State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
Los Angeles Region

MONITORING AND REPORTING PROGRAM No. 6023
for
ARCO TERMINAL SERVICES CORPORATION
(Long Beach Marine Terminal 3)
(CA0000451)

I. Reporting Requirements

A. ARCO Terminal Services Corporation (hereinafter ATSC or Discharger) shall implement this monitoring program on the effective date of this Order. All monitoring reports shall be submitted quarterly and must be received by the Regional Board by the dates in the following schedule. All monitoring reports should be addressed to the Regional Board, Attention: Information Technology Unit. The first monitoring report under this Program is due by February 15, 2003.

Reporting Period	Report Due
January – March	May 15
April –June	August 15
July – September	November 15
October – December	February 15
Annual Summary Report	March 1

B. If there is no discharge during any reporting period, the report shall so state.

C. The Discharger shall submit an annual summary report, containing a discussion of the previous year's effluent monitoring data, as well as graphical and tabular summaries of the data. The data shall be submitted to the Regional Board on hard copy and on a 3 ½ " computer diskette. Submitted data must be IBM compatible, preferably using EXCEL software. In addition, the Discharger shall discuss the compliance record and the corrective actions taken or planned which may be needed to bring the discharge into full compliance with waste discharge requirements. This annual report is to be received by the Regional by March 1 of each year following the calendar year of data collection.

D. The Discharger shall inform the Regional Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements.

II. Effluent Monitoring Requirements

A A sampling station shall be established for each point of discharge and shall be located where representative samples of that effluent can be obtained.

B. This Regional Board shall be notified in writing of any change in the sampling stations once established or in the methods for determining the quantities of pollutants in the individual waste streams.

C. Pollutants shall be analyzed using the analytical methods described in 40 CFR 136.3, 136.4, and 136.5 (revised May 14, 1999); or, where no methods are specified for a given pollutant, by methods approved by this Regional Board or State Board. Laboratories analyzing effluent and receiving water samples must be certified by the California Department of Health Services Environmental Laboratory Accreditation Program (ELAP) or approved by the Executive Officer and must include quality assurance/quality control (QA/QC) data in their report. A copy of the laboratory certification shall be provided each time a new certification and/or renewal of the certification is obtained from ELAP.

The monitoring reports shall specify the analytical method used, the Method Detection Limit (MDL), and the Minimum Level (ML) for each pollutant. For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported by one of the following methods, as appropriate:

1. An actual numerical value for sample results greater than or equal to the ML; or,

2. "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML; or,

3. "Not-Detected (ND)" for sample results less than the laboratory's MDL with the MDL indicated for the analytical method used.

Current MLs (Attachment B) are those published by the State Water Resources Control Board in the *Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, March 2, 2000*.

D. Where possible, the MLs employed for effluent analyses shall be lower than the permit limits established for a given parameter. If the ML value is not below the effluent limitation, then the lowest ML value and its associated analytical method shall be selected for compliance purposes. At least once a year, the Discharger shall submit a list of the analytical methods employed for each test and associated laboratory QA/QC procedures.

The Regional Board, in consultation with the State Board Quality Assurance Program, shall establish an ML that is not contained in Attachment B to be included in the Discharger's permit in any of the following situations:

1. When the pollutant under consideration is not included in Attachment B;

2. When the Discharger and Regional Board agree to include in the permit a test method that is more sensitive than that specified in 40 CFR 136 (revised May 14, 1999);

3. When the Discharger agrees to use an ML that is lower than that listed in Attachment B.

4. When the Discharger demonstrates that the calibration standard matrix is sufficiently different from that used to establish the ML in Attachment B, and proposes an appropriate ML for their matrix; or,

5. When the Discharger uses a method whose quantification practices are not consistent with the definition of an ML. Examples of such methods are the USEPA-approved method 1613 for dioxins and furans, method 1624 for volatile organic substances, and method 1625 for semi-volatile organic substances. In such cases, the Discharger, the Regional Board, and the State Board shall agree on a lowest quantifiable limit and that limit will substitute for the ML for reporting and compliance determination purposes.

E. Water/wastewater samples must be analyzed within allowable holding time limits as specified in 40 CFR Part 136.3. All QA/QC items must be run on the same dates the samples were actually analyzed, and the results shall be reported in the Regional Board format, when it becomes available, and submitted with the laboratory reports. Proper chain of custody procedures must be followed, and a copy of the chain of custody shall be submitted with the report.

