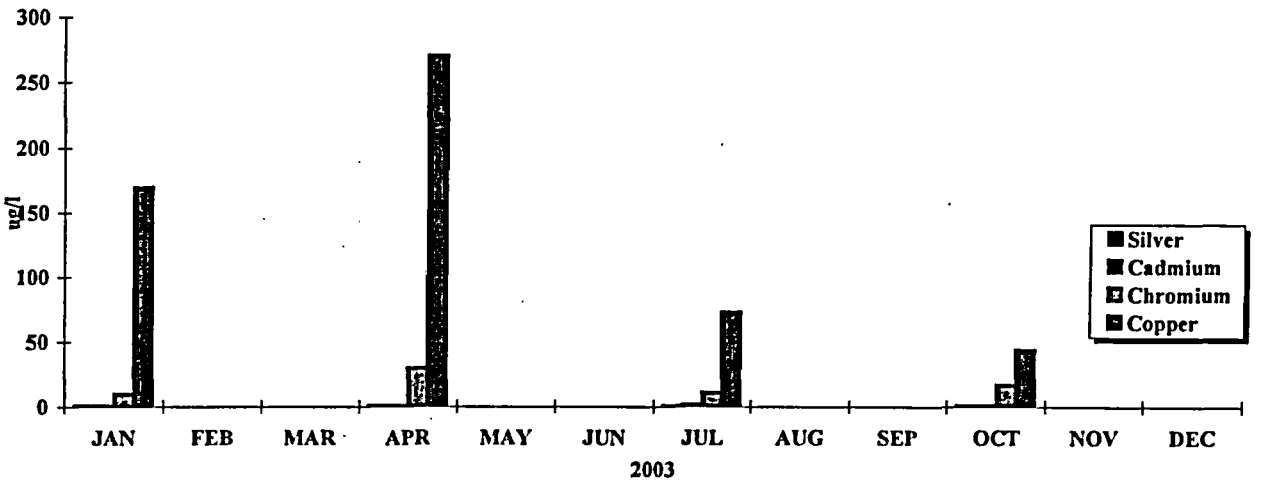



Note: The analyte was not detected at or above the reporting limit for values plotted at zero.

# 2003 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

**DISCHARGE 001H**

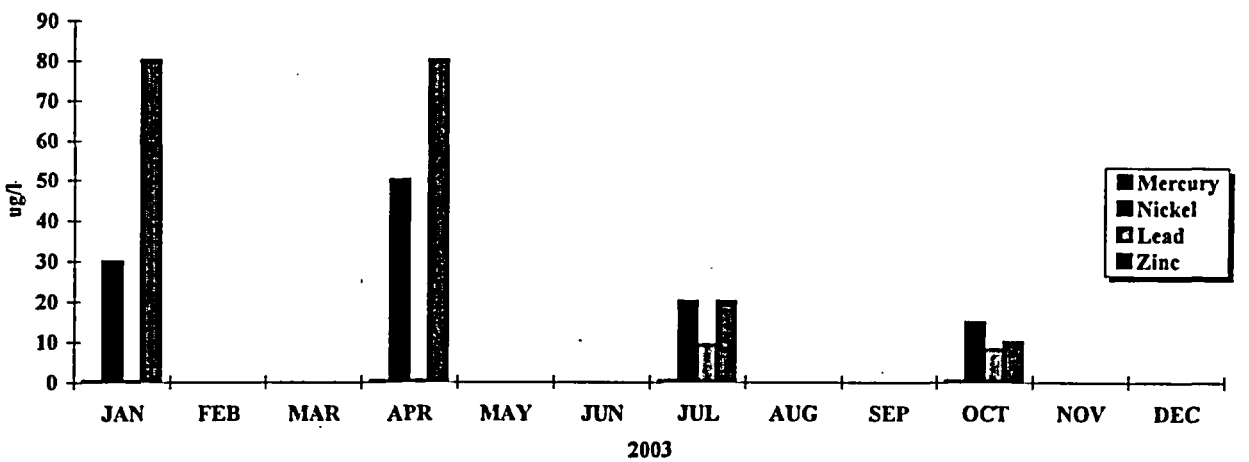
*Quarterly Metals*




Note: The analyte was not detected at or above the reporting limit for values plotted at zero.

