

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION**

**MONITORING AND REPORTING PROGRAM NO. CI 0066
FOR
CITY OF AVALON
(Avalon Wastewater Treatment Facility)**

**Order No. R4-2002-0094
NPDES No. CA0054372**

The Discharger shall implement this monitoring and reporting program on the effective date of this Order.

I. SUBMITTAL OF MONITORING REPORTS

- A. Effluent monitoring reports shall be received at the Regional Board monthly, by the first day of the second month following each monthly sampling period. The first monitoring report under this program shall be received at the Regional Board by August 1, 2002, covering the monitoring period of June 2002.
- B. By March 1 of each year, the Discharger shall submit an Annual Summary Report containing a discussion of the previous year's effluent analytical results, as well as graphical and tabular summaries of the monitoring analytical data. The data shall be submitted to the Regional Board on hard copy and on 3 1/2" computer diskette. The submitted data must be IBM compatible, preferably using Microsoft Excel software. In addition, the Discharger shall discuss the compliance record and the corrective actions taken or planned that may be needed to bring the discharge into full compliance with waste discharge requirements.
- C. All monitoring and annual summary reports must be addressed to the Regional Board, Attention: Information Technology Unit. Reference the reports to Compliance File No. CI-0066 to facilitate routing to the appropriate staff and file.
- D. Database Management System: The Regional Board and the State Water Resources Control Board (State Board) are developing a database compliance monitoring management system that may require the Discharger to submit the monitoring and annual summary reports electronically when it becomes fully operational.

II. MONITORING REQUIREMENTS

- A. 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 August. Should there be instances when monitoring could not be done during these specified months, the Discharger must notify the Regional Board, state the reason why the monitoring could not be conducted, and obtain approval from the Executive Officer for an alternate schedule. Results of quarterly, semiannual, and

annual analyses shall be reported in the monthly monitoring report following the analysis.

- B. Pollutants shall be analyzed using the analytical methods described in 40 CFR section 136; or where no methods are specified for a given pollutant, by methods approved by the Regional Board or State Board. The laboratory conducting analyses shall be certified by the California Department of Health Services Environmental Laboratory Accreditation Program (ELAP) or approved by the Regional Board for that particular parameter. A copy of the laboratory certification shall be submitted with the annual summary report.
- C. Water/wastewater samples must be analyzed within allowable holding time limits as specified in 40 CFR section 136.3. All QA/QC analyses must be run on the same dates that samples are actually analyzed. The Discharger shall retain the QA/QC documentation in its files and make available for inspection and/or submit them when requested by the Regional Board. Proper chain of custody procedures must be followed and a copy of that documentation shall be submitted with the monthly report.
- D. For all bacterial analyses, sample dilutions should be performed so the range of values extends from 2 to 16,000. The detection methods used for each analysis shall be reported with the results of the analyses.

Detection methods used for coliforms (total and fecal) shall be those presented in Table 1A of 40 CFR section 136 (revised May 14, 1999), unless alternate methods have been approved in advance by the United State Environmental Protection Agency (USEPA) pursuant to 40 CFR section 136.

Detection methods used for enterococcus shall be those presented in the USEPA publication EPA 600/4-85/076, *Test Methods for Escherichia coli and Enterococci in Water By Membrane Filter Procedure* or any improved method determined by the Regional Board to be appropriate.

III. REPORTING REQUIREMENTS

- A. The monitoring report shall specify the USEPA analytical method used, the Method Detection Limit (MDL), and reported Minimum Level (RML) for each pollutant. The reported Minimum Level is the Minimum Level (ML) chosen by the Discharger for reporting and compliance determination from the Minimum Levels listed in Appendix II (Attachment T-1) of the 2001 Ocean Plan. MLs represent the lowest quantifiable concentration in a sample based on the proper application of method-specific analytical procedures and the absence of matrix interferences. MLs also represent the lowest standard concentration in the calibration curve for a specific analytical technique after the application of appropriate method-specific factors.
- B. The Discharger shall select the analytical method that provides a ML lower than the permit limit established for a given parameter. If the effluent limitation is lower than all the MLs in Attachment T-1, the Discharge must select the method with the lowest ML for compliance purposes. The Discharger shall include in the Annual Summary Report a list of the analytical methods employed for each test.