F. For parameters where both monthly average and daily maximum limits are specified but where the monitoring frequency is less than four times a month, the following procedure shall apply: If an analytical result is greater than the monthly average limit, the sampling frequency shall be increased (within one week of receiving the laboratory results) to a minimum of once weekly at equal intervals until at least four consecutive weekly samples have been obtained and compliance with the monthly average limit has been demonstrated again, and the Discharger has set forth for the approval of the Executive Officer, a program which ensures future compliance with the monthly average limit.

III. Effluent Monitoring Program

A. The following shall constitute the effluent monitoring program for the final effluent:

Constituent	Units	Type of Sample	Sampling Frequency [1/]
Flow	Gal/day	----	Once per discharge event
PH	PH units	Grab	Once per discharge event
Temperature	^{o}F or ^{o}C	Grab	Once per discharge event
Oil and Grease	mg/L	Grab	Once per discharge event
BOD5 20°C	mg/L	Grab	Once per discharge event
Total suspended solids	mg/L	Grab	Once per discharge event
Turbidity	TU	Grab	Once per discharge event
Sulfides	mg/L	Grab	Once per discharge event

Constituent	Units	Type of Sample	Sampling Frequency [1/]
Phenols	mg/L	Grab	Once per discharge event
Conductivity	µmho/cm	Grab	Once per discharge event
Total organic carbon	mg/L	Grab	Once per discharge event
Ammonia (as N)	mg/L	Grab	Once per discharge event
Benzene	µg/L	Grab	Once per discharge event
Toluene	µg/L	Grab	Once per discharge event
Xylene	µg/L	Grab	Once per discharge event
Ethylbenzene	µg/L	Grab	Once per discharge event
Carbon tetrachloride	µg/L	Grab	Once per discharge event
Tetrachloroethylene	µg/L	Grab	Once per discharge event
Trichlorethylene	µg/L	Grab	Once per discharge event
Vinyl chloride	µg/L	Grab	Once per discharge event
1,4-Dichlorobenzene	µg/L	Grab	Once per discharge event
1,1-Dichloroethane	µg/L	Grab	Once per discharge event
1,2-Dichloroethane	µg/L	Grab	Once per discharge event
1,1-Dichloroethylene	µg/L	Grab	Once per discharge event
1,3-Dichlorobenzene	µg/L	Grab	Once per discharge event
1,1-Dichloroethylene	µg/L	Grab	Once per discharge event
Methyl tertiary butyl ether (MTBE)	µg/L	Grab	Once per discharge event
Tertiary butyl alcohol (TBA))	µg/L	Grab	Once per discharge event
Total Petroleum Hydrocarbons (both gasoline and diesel fractions)[2/]	µg/L	Grab	Once per discharge event
Antimony	µg/L	Grab	Once per discharge event
Arsenic	µg/L	Grab	Once per discharge event
Beryllium	µg/L	Grab	Once per discharge event
Cadmium	µg/L	Grab	Once per discharge event
Chromium (VI)	µg/L	Grab	Once per discharge event
Chromium (Total)	µg/L	Grab	Once per discharge event
Copper	µg/L	Grab	Once per discharge event
Lead	µg/L	Grab	Once per discharge event
Mercury	µg/L	Grab	Once per discharge event
Nickel	µg/L	Grab	Once per discharge event
Selenium	µg/L	Grab	Once per discharge event
Silver	µg/L	Grab	Once per discharge event
Zinc	µg/L	Grab	Once per discharge event
Remaining Priority Pollutants (see page T-13)	µg/L	Grab	annually [3/] (1st discharge of the wet season)

Constituent	Units	Type of Sample	Sampling Frequency [1/]
Toxicity-acute[4/]	% survival	Grab	annually (1st discharge of the wet season)

1/ During periods of extended rainfall, no more than one sample per week need to be taken. Sampling shall be during the first hour of discharge. If, for safety reasons, a sample cannot be obtained during the first hour of discharge, a sample shall be obtained at the first safe opportunity, and the reason for the delay shall be included in the report.

2/ Analyses using USEPA Methods 418.1 and 8015 (Modified).

3/ If a pollutant is detected then the minimum monitoring frequency shall increase to once per discharge event until at least three consecutive test results are not detected, after which the frequency of analysis shall revert to annually.

