CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM NO. 6362
for
Southern California Marine Institute
(CA0058556)

I. Reporting Requirements

A. Southern California Marine Institute (SCMI or Discharger) shall implement this monitoring program on the effective date of this Order. All monitoring reports should be addressed to the Regional Board, Attention: Information Technology Unit.

Monitoring reports shall be submitted according to the following schedule. The first monitoring report under this program is due by January 15, 2002.

Reporting Period	Report Due
January-March	April 15
April -June	July 15
July -September	October 15
October-December	January 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 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-inch 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 points 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/or receiving water samples must be certified by the California Department of Health Services and must include quality assurance/quality control (QA/QC) data in their reports. For the purpose of monitoring pH, dissolved oxygen, residual chlorine, and temperature, tests may be conducted at the field sampling location or in a mobile laboratory provided that all requirements of the approved analytical methods for NPDES use in 40 CFR 136 are met.

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

3. When the Discharger agrees to use an ML lower than those 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. Quarterly effluent analyses shall be performed during the months of February, May, August and November. Semiannual effluent analyses shall be performed during the months of February and August. Annual effluent analyses shall be performed during the month of February. Results of quarterly, semiannual and annual analyses shall be reported in the appropriate monthly monitoring report.

G. For parameters that both monthly average and daily maximum limits are specified and the monitoring frequency is less than four times a month, the following 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 test 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. The Discharger shall provide for the approval of the Executive Officer a program to ensure future compliance with the monthly average limit.

III. Effluent Monitoring Program

The following shall constitute the effluent monitoring program for the effluent:

Constituent	Units	Type of Sample	Monitoring Frequency
Total flow	gal/day	---	daily
Temperature	^{o}F or ^{o}C	grab	monthly
pH	pH units	grab	monthly
Dissolved Oxygen	mg/L	grab	monthly
Fecal coliform	MPN/100ml	grab	monthly
Total coliform	MPN/100ml	grab	monthly
Suspended solids	mg/L	grab	quarterly
Settleable solids	mg/L	grab	quarterly
$BOD_5 20^{o}C$	mg/L	grab	quarterly
Oil and grease	mg/L	grab	quarterly
Turbidity	NTU	grab	quarterly

Constituent	Units	Type of Sample	Monitoring Frequency
Residual chlorine[1]	mg/L	grab	quarterly
Ammonia Nitrogen	mg/L	grab	quarterly[2]
Nitrate Nitrogen	mg/L	grab	quarterly[2]
Nitrite Nitrogen	mg/L	grab	quarterly[2]
Chromium (VI)	µg/L	grab	annually[3]
Arsenic	µg/L	grab	annually[3]
Cadmium	µg/L	grab	annually[3]
Copper	µg/L	grab	annually[3]
Lead	µg/L	grab	annually[3]
Zinc	µg/L	grab	annually[3]
Silver	µg/L	grab	annually[3]
Mercury	µg/L	grab	annually[3]
Nickel	µg/L	grab	annually[3]
Selenium	µg/L	grab	annually[3]
Acute Toxicity[4]	% survival	grab	annually[3]

[1] A statement that no chemical compound containing this constituent has been added to the system may be submitted in lieu of an analysis for the constituent.

[2] If the results of the quarterly analyses for these constituents are not detectable for three consecutive quarters, the frequency of analysis may revert to annually.

[3] If the results of the annual analyses for these constituents are not detectable for two years, the frequency of analysis may revert to once per permit life.

[4] Refer to Section IV.

IV. TOXICITY MONITORING REQUIREMENTS

A. Acute Toxicity Effluent Monitoring Program

1. The Discharger shall conduct acute toxicity tests on 100% effluent grab samples by methods specified in 40 CRF 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.

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 discharges. 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).

B. Additional Requirements for Acute Toxicity Monitoring Program

1. Quality Assurance

a. 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).

b. 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 and EPA/600/R-95/136 or EPA/600/4-90/027F), then the Discharger must re-sample and re-test within 14 days.

c. Control and dilution water should be receiving water or laboratory water, as appropriate, 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.

2. Accelerated Monitoring

a. If toxicity is detected as defined in Order No. 01-152, Sections I.B.8.b, then the Discharger shall conduct six additional tests, every 7 days, over a six-week period. The Discharger shall ensure that they receive results of a failing acute toxicity test within 24 hours of completion of the test.

b. If any three out of the initial test and the six additional tests results do not meet the requirements of 90% survival or any two out of the initial and six additional do not meet 70% survival, the Discharger shall immediately implement the Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan.

c. If implementation of the Initial Investigation TRE Workplan indicates the source of toxicity (e.g., a temporary plant upset, etc.), then the Discharger shall return to the normal sampling frequency required in Section III of this MRP.

d. If toxicity is not detected in any of the six additional tests required above, then the Discharger shall return to the normal sampling frequency required in Section III of this MRP.

e. If a TRE/Toxicity identification Evaluation (TIE) is initiated prior to completion of the accelerated testing schedule required by Section IV.B.2.a. of this MRP, then the accelerated testing schedule may be terminated, or used as necessary in performing the TRE/TIE, as determined by the Executive Officer.