- C. The Discharger shall instruct its laboratories to establish calibration standards so that the ML (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve. In accordance with section E, below, the Discharger's laboratory may employ a calibration standard lower than the ML in Attachment T-1.
- D. For the purpose of reporting compliance with numerical effluent limitations, and receiving water limitations, analytical data shall be reported using the following reporting protocols:
1. Sample results greater than or equal to the RML must be reported "as measured" by the laboratory (i.e., the measured chemical concentration in the sample); or
 2. Sample results less than the RML, but greater than or equal to the laboratory's MDL, must be reported as "Detected, but Not Quantified", or DNQ. The laboratory must write the estimated chemical concentration of the sample next to DNQ as well as the words "Estimated Concentration" (may be shortened to Est. Conc.); or
 3. Sample results less than the laboratory's MDL must be reported as "Not-Detected", or ND.
- E. Upon request by the Discharger, the Regional Board, in consultation with the State Board Quality Assurance Program, may establish a ML that is not contained in Attachment T-1, 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 T-1;
 2. When the Discharger agrees to use a test method that is more sensitive than those specified in 40 CFR section 136 (revised May 14, 1999, or subsequent revision);
 3. When the Discharger agrees to use an ML lower than those listed in Attachment T-1;
 4. When the Discharger demonstrates that the calibration standard matrix is sufficiently different from that used to establish the ML in Attachment T-1 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.

- F. If the Discharger samples and performs analyses (other than for process/operational control, startup, research, or equipment testing) on any influent, effluent, or receiving water constituent more frequently than required by this Program using approved analytical methods, the results of those analyses shall be included in the report. These results shall be reflected in the calculation of the average used in demonstrating compliance with average effluent, receiving water, etc., limitations.
- G. The Discharger shall inform the Regional Board well in advance of any proposed construction or maintenance or modification to the treatment plant that could potentially affect compliance with applicable requirements.
- H. The Discharger shall develop and maintain a record of all spills or bypass of raw or partially treated sewage from its collection system or treatment plant. This record shall be made available to the Regional Board upon request and a spill summary shall be included in the annual summary report.
 - 1. For spills/bypass of 500 gallons or more that flowed to receiving waters or entered a shallow ground water aquifer or has public exposure, the Discharger shall report such spills to the Regional Board and the local health agency by telephone or electronically as soon as possible but not later than 24 hours of knowledge of the incident. The following information shall be included in the report: location; date and time of spill; volume and nature of the spill; cause(s) of the spill; mitigation measures implemented; and corrective measures implemented or proposed to be implemented to prevent/minimize future occurrences.
 - 2. For spills that reach receiving waters, the Discharger shall obtain and analyze grab samples for total and fecal coliforms, and enterococcus, upstream and downstream of the point of entry of the spill. This monitoring shall be on a daily basis from time the spill is known until the results of two consecutive sets of bacteriological monitoring indicate the return to the normal level or cessation of monitoring is authorized by the County Department of Health Services.
 - 3. Regional Board notification shall be followed by a written report five working days after verbal notification.

IV. EFFLUENT AND INFLUENT MONITORING PROGRAM

A. Influent Monitoring

A sampling station shall be established for each point of sewage inflow to the wastewater treatment plant and shall be located where representative samples of influent can be obtained. Influent samples shall be obtained on the same day effluent samples are obtained. The following shall constitute the influent monitoring program:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u> ^[1]	<u>Minimum Frequency of Analysis</u>
Flow	mgd	---	continuous
BOD ₅ 20°C	mg/L	24-hr composite	weekly
Suspended Solids	mg/L	24-hr composite	weekly
pH	pH units	grab	weekly
Oil and grease	mg/L	grab	monthly
Total organic carbon	mg/L	24-hr composite	monthly

[1] When an automatic composite sampler is not used, at least eight (8) flow-weighted samples at equal intervals shall be obtained during the 24-hour discharge period.