**DISCHARGE 001H**

*Quarterly Metals*

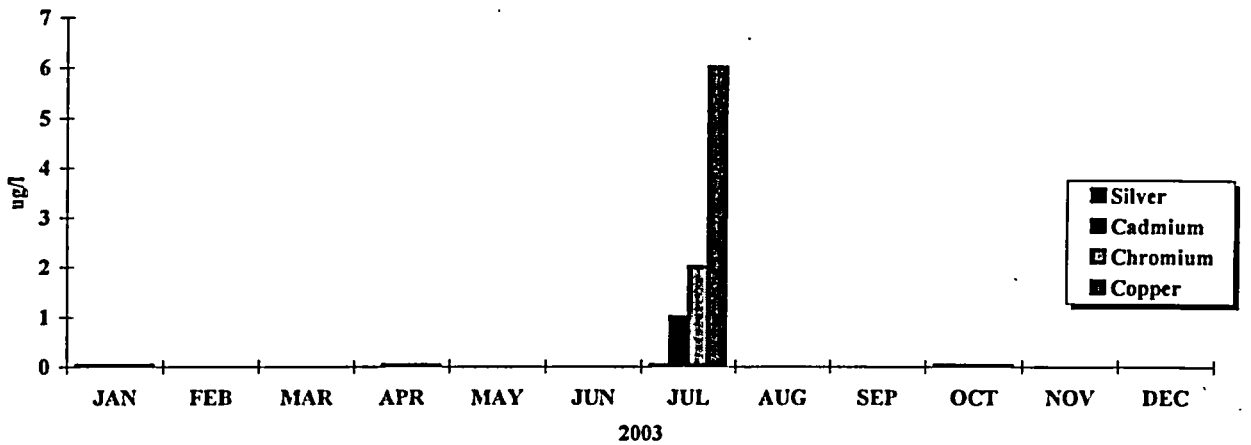



Note: The analyte was not detected at or above the reporting limit for values plotted at zero.

# 2003 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

**DISCHARGE 001L**

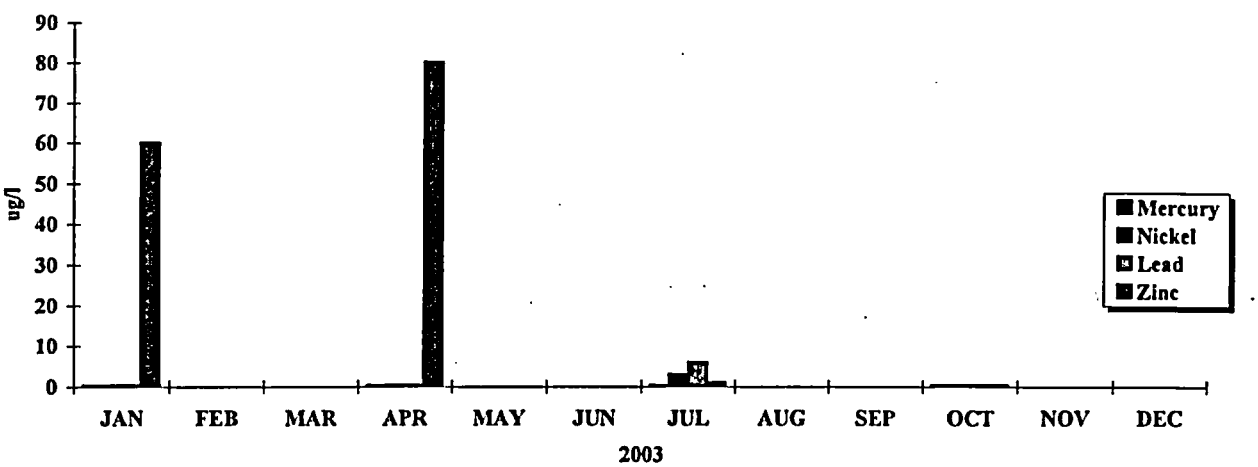
*Quarterly Metals*




Note: The analyte was not detected at or above the reporting limit for values plotted at zero.