3. Steps in TRE and TIE

a. Following a TRE trigger, the Discharger shall initiate a TRE in accordance with the facility's initial investigation TRE workplan. At a minimum, the Discharger shall use USEPA manuals EPA/600/2-88/070 (industrial) or EPA/833B-99/002

(municipal) as guidance. The Discharger shall expeditiously develop a more detailed TRE workplan for submittal to the Executive Officer within 15 days of the trigger that will include, but not be limited to:

i. Further actions to investigate and identify the cause of toxicity;

ii. Actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity;

iii. Standards the Discharger will apply to consider the TRE complete and to return to normal sampling frequency; and,

iv. A schedule for these actions.

b. The following is a stepwise approach in conducting the TRE:

i. Step 1 includes basic data collection. Data collected as part of the accelerated monitoring requirement may be used to conduct the TRE;

ii. Step 2 evaluates the optimization of the treatment system operation, facility housekeeping, and the selection and use of in-plant process chemicals;

iii. If Steps 1 and 2 are unsuccessful, Step 3 implements the TIE employing all reasonable efforts and using currently available TIE methodologies. The objective of the TIE is to identify the substance or combination of substances causing the observed toxicity;

iv. Assuming successful identification or characterization of the toxicant(s), Step 4 evaluates final effluent treatment options;

v. Step 5 evaluates in-plant treatment options; and

vi. Step 6 consists of confirmation once a toxicity control method has been implemented.

Many recommended TRE elements parallel source control, pollution prevention, and storm water control program BMPs. To prevent duplication of efforts, evidence of implementation of these control measures may be sufficient to comply with the TRE requirements. By requiring that the first steps of a TRE be accelerated testing and review of the facility's TRE workplan, a TRE may be ended in its early stages. All reasonable steps shall be taken to reduce toxicity to the required level. The TRE may be ended at any stage if monitoring finds there is no longer toxicity.

c. The Discharger may initiate a TIE as part of the TRE process to identify the cause(s) of toxicity. The Discharger shall use the USEPA acute and chronic manuals, EPA/600/6-91/005F (Phase I), EPA/600/R-96-054 (for marine), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III) as guidance.

d. If a TRE/TIE is initiated prior to completion of the accelerated testing schedule required by Section IV.B.2.a. of this MRP, then the accelerated testing schedule may be terminated, or used as necessary in performing the TRE/TIE, as determined by the Executive Officer.

e. Toxicity tests conducted as part of a TRE/TIE may also be used for compliance, if appropriate.

f. The Board recognizes that toxicity may be episodic and identification of causes of and reduction of sources of toxicity may not be successful in all cases. Consideration of enforcement action by the Board will be based in part on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

4. Reporting

a. The Discharger shall submit a full report of the toxicity test results, including any accelerated testing conducted during the month as required by Section IV.B.2 of this MRP. Test results shall be reported in Toxicity Units (percent survival) 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.B.2, then those results shall also be submitted with the DMR for the period in which the Investigation occurred.

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

c. The full report shall consist of (1) the results; (2) the dates of sample collection, initiation, and completion of each toxicity test; and (3) the acute toxicity average or trigger as described in Sections I.B.8, of Order No. 01-152.

d. Test results for toxicity tests shall also 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, and ammonia).

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

f. 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.

VI. INTERIM MONITORING PROGRAM

Pursuant to the California Water Code, Section 13267, the Discharger is required to submit data sufficient for determination of priority pollutants that require water quality-based effluent limitations. The Discharger shall conduct interim monitoring for all constituents, and according to the frequency of analysis listed in Attachment A, starting on the effective date of this Order and continue until March 2003, or until ordered otherwise by the Regional Board.

A. Effluent Monitoring

A grab sample shall be collected at the end of the discharge pipe from the facility.

B. TCDD Equivalents Monitoring

The Discharger shall conduct effluent and receiving water monitoring for the presence of the 18 congeners of 2,3,7,8-TCDD listed in Attachment A. A grab sample shall be collected once during the dry weather and once during the wet weather (a total of two samples) during the whole period mentioned above. The Discharger shall report for each congener the analytical results of the effluent monitoring, including the quantifiable limit and the Method Detection Limit (MDL), and the measured or estimated concentration. Each measured or estimated congener concentration must be multiplied by its respective Toxicity Equivalent Factors (TEFs) and report the sum of these values.

C. Receiving Water Monitoring

A grab sample shall be collected upstream of the effluent discharge point in the receiving water outside the influence of the discharge. Where feasible receiving water sample should be collected 50 feet upstream of the effluent discharge point.

D. Monitoring and Reporting Schedule

The interim monitoring report shall be submitted every quarter according to the Monitoring and Reporting Schedule specified on page T-10. The report for this monitoring must be submitted separately from the regular discharger self-monitoring reports.

Monitoring and Reporting Schedule	
Monitoring Period	**Report Due Date**
January – March	April 15
April – June	July 15
July – September	October 15
October – December	January 15
Semi-annual sampling (to be conducted during October to March, and during April to September)	April 15 & October 15, respectively

E. Monitoring Provisions

1. The State Water Resources Control Board (SWRCB) -approved laboratory methods and the corresponding minimum levels (MLs) for the examination of each priority pollutant are listed in Attachment B. Reporting requirements for the data to be submitted are listed in Attachment C. The Discharger shall select the analytical method from Attachment A capable of achieving the lowest ML for each pollutant as listed on Attachment B. ML is necessary for determining compliance for a priority pollutant when an effluent limit is below the MDL.

2. The laboratory analytical data shall include applicable MLs, MDL, quality assurance/quality control data, and shall comply with the reporting requirements contained in the Attachments B & C.

3. The first and last monitoring data under this program are due **January 15, 2002, and April 15, 2003,** respectively to this Regional Board. The last monitoring data shall include all the analytical data from the previous sampling events under this program. The analytical results shall be submitted in both **electronic format** (available as a **Microsoft Excel Spreadsheet** on the Regional Board Web site http://www.swrcb.ca.gov/~rwqcb4//html/programs/watershed_reg.html) and **in paper format.**

4. The interim monitoring data/report shall be submitted to The Regional Board, Attn: Industrial Permitting Unit, and shall include a reference to "Compliance File No. CI-6362 and NPDES No. CA0058556".

Ordered by: _____
Dennis A. Dickerson
Executive Officer

Date: October 25, 2001