B. Effluent Monitoring

Sampling stations shall be established at each point of discharge and shall be located where representative samples of the effluent can be obtained. The following shall constitute the effluent monitoring program:

1. Major Wastewater Constituents/Parameters

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u> ^[1]	<u>Minimum Frequency of Analysis</u>
Total waste flow ^[2]	mgd	---	continuous
BOD ₅ 20°C	mg/L	24-hr composite	5 days/week
Suspended solids	mg/L	24-hr composite	5 days/week
Total residual chlorine	µg/L	grab	5 days/week
Turbidity	NTU	24-hr composite	weekly
Fecal coliform	MPN/100ml	grab	weekly
Total coliform	MPN/100ml	grab	weekly
Enterococcus	CFU/100ml	grab	monthly
Oil and grease	mg/L	grab	monthly
Temperature ^[2]	°F or °C	grab	monthly
pH ^[2]	pH units	grab	monthly
Settleable solids	ml/L	grab	monthly
Total dissolved solids	mg/L	24-hr composite	monthly
Total organic carbon	mg/L	24-hr composite	monthly

1. Major Wastewater Constituents/Parameters (continued)

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u> ^[1]	<u>Minimum Frequency of Analysis</u>
Ammonia nitrogen	µg/L	24-hr composite	quarterly
Nitrate nitrogen	mg/L	24-hr composite	quarterly
Toxicity, chronic	TUc	24-hr composite	quarterly ^[12]
Cyanide	µg/L	grab	annually
Radioactivity	pCi/ml	24-hr composite	annually

2. Metals

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u> ^[1]	<u>Minimum Frequency of Analysis</u>
Antimony	µg/L	24-hr composite	annually
Arsenic	µg/L	24-hr composite	annually
Beryllium	µg/L	24-hr composite	annually
Chromium (III)	µg/L	24-hr composite	annually
Hexavalent chromium	µg/L	grab	annually
Cadmium	µg/L	24-hr composite	annually
Copper	µg/L	24-hr composite	annually
Lead	µg/L	24-hr composite	annually
Mercury	µg/L	24-hr composite	annually
Nickel	µg/L	24-hr composite	annually
Selenium	µg/L	24-hr composite	annually
Silver	µg/L	24-hr composite	annually
Thallium	µg/L	24-hr composite	annually
Zinc	µg/L	24-hr composite	annually

3. Volatile Organics

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u> ^[1]	<u>Minimum Frequency of Analysis</u>
Acrolein	µg/L	grab	annually
Acrylonitrile	µg/L	grab	annually

3. Volatile Organics (continued)

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u> ^[1]	<u>Minimum Frequency of Analysis</u>
Benzene	ug/L	grab	annually
Carbon tetrachloride	µg/L	grab	annually
Chlorobenzene	µg/L	grab	annually
Chlorodibromomethane	µg/L	grab	annually
Chloroform	µg/L	grab	annually
Dichlorobromomethane	µg/L	grab	annually
1, 1-Dichloroethylene	µg/l	grab	annually
1, 2-Dichloroethane	µg/L	grab	annually
Dichloromethane	µg/L	grab	annually
1, 3-Dichloropropene	µg/L	grab	annually
Ethylbenzene	µg/L	grab	annually
Halomethanes ^[3]	mg/L	grab	annually
Methyl-ter-butyl-ether	µg/L	grab	annually
Toluene	µg/L	grab	annually
1, 1, 2, 2-Tetrachloroethane	µg/L	grab	annually
1, 1, 1-Trichloroethane	µg/L	grab	annually
1, 1, 2-Trichloroethane	µg/L	grab	annually
Tetrachloroethylene	µg/L	grab	annually
Trichloroethylene	µg/L	grab	annually
Tributyltin	µg/L	grab	annually
Vinyl chloride	µg/L	grab	annually

4. Acid Extractibles

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u> ^[1]	<u>Minimum Frequency of Analysis</u>
4, 6-Dinitri-2-methylphenol	µg/L	24-hr composite	annually
2, 4-Dinitrophenol	µg/L	24-hr composite	annually
2, 4, 6-Trichlorophenol	µg/L	24-hr composite	annually
Phenolic compounds (non-chlorinated)	µg/L	24-hr composite	annually
Phenolic compounds (chlorinated)	µg/L	24-hr composite	annually