**DISCHARGE 001L**

*Quarterly Metals*

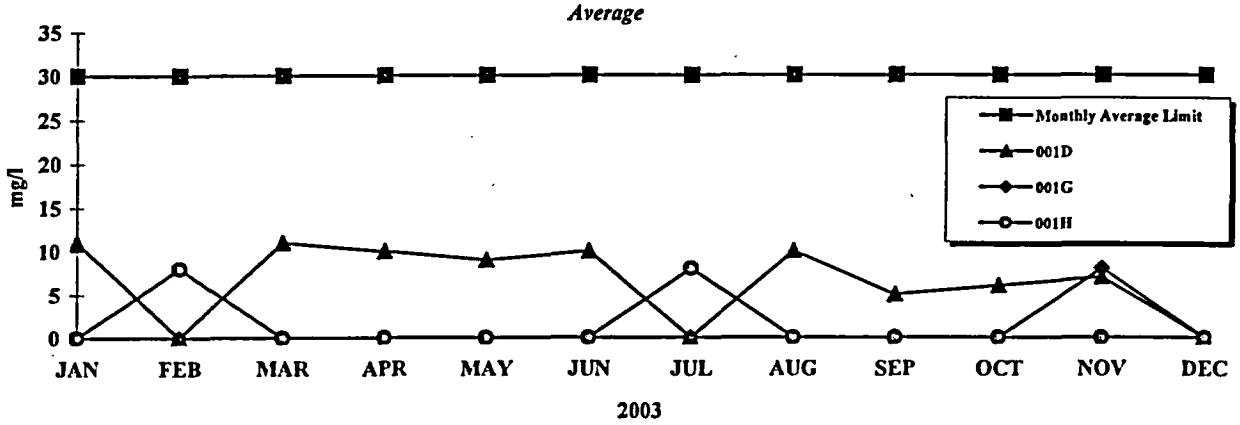



Note: The analyte was not detected at or above the reporting limit for values plotted at zero.

# 2003 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

## MONTHLY TOTAL SUSPENDED SOLIDS

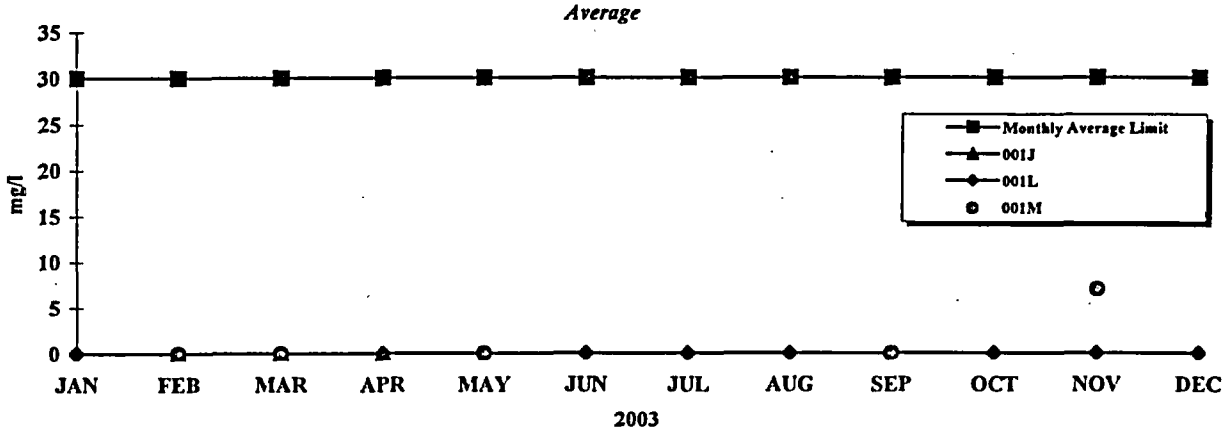
*Average*




Note: Values plotted at zero were below the reporting limit.