4/ Refer to Item IV.

B. Monitoring shall be conducted for all regulated pollutants at the NPDES discharge point during periods when a discharge occurs. If no discharge occurs from the NPDES discharge point, then the Discharger shall provide the results of a sample from the low spots or sump in the tank farm area. For those pollutants with a monitoring frequency of once per discharge event, the Discharger is required to provide at least one sample from the low spots or sump in the tank farm area annually during the term of the permit. The sampling results from the low spots or sump in the tank farm area (when there is no discharge) will not be required to meet the NPDES effluent limitations.

IV. Toxicity Monitoring Requirements

A. Acute Toxicity Monitoring Program

1. The Discharger shall conduct acute toxicity tests on effluent grab samples by methods specified in 40 CFR Part 136 which cites USEPA's *Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms*, August, 1991 (EPA/600/4-90/027) or a more recent edition to ensure compliance in 100 % effluent.

2. The fathead minnow, *Pimephales promelas*, shall be used as the test species for fresh water discharges and the topsmelt, *Atherinops affinis*, shall be used as the test species for brackish effluent. The method for topsmelt is found in USEPA's *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine to Freshwater Organisms*, First Edition, August, 1995 (EPA/600/4-95/136).
3. In lieu of conducting the standard acute toxicity testing with the fathead minnow, the Discharger may elect to report the results or endpoint from the first 48 hours of the chronic toxicity test as the results of the acute toxicity test.

B. Quality Assurance

1. Concurrent testing with a reference toxicant shall be conducted. Reference toxicant tests shall be conducted using the same test conditions as the effluent Toxicity tests (e.g., same test duration, etc).

2. If either the reference toxicant test or effluent test does not meet all test acceptability criteria (TAC) as specified in the test methods manuals (EPA/600/4-91/002, EPA/600/R-95/136, or EPA/600/4-90/027F), then the Discharger must re-sample and re-test within 14 days of notification by the laboratory of an invalid test.

3. Control and dilution water shall be receiving water or laboratory water as described in the manual. If the dilution water used is different from the culture water, a second control using culture water shall be used.

C. Reporting

1. The Discharger shall submit a full report of the toxicity test results, including any accelerated testing conducted during the month as required by this permit. Test results shall be reported in Toxicity Units (percent survival or TU_c) with the discharge monitoring reports (DMR) for the month in which the test is conducted.

   If an initial investigation indicates the source of toxicity and accelerated testing is unnecessary, pursuant to Section IV.D.1., those results shall also be submitted with the DMR for the period in which the Investigation occurred.

2. The full report shall be submitted on or before the end of the month in which the DMR is submitted.

3. The full report shall consist of (1) the results; (2) the dates of sample collection, initiation, and completion of each toxicity tests; (3) the acute toxicity limit or chronic toxicity limit or trigger as described in Section I.B.3.a. of Order No. R4-2002-0178.

4. Test results for toxicity tests also shall be reported according to the appropriate manual chapter on Report Preparation and shall be attached to the DMR. Routine reporting shall include, at a minimum, as applicable, for each test:

   i. sample date(s);

   ii. test initiation date;
   iii. test species;

   iv. end point values for each dilution (e.g., number of young, growth rate, percent survival);

v. NOEC value(s) in percent effluent;

vi. IC_{15}, IC_{25}, IC_{40} and IC_{50} values in percent effluent;

vii. TU_c values $\left(TU_c = \frac{100}{NOEC} \right)$;

viii. Mean percent mortality (±standard deviation) after 96 hours in 100% effluent (if applicable);

ix. NOEC and LOEC values for reference toxicant test(s);

x. IC_{25} value for reference toxicant test(s);

xi. Any applicable control charts; and

xii. Available water quality measurements for each test (e.g., pH, D.O., temperature, conductivity, hardness, salinity, ammonia).

5. The Discharger shall provide a compliance summary, which includes a summary table of toxicity data from at least eleven of the most recent samples.

6. The Discharger shall notify, by telephone or electronically, this Regional Board of any toxicity exceedance of the limit or trigger within 24 hours of receipt of the results followed by a written report within 14 calendar days of receipt of the results. The verbal or electronic notification shall include the exceedance and the plan the Discharger will pursue. The written report shall describe actions the Discharger has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by the permit, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.