5. Base / Neutral Extractibles

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u> ^[1]	<u>Minimum Frequency of Analysis</u>
Benzidine	ng/L	24-hr composite	annually
Bis (2-chloro-ethoxy) methane	µg/L	24-hr composite	annually
Bis (2-chloro-Isopropyl) ether	µg/L	24-hr composite	annually
Bis (2-chloro-ethyl) ether	µg/L	24-hr composite	annually
Bis (2-ethylhexyl) phthalate	µg/L	24-hr composite	annually
Di-n-butyl- phthalate	µg/L	24-hr composite	annually
Dichlorobenzene ^[4]	µg/L	24-hr composite	annually
1, 4-Dichloro benzene	µg/L	24-hr composite	annually
3, 3-Dichlorobenzidine	µg/L	24-hr composite	annually
Diethyl phthalate	µg/L	24-hr composite	annually
Dimethyl phthalate	µg/L	24-hr composite	annually
2, 4-Dinitrotoluene	µg/L	24-hr composite	annually
1, 2 diphenylhydrazine	µg/L	24-hr composite	annually
Fluoranthene	µg/L	24-hr composite	annually
Hexachlorocyclo- pentadiene	µg/L	24-hr composite	annually

5. Base / Neutral Extractibles (continued)

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u> ^[1]	<u>Minimum Frequency of Analysis</u>
Hexachlorobenzene	ng/L	24-hr composite	annually
Hexachlorobutadiene	µg/L	24-hr composite	annually
Hexachlorethane	µg/L	24-hr composite	annually
Isophorone	µg/L	24-hr composite	annually
Nitrobenzene	µg/L	24-hr composite	annually
N- nitrosodimethylamine	µg/L	24-hr composite	annually
N-nitrosodi-N-propylamine	µg/L	24-hr composite	annually
N-nitrosodiphenylamine	µg/L	24-hr composite	annually
PAHs ^[5]	ng/L	24-hr composite	annually
TCDD equivalents ^[6]	pg/L	24-hr composite	annually

6. Pesticides

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u> ^[1]	<u>Minimum Frequency of Analysis</u>
Aldrin	ng/L	24-hr composite	annually
Chlordane ^[7]	ng/L	24-hr composite	annually
DDT ^[8]	ng/L	24-hr composite	annually
Dieldrin	ng/L	24-hr composite	annually
Endosulfan ^[9]	ng/L	24-hr composite	annually
Endrin	ng/L	24-hr composite	annually
HCH ^[10]	ng/L	24-hr composite	annually
Heptachlor	ng/L	24-hr composite	annually
Heptachlor epoxide	ng/L	24-hr composite	annually
PCBs ^[11]	ng/L	24-hr composite	annually
Toxaphene	ng/L	24-hr composite	annually

Footnotes for Effluent Monitoring:

[1] A composite sample is defined as a combination of no fewer than eight individual samples obtained over the specified sampling period. The volume of each individual sample shall be proportional to the discharge flow rate at the time of sampling. A grab sample is an individual

sample collected in less than 15 minutes.

- [2] Where continuous monitoring of temperature, pH and flow is required, the following shall be included in the report:

Temperature: maximum temperature
 pH: maximum and minimum values
 Flow: daily flow and peak daily flow rate.

- [3] Sum of bromoform, bromomethane (methyl bromide), chloromethane (methyl chloride).
- [4] Sum of 1,2- and 1,3-dichlorobenzene.
- [5] Sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno [1,2,3-cd] pyrene, phenanthrene and pyrene.
- [6] Sum of the concentration of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below:

<u>Isomer Group</u>	<u>Toxicity Equivalence Factor</u>
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
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
2,3,7,8-hexa CDFs	0.1
2,3,7,8-hepta CDFs	0.01
octa CDF	0.001

- [7] Sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma and oxychlordane.
- [8] Sum of 4,4'-DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4-DDD and 2,4'-DDD.
- [9] Sum of endosulfan-alpha and -beta and endosulfan sulfate.
- [10] Sum of alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.
- [11] Sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-232, Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260.
- [12] The monitoring frequency is monthly for three consecutive months during the screening period.