## MONTHLY TOTAL SUSPENDED SOLIDS

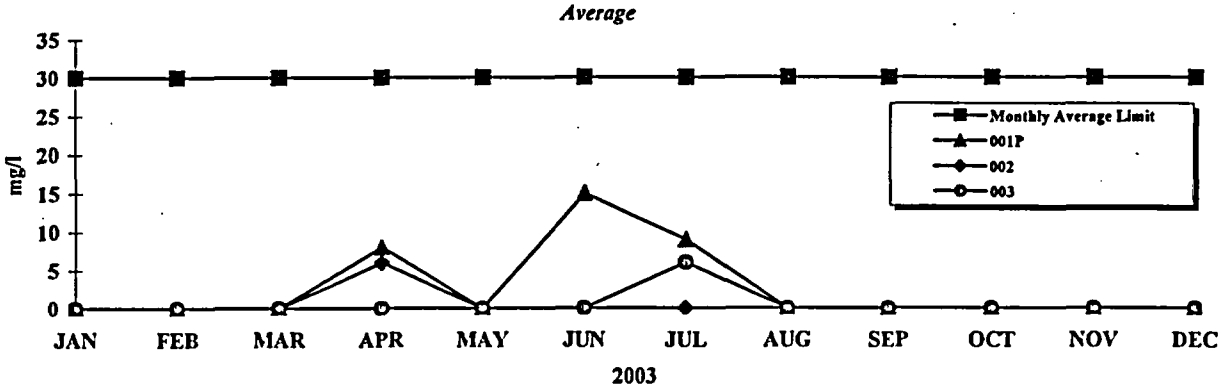
*Average*




Note: Points on charts may overlap. Values plotted at zero were below the reporting limit.

## MONTHLY TOTAL SUSPENDED SOLIDS

*Average*

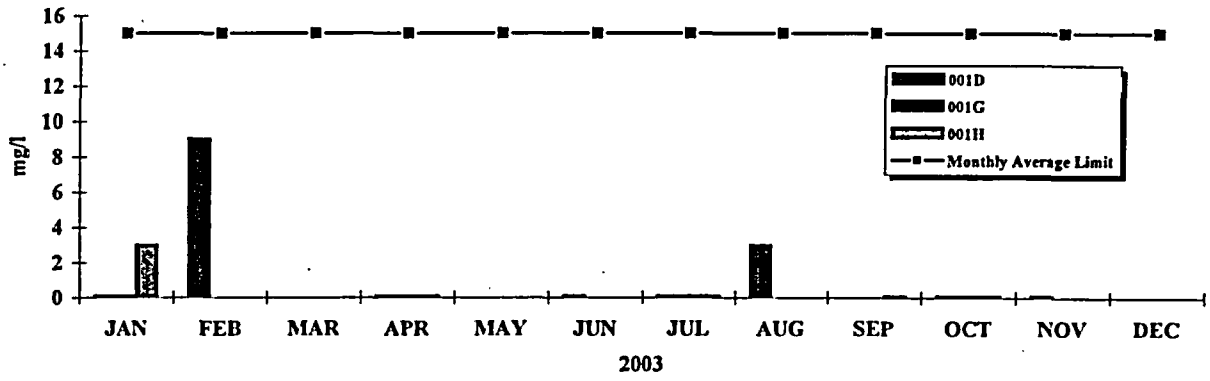



Note: Points on charts may overlap. Values plotted at zero were below the reporting limit.