V. STORM WATER MONITORING REQUIREMENTS

1. Rainfall Monitoring

The Discharger shall measure and record the rainfall on each day of the month. This information shall be included in the monitoring report for that month.

2. Visual Observation

The Discharger shall make visual observations of all storm water discharge locations on at least one storm event per month that produces a significant storm water discharge to observe the presence of floating and suspended materials, oil and grease, discoloration, turbidity, and odor. A “significant storm water discharge” is a

continuous discharge of storm water for a minimum of one hour, or the intermittent discharge of storm water for a minimum of three hours in a 12-hour period.

VI. Interim Monitoring and Reporting

Pursuant to the California Water Code, Section 13267, the Discharger is required to submit data sufficient for: (1) determining if water quality-based effluent limitations for priority pollutants are required, and (2) to calculate effluent limitations, if required. The USEPA's *Technical Support Document for Water Quality-Based Toxics Control (TSD) of 1991* (USEPA/505/2-90-001) requires that the data be provided. Therefore, the Discharger shall conduct the following interim monitoring program for all California Toxics Rule priority pollutants until October 2004, or until ordered otherwise by the Regional Board. As described in Section I.A of this Program, monitoring reports must be submitted quarterly. The Discharger shall ensure that at least four samples are collected in the interim monitoring period (two per year), the results of which will be submitted along with the corresponding quartely reports.

A. Effluent monitoring shall be conducted for all pollutants at the NPDES discharge point during periods when a discharge occurs.

B. Receiving water monitoring station shall be at 50 feet upstream from the discharge point of storm drain to Long Beach Inner Harbor.

C. Monitoring frequency and type of sample of the effluent and the receiving water shall be collected and analyzed for all toxic pollutants listed below:

Constituent	Units	Type of Sample	Monitoring Frequency
PH	Standard Units	Grab	Once per discharge event[1/]
Hardness (as $CaCO_3$)	Mg/L	Grab	Once per discharge event[1/]
PAHs	µg/L	Grab	Semiannually[2/]
Antimony	µg/L	Grab	Semiannually[2/]
Thallium	µg/L	Grab	Semiannually[2/]
Cyanide	µg/L	Grab	Semiannually[2/]
Acenaphthene	µg/L	Grab	Semiannually[2/]
Anthracene	µg/L	Grab	Semiannually[2/]
Benzo (a) Anthracene	µg/L	Grab	Semiannually[2/]
Benzo (a) Pyrene	µg/L	Grab	Semiannually[2/]
Benzo (b) Fluoranthene	µg/L	Grab	Semiannually[2/]
Benzo (k) Flouranthene	µg/L	Grab	Semiannually[2/]
Chrysene	µg/L	Grab	Semiannually[2/]
Dibenzo (a,h) Anthracene	µg/L	Grab	Semiannually[2/]
Fluoranthene	µg/L	Grab	Semiannually[2/]
Fluorene	µg/L	Grab	Semiannually[2/]
Indeno (1,2,3-cd) Pyrene	µg/L	Grab	Semiannually[2/]

