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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (CFR) at 40 CFR §122.48 requires that all NPDES permits specify monitoring and reporting requirements. CWC sections 13267 and 13383 also authorize the Regional Water Quality Control Board (RWQCB) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implements the federal and California regulations.

I.GENERAL MONITORING PROVISIONS

A. Wastewater Monitoring Provision. Composite samples may be taken by a proportional sampling device approved by the Executive Officer or by grab samples composited in proportion to flow. In compositing grab samples, the sampling interval shall not exceed one hour.

B. If the Discharger monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 Code of Federal Regulations (CFR) Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the monthly and annual discharger monitoring reports.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring location(s)s to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
--	M-INF	A representative point preceding primary treatment
--	M-CCC	Effluent from the chlorine contact chamber prior to dechlorination for purposes of measuring chlorine residual
001	M-001	A representative point following full treatment and disinfection but prior to discharge to the Eel River
002	M-002	A representative point following full treatment and disinfection but prior to discharge to the percolation pond
Receiving Water	R-001	Eel River surface water upstream beyond influence of the discharge
Receiving Water	R-002	Eel River surface water at the point of discharge or other location approved by the Executive Officer

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location M-INF

1. The Discharger shall monitor influent to the facility at Monitoring Location M-INF as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
BOD (20° C, 5-day)	mg/L	8-hour composite	Weekly	Standard Methods [1]
Total Suspended Solids	mg/L	8-hour composite	Weekly	Standard Methods
Flow (Mean)	MGD	Continuous	Daily	Meter

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location M-CCC (Chorine Contact Chamber Effluent Prior to Dechlorination)

The Discharger shall monitor the discharge from the chorine contact chamber prior to dechlorination at Monitoring Location M-CCC as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Chlorine Residual	mg/L	grab	Daily	Standard Methods

B. Monitoring Location M-001 (Discharge to the Eel River)

The Discharger shall monitor dechlorinated effluent prior to discharge to the Eel River at Monitoring Location M-001 as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
BOD (20° C, 5-day)	mg/L	8-hour composite	Weekly	Standard Methods
Total Suspended Solids	mg/L	8-hour composite	Weekly	Standard Methods
Settleable Solids	ml/L	grab	Weekly	Standard Methods
Hydgrogen Ion	pH Units	grab	Weekly	Standard Methods
Total Coliform Organisms	MPN/ 100 ml	grab	Weekly	Standard Methods
Total Chlorine Residual	mg/L	grab	Daily	Standard Methods
Dichlorobromomethane	µg/L	grab	Monthly	Standard Methods
Priority Pollutants[2]	µg/L	grab	1x /5 year	Standard Methods
Mean Daily Flow	gpd	metered	Continuous	Meter
Acute Toxicity Bioassay	TUa	grab	Semi-annually[3]	See Acute Toxicity Monitoring Requirements in Section V.A. Below

[1] In accordance with current edition of *Standard Methods for the Examination of Water and Wastewater* (American Public Health Administration) or current test procedures specified in 40 CFR Part 136.

[2] Those pollutants identified as Compound Nos. 1 – 126 by the California Toxics Rule at 40 CFR 131.38 (b) (1). Samples shall be collected during a dry weather period, while discharging to the Eel River. Analyses for the priority pollutants shall be conducted in accordance to methods established at 40 CFR 136, or if no method is specified for a pollutant at 40 CFR 136, in accordance to methods approved by the State Water Resources Control Board or the Regional Water Board.

[3] Semi-annual acute toxicity sampling shall be conducted using effluent collected during the wintertime discharge to the Eel River.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Chronic Toxicity Bioassay	TUc	grab	Annually[4]	See Chronic Toxicity Monitoring Requirements in Section V.B. Below

C. Monitoring Location M-002 (Discharge to the Percolation Ponds)

The Discharger shall monitor disinfected effluent at Monitoring Location M-002 as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
BOD (20° C, 5-day)	mg/L	8-hour composite	Weekly	Standard Methods
Total Suspended Solids	mg/L	8-hour composite	Weekly	Standard Methods
Settleable Solids	ml/L	grab	Weekly	Standard Methods
Hydgrogen Ion	pH Units	grab	Weekly	Standard Methods
Total Coliform Organisms	MPN/100 ml	grab	Weekly	Standard Methods

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Control

Compliance with the Basin Plan narrative toxicity objective shall be achieved in accordance with the following:

1. Test Species and Methods

a. During the first discharge season after adoption of this Order, the Discharger shall conduct 96-hour static renewal tests with an invertebrate, the water flea, *Ceriodaphnia dubia*, and a vertebrate, the rainbow trout, *Orncorhychus mykiss*, for at least two suites of tests. At least one test during the screening period shall be conducted when the effluent is unaffected by storm-related inflow into the WWTF. After this screening period, monitoring shall be conducted using the most sensitive species determined for the given flow regime. At least once every five years, the Discharger shall re-screen once with the two species listed above and continue to monitor monthly with the most sensitive species.

b. The presence of acute toxicity shall be estimated as specified in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (U.S. EPA Report No. EPA 600/4-90-027F, 4th edition or subsequent editions), or other methods approved by the Executive Officer, shall be used.