# 2003 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

## QUARTERLY OIL & GREASE

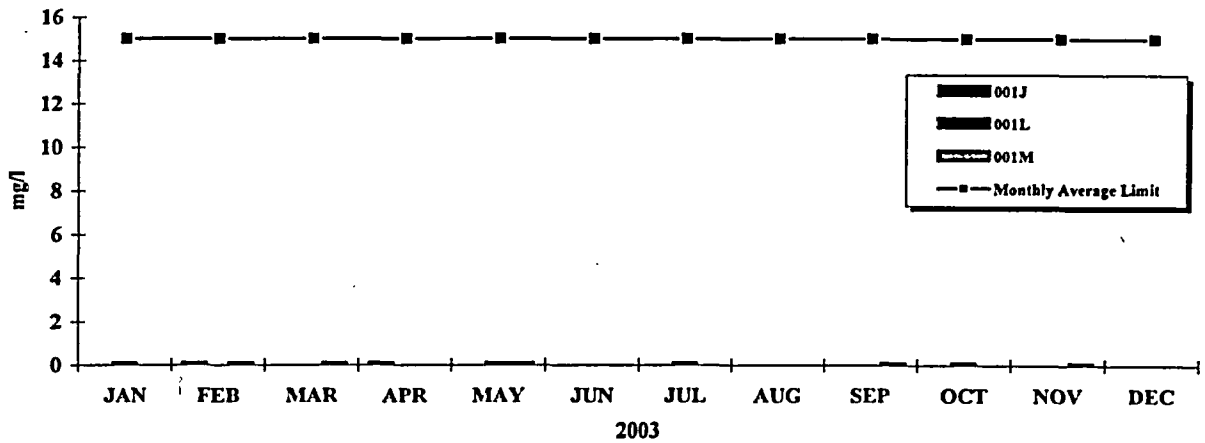
*Average*




Note: Values plotted at zero were below the reporting limit.

## QUARTERLY OIL & GREASE

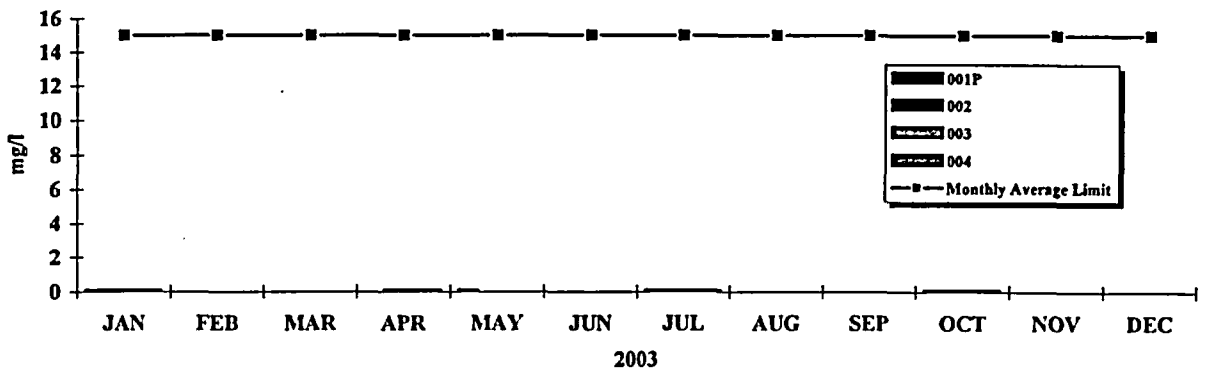
*Average*




Note: Values plotted at zero were below the reporting limit.