Constituent	Units	Type of Sample	Monitoring Frequency
Pyrene	µg/L	Grab	Semiannually[2/]
Aldrin	µg/L	Grab	Semiannually[2/]
Alpha-BHC	µg/L	Grab	Semiannually[2/]
Beta-BHC	µg/L	Grab	Semiannually[2/]
Chlordane	µg/L	Grab	Semiannually[2/]
Dieldrin	µg/L	Grab	Semiannually[2/]
Alpha-Endosulfan	µg/L	Grab	Semiannually[2/]
Beta-Endosulfan	µg/L	Grab	Semiannually[2/]
Heptachlor	µg/L	Grab	Semiannually[2/]
Heptachlor Expoxide	µg/L	Grab	Semiannually[2/]
4,4-DDT	µg/L	Grab	Semiannually[2/]
4,4-DDE	µg/L	Grab	Semiannually[2/]
4,4-DDD	µg/L	Grab	Semiannually[2/]
Arochlor 1242	µg/L	Grab	Semiannually[2/]
Arochlor 1254	µg/L	Grab	Semiannually[2/]
Arochlor 1221	µg/L	Grab	Semiannually[2/]
Arochlor 1232	µg/L	Grab	Semiannually[2/]
Arochlor 1248	µg/L	Grab	Semiannually[2/]
Arochlor 1260	µg/L	Grab	Semiannually[2/]
Arochlor 1016	µg/L	Grab	Semiannually[2/]
Toxaphene	µg/L	Grab	Semiannually[2/]
Beryllium	µg/L	Grab	Semiannually[2/]
Asbestos	Fibers/L	Grab	Semiannually[2/]
Acrolein	µg/L	Grab	Semiannually[2/]
Acrylonitrile	µg/L	Grab	Semiannually[2/]
Benzene	µg/L	Grab	Semiannually[2/]
Bromoform	µg/L	Grab	Semiannually[2/]
Carbon tetrachloride	µg/L	Grab	Semiannually[2/]
Chlorobenzene	µg/L	Grab	Semiannually[2/]
Chlorodibromomethane	µg/L	Grab	Semiannually[2/]
Chloroethane	µg/L	Grab	Semiannually[2/]
2-Chloroethylvinyl ether	µg/L	Grab	Semiannually[2/]
Chloroform	µg/L	Grab	Semiannually[2/]
Dichlorobromomethane	µg/L	Grab	Semiannually[2/]
1,1-Dichloroethane	µg/L	Grab	Semiannually[2/]
1,2-Dichloroethane	µg/L	Grab	Semiannually[2/]
1,1-Dichloroethylene	µg/L	Grab	Semiannually[2/]
1,2-Dichloropropane	µg/L	Grab	Semiannually[2/]
1,3-Dichloropropylene	µg/L	Grab	Semiannually[2/]
Ethylbenzene	µg/L	Grab	Semiannually[2/]
Methyl bromide	µg/L	Grab	Semiannually[2/]
Methyl chloride	µg/L	Grab	Semiannually[2/]

Constituent	Units	Type of Sample	Monitoring Frequency
Methylene chloride	µg/L	Grab	Semiannually[2/]
1,1,2,2-Tetrachloroethane	µg/L	Grab	Semiannually[2/]
Tetrachloroethylene	µg/L	Grab	Semiannually[2/]
Toluene	µg/L	Grab	Semiannually[2/]
1,2-Trans-dichloroethylene	µg/L	Grab	Semiannually[2/]
1,1,1-Trichloroethane	µg/L	Grab	Semiannually[2/]
1,1,2-Trichloroethane	µg/L	Grab	Semiannually[2/]
Trichloroethylene	µg/L	Grab	Semiannually[2/]
Vinyl chloride	µg/L	Grab	Semiannually[2/]
2-Chlorophenol	µg/L	Grab	Semiannually[2/]
2,4-Dichlorophenol	µg/L	Grab	Semiannually[2/]
2,4-Dimethylphenol	µg/L	Grab	Semiannually[2/]
2-Methyl-4,6-Dinitrophenol	µg/L	Grab	Semiannually[2/]
2,4-Dinitrophenol	µg/L	Grab	Semiannually[2/]
2-Nitrophenol	µg/L	Grab	Semiannually[2/]
4-Nitrophenol	µg/L	Grab	Semiannually[2/]
3-Methyl-4-Chlorophenol	µg/L	Grab	Semiannually[2/]
Pentachlorophenol	µg/L	Grab	Semiannually[2/]
2,4,6-Trichlorophenol	µg/L	Grab	Semiannually[2/]
Acenaphthylene	µg/L	Grab	Semiannually[2/]
Benzidine	µg/L	Grab	Semiannually[2/]
Benzo (g,h,I) Perylene	µg/L	Grab	Semiannually[2/]
Bis (2-Chloroethoxy) Methane	µg/L	Grab	Semiannually[2/]
Bis (2-Chloroethyl) Ether	µg/L	Grab	Semiannually[2/]
Bis (2-Chloroisopropyl) Ether	µg/L	Grab	Semiannually[2/]
Bis (2-Ethylhexyl) Phthalate	µg/L	Grab	Semiannually[2/]
4-Bromophenyl Phenyl Ether	µg/L	Grab	Semiannually[2/]
Butylbenzyl Phthalate	µg/L	Grab	Semiannually[2/]
2-Chloronapthalene	µg/L	Grab	Semiannually[2/]
4-Chlorophenyl Phenyl Ether	µg/L	Grab	Semiannually[2/]
1,2-Dichlorobenzene	µg/L	Grab	Semiannually[2/]
1,3-Dichlorobenzene	µg/L	Grab	Semiannually[2/]
1,4-Dichlorobenzene	µg/L	Grab	Semiannually[2/]
3,3-Dichlorobenzidine	µg/L	Grab	Semiannually[2/]
Diethyl Phthalate	µg/L	Grab	Semiannually[2/]
Dimethyl Phthalate	µg/L	Grab	Semiannually[2/]
Di-n-Butyl Phthalate	µg/L	Grab	Semiannually[2/]
2,4-Dinitrotoluene	µg/L	Grab	Semiannually[2/]
2,6-Dinitrotoluene	µg/L	Grab	Semiannually[2/]
Di-n-Octyl Phthalate	µg/L	Grab	Semiannually[2/]
1,2-Diphenylhydrazine	µg/L	Grab	Semiannually[2/]