C. Effluent Toxicity Testing

1. Chronic Toxicity Testing

- a. **Methods and Test Species.** The Discharger shall conduct critical life stage chronic toxicity tests on 24-hour composite, 100 percent effluent samples using West Coast marine organisms (see Tier 1, Table III-1,

Appendix III, Page 34, 2001 Ocean Plan) in accordance with USEPA's *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms*, August 1995, (EPA/600/R-95/136).

b. **Frequency**

- i. Screening - The Discharger shall conduct chronic toxicity test screening every 24 months for three consecutive months, with first screening under this Monitoring Program to be conducted on the effective date of this Order and permit. Re-screening shall be conducted at a different time of year from the previous screening. Screening tests shall be conducted using one vertebrate, one invertebrate, and one plant organism.
- ii. Regular toxicity tests - After the screening period, monitoring shall be conducted quarterly using the most sensitive species on a quarterly basis.

c. **Toxicity Units.** The chronic toxicity of the effluent shall be expressed and reported in toxic units, TU_c , where,

$$TU_c = \frac{100}{NOEC}$$

The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent concentration that causes no observable effect on test organisms, as determined by the results of a critical life stage toxicity test.

d. **Quality Assurance**

- i. 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).
- ii. If either the reference toxicant test or effluent test does not meet all test acceptability criteria (TAC) as specified in the test methods manual (EPA/600/R-95/136), then the Discharger must re-sample and re-test within 14 days.
- iii. 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.

e. **Accelerated Monitoring**

If the effluent chronic toxicity test result exceeds the limitation, the Discharger shall immediately implement an accelerated chronic toxicity

testing that consists of six additional tests, approximately every week, over a six-week period. Effluent sampling for the first test of the six additional tests shall commence about 24 hours of receipt of the test results exceeding a chronic toxicity limit.

- i If all the results of the six additional tests are in compliance with the chronic toxicity limitation, the Discharger may resume regular quarterly testing.
- ii If the results of any of the six accelerated tests exceeds the limitation, the Discharger shall continue to monitor weekly until six consecutive weekly tests are in compliance. At that time, the Discharger may resume regular quarterly testing.
- iii If the results of two of the six tests, or any two tests in a six-week period, exceed the limitation, the Discharger shall initiate a Toxicity Reduction Evaluation (TRE).
- iv If implementation of the initial investigation TRE workplan (see item 2, below) indicates the source of toxicity (e.g., a temporary plant upset, etc.), then the Discharger shall return to the regular testing frequency.

2. Preparation of an Initial Investigation TRE Workplan

Within 90 days of the effective date of this Order and permit, the Discharger shall submit a copy of its initial investigation TRE workplan to the Executive Officer of the Regional Board for approval. The Discharger shall use the USEPA manual, *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants*, EPA/833B-99/002, as guidance. This workplan shall describe the steps the Discharger intends to follow if the toxicity limitation is exceeded, and should include, at a minimum, the following:

- a. Description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency;
- b. Description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in operation of the facility; and,
- c. If a Toxicity Identification Evaluation (TIE) is necessary, an indication of the person who will conduct the TIE (i.e., an in-house expert or an outside contractor).

3. Steps in Toxicity Reduction Evaluation (TRE) and Toxicity Identification Evaluation (TIE)

- a. If the results of the implementation of the facility's initial investigation TRE workplan indicate the need to continue the TRE/TIE, the Discharger shall

expeditiously develop a more detailed TRE workplan for submittal to the Executive Officer within 15 days of the completion of the initial investigation TRE. The detailed workplan shall include, but not 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; and,
 - iii A schedule for these actions.
- b. The following is a stepwise approach in conducting the TRE:
- i Step 1 includes basic data collection;
 - ii Step 2 evaluates optimization of the treatment system operation, facility housekeeping, and selection and use of in-plant process chemicals;
 - iii If Steps 1 and 2 are unsuccessful, Step 3 implements a Toxicity Identification Evaluation (TIE) and employment of all reasonable efforts using currently available TIE methodologies. The objective of the TIE shall be 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 best management practices (BMPs). To prevent duplication of efforts, evidence of compliance with those requirements may be sufficient to comply with the TRE requirements. By requiring the first steps of a TRE to 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 indicates there is no longer toxicity violations.