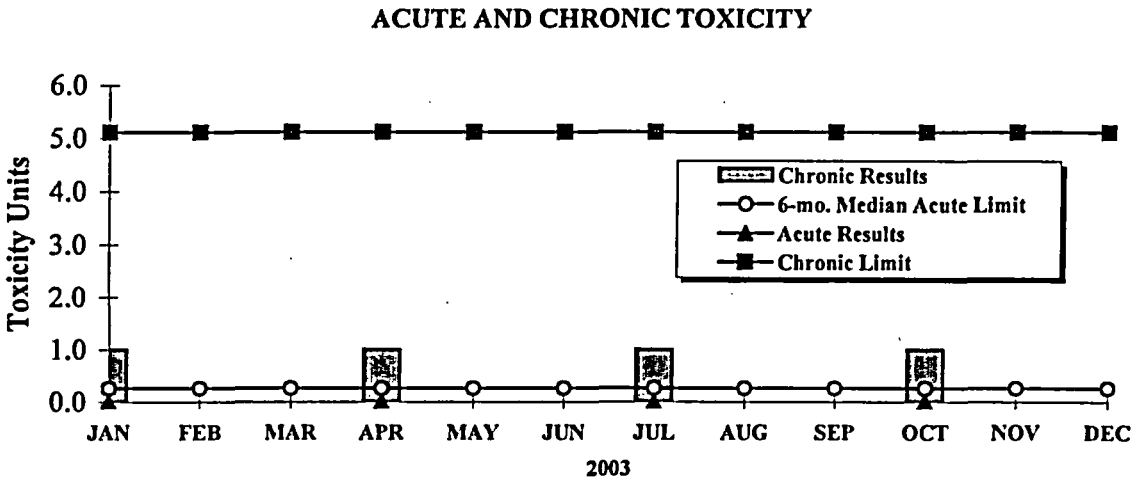
## QUARTERLY OIL & GREASE

*Average*




Note: Values plotted at zero were below the reporting limit.

# 2003 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant



# APPENDIX 4

## SUMMARY OF RWMP MONITORING FOR 2003

| Study | RWMP Stations/ Surveys per Year | 1st Survey Completion Stations/ Dates | 2nd Survey Completion Stations/ Dates | 3rd Survey Completion Stations/ Dates | 4th Survey Completion Stations/ Dates |
|---|---|---|---|---|---|
| Horizontal Band Transects | 14 / 4x | Feb 26 | Jun 19 | Aug 27 | Dec 9 |
| Vertical Band Transects | 5 / 4x | Feb 27 | Jun 18 | Aug 28 | Dec 23 |
| Benthic Stations | 8 / 4x | Apr 2 | Jun 27 | Sep 10 | Jan 7/04 |
| Fish Observation Transects | 12 / 4x | Apr 6 | Jul 21 | Sep 19 | Jan 8/04 |
| Bull Kelp Census | * / 1x | | | | Oct |
| Temperature Monitoring | 24 / ** | Jan-Mar | Apr-Jun | Jul-Sep | Oct-Dec |

* Diablo Cove census

** Temperature measured throughout the year at 20 minute intervals (14 intertidal and 10 subtidal stations).

## ENCLOSURE 2

ERRATA
2003
NPDES DISCHARGE MONITORING REPORTS FOR
DIABLO CANYON POWER PLANT

**ERRATA:** February 2003 monitoring data Effluent 001: Influent Temperature, Effluent Temperature, Delta Temp Temperature, and Effluent Flow "Monthly Avg" were incorrect. The correct data is 55.9, 74.7, 18.8, 1345, respectively.

The attached monitoring report page [PAGE: (M) 1] should replace the original February monitoring data page contained in the first quarter NPDES report PG&E DCL-2003-530, dated April 18, 2003.

**ERRATA:** Second Quarter 2003 NPDES report "Overview" section did not include an item discussing low flow to the Unit 1 Outfall chlorine monitor on 5/25/03 and 5/26/03, and the engineering evaluation performed. Based on the results of the evaluation, chlorine concentrations at the Outfall were in compliance with NPDES permit limitations.

The attached report "Overview" includes this item and should replace the original page contained in the Second Quarter 2003 NPDES report PG&E DCL-2003-544, dated July 18, 2003.

CALIFORNIA REGIONAL WATER QUALITY
CONTROL BOARD
CENTRAL COAST REGION
81 HIGUERA
SAN LUIS OBISPO, CA 93401

DISCHARGE SELF MONITORING REPORT

PACIFIC GAS AND ELECTRIC CO.
DIABLO CANYON NUCLEAR POWER PLANT
PO BOX 56
AVILA BEACH, CALIF 93424

PAGE: (M) 1

| FACILITY I.D. | YEAR / MO / DAY | | YEAR / MO / DAY | STATE CODE | NPDES PERMIT # |
|---|---|---|---|---|---|
| 3 402003001 | BEGINNING | 03 / 02 / 01 | ENDING 03 / 02 / 28 | 06 | CA0003751 |