[4] Annual chronic toxicity sampling shall be conducted using effluent collected during the wintertime discharge to the Eel River.

2. Definition of Toxicity Limits

   a. Acute toxicity is defined as the effluent concentration that would cause death in 50 percent of the test organisms (LC50). Where the LC50 is calculated, results shall be reported in TUa, where TUa = 100/LC50 (in percent effluent).

   b. Acute toxicity is significantly reduced survival at 100 percent effluent compared to a control, using a t-test. Where 100 percent effluent is used, results shall be reported as percent survival.

   c. If the result of any single acute toxicity test does not comply with the acute toxicity effluent limitation, the Discharger shall take two more samples, one within 14 days, and one within 21 days of receiving the sample results. If two of the three samples do not comply with the acute toxicity limitation, the Discharger shall initiate a Toxicity Reduction Evaluation (TRE) in accordance with Section V.C., below. If the two additional samples are in compliance with the acute toxicity requirement, then a TRE will not be required. If the discharge has ceased before the additional samples could be collected, the Discharger shall contact the Executive Officer within 21 days with a plan to demonstrate compliance with the acute toxicity effluent limitation.

B. Chronic Toxicity Control

1. Test Species and Methods

   a. During the first year, the Discharger shall conduct short-term tests with the water flea, *Ceriodaphnia dubia* (survival and reproduction test), the fathead minnow, *Pimephales promelas* (larval survival and growth test), and the green alga, *Selanastrum capricornutum* (growth test) for the first two suites of tests. At least one test during the screening period shall be conducted when the effluent is unaffected by storm-related inflow into the WWTF. After this screening period, monitoring shall be conducted using the most sensitive species.

   b. The presence of chronic toxicity shall be estimated as specified in EPA's Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms (U.S. EPA Report No. EPA-600-4-91-002, 3rd or subsequent editions).

2. In addition to results from acute toxicity tests, compliance with the Basin Plan narrative toxicity objective shall be demonstrated according to the following tiered requirements based on results from representative samples of the treated effluent:

   a. Routine monitoring;
   b. Accelerate monitoring after exceeding a three sample median value of 1.0 TUc or a single sample maximum of 2.0 TUc;
   c. Return to routine monitoring if accelerated monitoring does not exceed either "trigger" in "b";

d. Initiate approved TRE workplan and continue accelerated monitoring if monitoring confirms consistent toxicity above either "trigger" in "b";
e. Return to routine monitoring after appropriate elements of TRE workplan are implemented and toxicity drops below "trigger" levels in "b", or as directed by the Executive Officer.

3. Definition of Toxicity Limits

a. Chronic toxicity measures a sublethal effect (e.g., reduced growth, reproduction) to experimental test organisms exposed to an effluent or ambient waters compared to that of the control organisms.

b. Results shall be reported in TUc, where TUc = 100/NOEC or 100/ICp or ECp (in percent effluent).

4. Quality Assurance

a. A series of at least five dilutions and a control will be tested. The series shall consist of the following dilution series: 12.5, 25, 50, 75, and 100 percent effluent.

b. If organisms are not cultured in-house, concurrent testing with a reference toxicant shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests also shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc).

c. If either the reference toxicant test or effluent test does not meet all test acceptability criteria (TAC) as specified in the manual, then the Discharger must re-sample and re-test within 14 days or as soon as possible.

d. 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.

5. Accelerated Testing for Toxicity

a. If the initial investigation indicates the source of toxicity (for instance, a temporary plant upset), then only one additional test is necessary. If chronic toxicity is detected in this test, then this Section shall apply.

b. If chronic toxicity is detected, then the Discharger shall conduct two more tests, one test conducted approximately every two weeks, over a four–week period. Testing shall commence within two weeks of receipt of the sample results of the exceedance of the toxicity monitoring trigger.

c. The Discharger may return to routine monitoring after appropriate elements of the TRE workplan are implemented and toxicity drops below "trigger" levels in Section V.B.1.b. above, or as directed by the Executive Officer.