- 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 EPA 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 required in Part C.1.e. of this program, then the accelerated testing schedule may be terminated, or used as necessary in performing the TRE/TIE, as determined by the Executive Officer.
- e. 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. Ammonia Removal

- a. Except with prior approval from the Executive Officer of the Regional Board ammonia shall not be removed from the bioassay samples. The Discharger must demonstrate the effluent toxicity is caused by ammonia because of increasing test pH when conducting the toxicity test. It is important to distinguish the potential toxic effects of ammonia from other pH sensitive chemicals, such as certain heavy metals, sulfide, and cyanide. The following may be steps to demonstrate the toxicity is caused by ammonia and not other toxicants before the Executive Officer of the Regional Board would allow for control of pH in the test.
 - i. There is consistent toxicity in the effluent/receiving water and the maximum pH in the toxicity test is in the range to cause toxicity due to increased pH.
 - ii. Chronic ammonia concentrations in the effluent/receiving water are greater than 4 mg/L total ammonia. The level of detection for total ammonia generally need not be below 0.5-1.0 mg/L, since concentrations < 1.0 mg/L of total ammonia have not been found to be toxic to Mysid and Larval Inland Silverside (Acute ammonia LC₅₀ values of 1.70 mg/L and 1.77 mg/L for Mysid and Larval Inland Silverside, respectively, at pH 8.0). Then,
 - iii. Conduct the graduated pH tests as specified in the toxicity identification evaluation methods. For example, mortality should be higher at pH 8 and lower at pH 6.
 - iv. Treat the effluent with a zeolite column to remove ammonia. Mortality in the zeolite treated effluent should be lower than the non-zeolite treated effluent. Then add ammonia back to the zeolite-treated samples to confirm toxicity due to ammonia.
- b. After it has been demonstrated that toxicity is due to ammonia, pH may be controlled using appropriate procedures which do not significantly alter the nature of the effluent after submitting a written request to the Regional Board, and receiving written permission expressing approval from the Executive Officer of the Regional Board.

5. 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 this permit. Test results shall be reported in Toxicity Units (TUa or TUc) with the discharge monitoring reports (DMR) for the month in which the test is conducted.
- b. If an initial investigation indicates the source of toxicity and accelerated testing is unnecessary, pursuant to Section C.1.e.iv, then those results also shall be submitted with the DMR for the period in which the Investigation occurred.
 - i. The full report shall be submitted by the end of the month in which the DMR is submitted.
 - ii. The full report shall consist of (1) the results; (2) the dates of sample collection and initiation of each toxicity test; (3) the acute toxicity average limit or chronic toxicity limit.
 - iii. 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:
 - a). sample date(s)
 - b). test initiation date
 - c). test species
 - d). end point values for each dilution (e.g. number of young, growth rate, percent survival)
 - e). NOEC value(s) in percent effluent
 - f). TUc values $\left(TU_c = \frac{100}{NOEC} \right)$
 - g). Mean percent mortality (+standard deviation) after 96 hours in 100% effluent (if applicable)
 - h). NOEC and LOEC (Lowest Observable Effect Concentration) values for reference toxicant test(s)
 - i). Available water quality measurements for each test (e.g., pH, D.O., temperature, conductivity, hardness, salinity, ammonia).

- iv The Discharger shall provide a compliance summary which includes a summary table of toxicity data from at least eleven of the most recent samples.
- v The Discharger shall notify this Regional Board immediately of any toxicity exceedance and in writing 14 days after the receipt of the results of a monitoring limit or trigger. The notification will 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. RECEIVING WATER MONITORING AND OBSERVATIONS