| STATION<br>ANALYSIS<br>UNITS<br>SMPL TYPE<br>FREQ. | * | INFLUENT<br>TEMPERATURE<br>DEGREES F<br>METERED<br>CONTINUOUS | * | EFFLUENT 001<br>TEMPERATURE<br>DEGREES F<br>METERED<br>CONTINUOUS | * | DELTA TEMP<br>TEMPERATURE<br>DEGREES F<br>METERED<br>CONTINUOUS | * | EFFLUENT 001<br>FLOW<br>MGD<br>RECORDED<br>DAILY | * | INFLUENT<br>pH<br>pH UNITS<br>GRAB<br>MONTHLY | * | EFFLUENT 001<br>pH<br>pH UNITS<br>GRAB<br>MONTHLY (***) | * | EFFLUENT 001P<br>pH<br>pH UNITS<br>GRAB<br>MONTHLY | * | EFFLUENT 002<br>pH<br>pH UNITS<br>GRAB<br>MONTHLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 56.1 | | 74.7 | | 18.6 | | 2486 | | | | | | | | |
| 2 | | 54.8 | | 73.4 | | 18.6 | | 2486 | | | | | | | | |
| 3 | | 55.3 | | 72.5 | | 17.2 | | 1706 | | | | | | | | |
| 4 | | 55.6 | | 74.6 | | 19.0 | | 1239 | | | | | | | | |
| 5 | | 55.5 | | 74.5 | | 19.0 | | 1239 | | 8.1 | | 8.1 | | | 2 | 8.1 |
| 6 | | 55.6 | | 74.6 | | 19.0 | | 1239 | | | | | 2 | 8.0 | | |
| 7 | | 55.8 | | 74.8 | | 19.0 | | 1239 | | | | | | | | |
| 8 | | 56.0 | | 75.0 | | 19.0 | | 1239 | | | | | | | | |
| 9 | | 56.3 | | 75.3 | | 19.0 | | 1239 | | | | | | | | |
| 10 | | 56.1 | | 75.1 | | 19.0 | | 1239 | | | | | | | | |
| 11 | | 56.6 | | 75.5 | | 18.9 | | 1239 | | | | | | | | |
| 12 | | 57.3 | | 76.2 | | 18.9 | | 1239 | | | | | | | | |
| 13 | | 57.5 | | 76.5 | | 19.0 | | 1239 | | | | | | | | |
| 14 | | 57.2 | | 76.2 | | 19.0 | | 1239 | | | | | | | | |
| 15 | | 57.1 | | 76.2 | | 19.1 | | 1239 | | | | | | | | |
| 16 | | 57.3 | | 76.2 | | 18.9 | | 1239 | | | | | | | | |
| 17 | | 57.1 | | 76.1 | | 19.0 | | 1239 | | | | | | | | |
| 18 | | 56.9 | | 76.0 | | 19.1 | | 1239 | | | | | | | | |
| 19 | | 55.7 | | 74.8 | | 19.1 | | 1239 | | | | | | | | |
| 20 | | 54.2 | | 73.3 | | 19.1 | | 1239 | | | | | | | | |
| 21 | | 54.7 | | 73.8 | | 19.1 | | 1239 | | | | | | | | |
| 22 | | 54.9 | | 74.0 | | 19.1 | | 1239 | | | | | | | | |
| 23 | | 55.7 | | 72.7 | | 17.0 | | 1239 | | | | | | | | |
| 24 | | 55.6 | | 73.9 | | 18.3 | | 1239 | | | | | | | | |
| 25 | | 55.9 | | 74.6 | | 18.7 | | 1239 | | | | | | | | |
| 26 | | 55.1 | | 73.8 | | 18.7 | | 1239 | | | | | | | | |
| 27 | | 54.8 | | 73.5 | | 18.7 | | 1239 | | | | | | | | |
| 28 | | 54.3 | | 73.0 | | 18.7 | | 1239 | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | |
| MONTHLY AVG | | 55.9 | | 74.7 | | 18.8 | | 1345 | | 8.1 | | 8.1 | | 8.0 | | 8.1 |
| MONTHLY HIGH | | 57.5 | | 76.5 | | 19.1 | | 2486 | | 8.1 | | 8.1 | | 8.0 | | 8.1 |
| MONTHLY LOW | | 54.2 | | 72.5 | | 17.0 | | 1239 | | 8.1 | | 8.1 | | 8.0 | | 8.0 |
| TIMES EXCEEDED | | NO LIMIT | | NO LIMIT | | MAX 22 = 0 (**) | | MAX 2760 = 0 | | NO LIMIT | | NO LIMIT | | NO LIMIT | | NO LIMIT |
| TIMES EXCEEDED | | | | | | | | | | | | | | | | |
| TIMES EXCEEDED | | | | | | | | | | | | | | | | |