Constituent	Units	Type of Sample	Monitoring Frequency
Hexachlorobenzene	µg/L	Grab	Semiannually[2/]
Hexachlorobutadiene	µg/L	Grab	Semiannually[2/]
Hexachlorocyclopentadiene	µg/L	Grab	Semiannually[2/]
Hexachloroethane	µg/L	Grab	Semiannually[2/]
Isophorone	µg/L	Grab	Semiannually[2/]
Napthalene	µg/L	Grab	Semiannually[2/]
Nitrobenzene	µg/L	Grab	Semiannually[2/]
N-Nitrosodimethylamine	µg/L	Grab	Semiannually[2/]
N-Nitrosodi-n-Propylamine	µg/L	Grab	Semiannually[2/]
N-Nitrosodiphenylamine	µg/L	Grab	Semiannually[2/]
Phenanthrene	µg/L	Grab	Semiannually[2/]
1,2,4-Trichlorobenzene	µg/L	Grab	Semiannually[2/]
Gamma-BHC	µg/L	Grab	Semiannually[2/]
Delta-BHC	µg/L	Grab	Semiannually[2/]
Endosulfan Sulfate	µg/L	Grab	Semiannually[2/]
Endrin	µg/L	Grab	Semiannually[2/]
Endrin Aldehyde	µg/L	Grab	Semiannually[2/]

1/ During periods of extended rainfall, no more than one sample per week need to be taken. Sampling shall be during the first hour of discharge. If, for safety reasons, a sample cannot be obtained during the first hour of discharge, a sample shall be obtained at the first safe opportunity, and the reason for the delay shall be included in the report.

2/ Sampling shall be done during the first hour of discharge. For the dry seasons, a sample cannot be obtained during this period, a sample shall be obtained at the next opportunity of sampling and the reason for the delay shall be included in the report to satisfy the semiannual monitoring requirement.

D. Monitoring for TCDD Equivalents –The Discharger shall conduct effluent/receiving water monitoring for the presence of the 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD or Dioxin) congeners. The monitoring shall be a grab sample with a minimum frequency of once during dry weather and once during wet weather for 1 year. The Discharger shall calculate Toxic Equivalence (TEQ) for each congener by multiplying its analytical concentration by the appropriate Toxicity Equivalence Factors (TEF). Compliance with the dioxin limitation shall be determined by the summation of the 17 individual TEQs.

~~Congeners~~	~~TEF~~
2,3,7,8-tetra CDD	1.0
1,2,3,7,8-penta CDD	1.0
1,2,3,4,7,8-hexa CDD	0.1
1,2,3,6,7,8-hexa CDD	0.1
1,2,3,7,8,9-hexa CDD	0.1
1,2,3,4,6,7,8-hepta CDD	0.01
Octa CDD	0.0001
2,3,7,8-tetra CDF	0.1
1,2,3,7,8-penta CDF	0.05
2,3,4,7,8-penta CDF	0.5
1,2,3,4,7,8-hexa CDF	0.1
1,2,3,6,7,8-hexa CDF	0.1
1,2,3,7,8,9-hexa CDF	0.1
2,3,4,6,7,8-hexa CDF	0.1
1,2,3,4,6,7,8-hepta CDF	0.01
1,2,3,4,7,8,9-hepta CDF	0.01
Octa CDF	0.0001

Ordered by: _____ Date: November 14, 2002
Dennis A. Dickerson
Executive Officer