A. Regional Monitoring Program

1. Pursuant to the Code of Federal Regulation [40 CFR §122.41(j) and §122.48(b)], the monitoring program for a Discharger receiving a National Pollutant Elimination System (NPDES) permit must demonstrate compliance with NPDES permit terms and conditions, and demonstrate that State water quality standards are met.
2. Since compliance monitoring focuses on the effects of a point source discharge, it is not designed to assess impacts from other sources of pollution (e.g., nonpoint source runoff, aerial fallout) nor to evaluate the current status of important ecological resources on a regional basis.
3. Several efforts are underway to develop and implement a comprehensive regional monitoring program for the Southern California Bight. These efforts have the support and participation from regulatory agencies, dischargers and environmental groups. The goal is to establish a regional program to address public health concerns, monitor trends in natural resources and nearshore habitats, and assess regional impacts from all contaminant sources. In general, the goal is a more efficient monitoring program that can be used for both compliance and regional bight-wide assessments.
4. Two regional monitoring programs for the Southern California Bight were conducted, one in 1994, and another in 1998. The monitoring allowed the USEPA and the Regional Board to test an alternative sampling design that incorporates aspects of regional monitoring into current compliance programs. These programs were designed by USEPA, the State Water Resources Control Board, and three Regional Water Quality Control Boards (Los Angeles, Santa Ana, and San Diego) in conjunction with the Southern California Coastal Water Research Project and participating discharger agencies.

The regional monitoring programs included the following components: microbiology; water quality; sediment chemistry; sediment toxicity testing; benthic infauna; demersal fish; and bioaccumulation.

5. The two regional monitoring programs were funded, in large part, by resource exchanges with the participating discharger agencies. During the year when regional monitoring was scheduled, USEPA and this Regional Board eliminated portions of the routine compliance monitoring programs for that year, while retaining certain critical compliance monitoring elements. A certain percentage of the traditional sampling sites were also retained to maintain continuity of the historical record and to allow comparison of different sampling designs. The exchanged resources were redirected to complete sampling within the regional monitoring program design. Thus, the dischargers' overall level of effort for the 1994 and 1998 programs remained approximately the same as the compliance monitoring programs.

Future regional monitoring programs may be funded in a similar manner. Thus, revisions to the routine compliance monitoring program will be made under the direction of the USEPA and this Regional Board as necessary to accomplish the goal; and may include a reduction or increase in the number of parameters monitored, the frequency of monitoring, or the number, type, size and location of samples collected.

6. The results of the regional monitoring programs are being evaluated and will be used to design future monitoring programs and to develop a comprehensive regional monitoring program for the Southern California Bight. At the same time, the monitoring programs conducted by other dischargers and agencies will be integrated into this regional program. If predictable relationships among the biological, water quality, and effluent monitoring variables can be demonstrated, it may be appropriate to decrease the sampling effort. Conversely, the monitoring program may be intensified if it appears that the objectives cannot be achieved through the existing compliance monitoring program.
7. The Receiving Water Monitoring Program in this Order is similar to that in the 1995 revised Monitoring and Reporting Program for the Avalon WTF. Until such time as a regional monitoring program is developed, and with the exception of future pilot regional monitoring program sampling periods (projected for 2003), the Discharger shall perform the analyses described in the following receiving water monitoring program.

B. Receiving Water Monitoring

1. Receiving water stations shall be established at the following locations:

Station No. Location

R-A	Abalone Point - Within 100 feet of the mean lower low water line.
R-B	Outfall - At a point directly over the terminus of the ocean outfall.
R-C	Pebbly Beach - At a point in the surf approximately 800 feet southeasterly of the ocean outfall, as measured along the shore, and within 50 feet of the mean lower low water line.

- R-D Pebbly Beach - At a point near the desalination plant infiltration well and within 50 feet of the mean lower low water line.
- R-E Control Station - At a point 1,000 feet southeast of the outfall terminus, 400 feet offshore on the 125 feet depth contour.
- R-F Pebbly Beach – At a point approximately half way between R-A and R-B and within 200 feet of the mean lower low water line.