REMARKS:
* NUMBER OF SAMPLES TAKEN DURING THE DAY.
** EXCEPT DURING DEMUSSELING.
*** DAILY WHEN DISCHARGING CHEMICAL CLEANING WASTES FROM DISCHARGES 001D, F, I, L, AND/OR M.

| PRINCIPAL EXECUTIVE OFFICER |
|---|
| GREGORY M. RUEGER |

| SIGNATURE OF AUTHORIZED AGENT | DATE |
|---|---|
| Drew Squyres | 4/20/2003 |

## OVERVIEW

1. During the second quarter of 2003, discharges occurred from Discharge Paths 001 (once through cooling water), 001B, 001D, 001F, 001G, 001H, 001J, 001L, 001M, 001N, 001P, and 002 through 005. No discharges occurred from Discharge Paths 001E, 001I, 001K, and 006 through 017. A list of all of the permit discharge pathways, including name and number, is provided in **Appendix 1.**

2. The substances listed in Table B of the 1990 California Ocean Plan were each analyzed for and reported in the permit renewal application for Diablo Canyon submitted in 1994. There have been no changes in the activities conducted at the plant that would have significantly affected the results previously reported in the 1994 renewal application. California Ocean Plan Table B substances that were not analyzed for this quarter were not added to the discharge stream.

3. Unit 1 discharge chlorine monitor had low flow from 2000 on May 25, 2003 through 1200 on May 26, 2003. Proper flow was reestablished after the 1200 injection on May 26, 2003. An engineering evaluation was completed in accordance with PG&E's January 5, 1994, letter as authorized by the CCRWQCB. The calculated value from the engineering evaluation was 27 ppb, well below the 89 ppb Ocean Plan limit.

4. During the second quarter of 2003, system maintenance activities that required draining of closed cooling water systems were performed and are summarized below. PG&E received concurrence from the CCRWQCB in a letter dated July 19, 1995 and another letter dated May 19, 1997(PG&E Letter DCL-95-156 and PG&E Letter DCL-97-533, respectively) regarding the use of glutaraldehyde and isothiazolin to control microbiological growth and corrosion in PG&E's closed cooling water systems. Discharges are drained at a flow rate such that the chronic toxicity level would be below the "No Observable Effect Concentration" (NOEC) at NPDES Discharge 001.

| Date | System | Volume (gal) | Glutaraldehyde (mg/l) | Isothiazolin (mg/l) |
|---|---|---|---|---|
| 4/08/03 | Unit 2 SCW | 50 | 0 | 0 |
| 4/14/03 | Unit 1 SCW | 33,000 | 0 | 2.5 |

## SUMMARY OF MONITORING PROGRAM

A. Monitoring of Plant Influent and Effluent

1. The results of the April, May, and June 2003 plant influent and effluent monitoring are reported on Discharge Self Monitoring Report (DSMR) forms in **Appendices 2, 3, and 4,** respectively.

2. The laboratory report for one acute bioassay on water sampled from Discharge 001, performed April 2 - 6, 2003, is included in **Appendix 5.** The bioassay results show that acute toxicity was 0.00 (no mortality).

3. The laboratory report for one chronic bioassay on water sampled from Discharge 001, performed April 3 - 5, 2003, is included in **Appendix 6.** The bioassay results show that chronic toxicity was 1.0 (no chronic toxicity).