2. The following shall constitute the receiving water monitoring program:

<u>Constituent</u>	<u>Units</u>	<u>Station No.</u>	<u>Type of Sample</u>	<u>Minimum Frequency of Analysis</u>
Total coliform ^[1]	MPN/100 ml	R-A, R-B, R-D, R-F	grab	monthly ^[2]
Fecal coliform ^[1]	MPN/100 ml	R-A, R-B, R-D, R-F	grab	monthly ^[2]
Enterococcus ^[1]	CFU/100 ml	R-A, R-B, R-D, R-F	grab	monthly ^[2]
Residual Chlorine	mg/L	R-B	grab	monthly
Dissolved Oxygen	mg/L	R-A, R-B, R-C, R-D R-E, R-F	continuous profile	monthly
pH	pH units	R-A, R-B, R-C, R-D R-E, R-F	continuous profile	monthly
Temperature	°C or °F	R-A, R-B, R-C, R-D R-E, R-F	continuous profile	monthly
Salinity	psu	R-A, R-B, R-C, R-D R-E, R-F	continuous profile	monthly

[1] Samples shall be collected at 0.5 meters below the surface.

[2] Should the values obtained exceed the receiving water bacterial standards, the Discharger shall collect additional four weekly samples to demonstrate compliance with the limits in Section I.B.1 and 2 of the Order.

3. Receiving water observations shall be made monthly at approximately the same time as receiving water sampling is performed, and the following shall be noted and reported:

- a. Station Nos. R-A, R-B, R-C, R-D, R-E, R-F:
 - i Time and date of observation.
 - ii Weather observations
 - iii Color of the receiving water and extent of any visual turbidity or color patches due to the discharge.
 - iv Appearance and locations of floating solids, oil, grease, scum or foam due to the discharge.
 - v Description of the odor of the receiving water.

- b. Station Nos. R-A, R-C, R-D, R-F:
 - i Sludge banks or deposits.
- 4. In the event stormy weather makes sampling hazardous or impractical, receiving water samples can be omitted, provided that such omissions do not occur in consecutive weeks or in more than four weeks in a calendar year for those constituents with weekly monitoring, or in more than two months in a calendar year for those constituents with monthly monitoring. Should this occur, it shall be so noted in the monitoring report.
- 5. A benthic monitoring program shall be conducted to assess the impact of the outfall effluent on the surrounding region. The monitoring program will consist of infaunal analysis.

a. Infaunal Analysis

Benthic samples shall be collected using a 0.1 square meter Van Veer sediment grab, or equivalent device approved by the Executive Officer. One sample shall be collected for infaunal analysis at each station. Each sample shall be sieved through a 1.0-mm mesh screen and the retained organisms fixed in ten-percent buffered formalin-seawater. The organisms shall then be transferred to a seventy-percent ethanol solution within two to seven days.

Retained organisms must be identified to the lowest possible taxon. Results shall be presented as number of individuals per liter. Biomass shall be determined as the wet weight in grams or milligrams retained on a 1.0 millimeter screen per unit volume (e.g., 1 liter) of sediment. Biomass shall be grouped for each major taxonic group (i.e., polychaetes, crustaceans, molluscs, echinoderms, all other organisms) for each sample.

Community parameters (i.e., number of individuals, number of species, number of individuals per species etc.) and indices (species diversity and dominance) shall be determined for each station and each replicate. Data will be compared between stations to determine if spatial difference occur in the composition and structure of the infaunal community within the study area. Any spatial difference in the community and its relationship to the outfall shall be discussed.

The entire outfall shall be inspected for leaks or damage by divers or other appropriate means during the month of July.

- b. Benthic monitoring stations shall be located along the isobath which intersects the outfall terminus:

<u>Station No.</u>	<u>Location</u>
RW1	adjacent to outfall terminus
RW2	50 ft. upcurrent of discharge
RW3	50 ft. downcurrent of discharge
RW4	100 ft. downcurrent of discharge
RW5	1,000 ft. downcurrent of discharge*
RW6	1,000 ft upcurrent of discharge

* Station RW5 may be sampled at a point 500 ft. downcurrent of discharge if necessary to remain on soft bottom habitat.

- c. Benthic monitoring shall be conducted annually, in the month of July.
6. Weekly and monthly receiving water monitoring results and observations shall be submitted with the corresponding effluent monitoring reports for each month. Benthic infaunal result shall be submitted with the annual report.

Ordered By:

Dennis A. Dickerson
Executive Officer

Date: April 25, 2002