6. Reporting for Toxicity Tests

a. Test results for chronic toxicity tests shall be reported according to the chronic toxicity manual Chapter 10 (Report Preparation) and the Monitoring and Reporting Program and shall be attached to the self-monitoring report.

b. The Discharger shall notify the Regional Water Board in writing 14 days after the receipt of test results exceeding an effluent limitation 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 this Order, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.

C. Toxicity Reduction Evaluations

1. The Discharger shall prepare and submit to the Regional Water Board Executive Officer a TRE workplan within 180 days of the effective date of this Order. This plan shall be reviewed and updated as necessary in order to remain current and applicable to the discharge and discharge facilities. The workplan shall describe the steps the Discharger intends to follow if toxicity is detected, and should include, at least the following items:

a. A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.

b. A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices.

c. If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor).

2. The TRE shall be conducted in accordance with the following:

a. The TRE shall be initiated within 30 days of the date of completion of the accelerated monitoring test observed to exceed either the acute or chronic toxicity parameter.

b. The TRE shall be conducted in accordance with the Discharger's workplan.

c. The TRE shall be in accordance with current technical guidance and reference material including, at a minimum, the EPA manual EPA/833B-99/002. The TRE shall be conducted as a tiered evaluation process, as summarized below:

i. Tier 1 consists of basic data collection (routine and accelerated monitoring).

ii. Tier 2 consists of the evaluation of treatment plant optimization including operational practices, and in-plant process chemicals.

iii. Tier 3 consists of a toxicity identification evaluation (TIE).

iv. Tier 4 consists of the evaluation of options for additional treatment processes.

v. Tier 5 consists of the evaluation of options for modifications of in-plant treatment processes.

vi. Tier 6 consists of the implementation of selected toxicity control measures, and follow-up monitoring and confirmation of implementation success.

d. The TRE may end at any stage if, through monitoring results, it is determined that there is no longer consistent toxicity.

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

f. As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the source(s) and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with chronic toxicity parameters.

g. Many recommended TRE elements accompany required efforts of source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements of recommendations of such programs may be acceptable to comply with requirements of the TRE.

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

VI. LAND DISCHARGE MONITORING REQUIREMENTS - (NOT APPLICABLE)

This section of the standardized permit form is not applicable.

VII. RECLAMATION MONITORING REQUIREMENTS - (NOT APPLICABLE)

This section of the standardized permit form is not applicable.

VIII. RECEIVING WATER MONITORING REQUIREMENTS

For the purpose of calculating percent dilution in the receiving water, flow in the Eel River shall be measured daily during the wintertime discharge season at the Miranda gauging station.

1. **Surface Water Monitoring Locations R-001**

   The Discharger shall monitor the Eel River concurrently with effluent monitoring at Monitoring Location R-001, upstream of influence of the discharge as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Hydrogen Ion	pH	grab	Monthly	Standard Methods
Temperature	ºF or °C	grab	Monthly	Standard Methods
Dissolved Oxygen	mg/L	grab	Monthly	Standard Methods
Specific Conductance	micromhos	grab	Monthly	Standard Methods
Total Dissolved Solids	mg/L	grab	Monthly	Standard Methods
Turbidity	mg/L	grab	Monthly	Standard Methods
Floatables/discoloration	---	visual	Monthly	---
Priority Pollutants [b]	µg/L	grab	1x / Order term	Standard Methods
Hardness ($CaCO_3$)	mg/L	grab	Concurrent with Priority Pollutant Sampling	Standard Methods

2. **Surface Water Monitoring Locations R-002**

   The Discharger shall monitor the Eel River concurrently with effluent monitoring at Monitoring Location R-002, at the point of discharge as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Hydrogen Ion	pH	grab	Monthly	Standard Methods
Temperature	ºF or °C	grab	Monthly	Standard Methods
Dissolved Oxygen	mg/L	grab	Monthly	Standard Methods
Specific Conductance	micromhos	grab	Monthly	Standard Methods
Total Dissolved Solids	mg/L	grab	Monthly	Standard Methods
Turbidity	mg/L	grab	Monthly	Standard Methods
Floatables/discoloraiton	---	visual	Monthly	---

IX. OTHER MONITORING REQUIREMENTS

This section of the standardized permit form is not applicable.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit self-monitoring reports. Until such notification is given, the Discharger shall submit self-monitoring reports in accordance with the requirements described below.

2. The Discharger shall submit monthly and annual Self Monitoring Reports including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. Monthly reports shall be due on the 1st day of the second month following the end of each calendar month. Annual reports shall be due on February 1 following each calendar year.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	June 16, 2006	All	First Day Of Second Calendar Month Following Month Of Sampling
1 / Day	June 16, 2006	(Midnight Through 11:59 Pm) Or Any 24-Hour Period That Reasonably Represents A Calendar Day For Purposes Of Sampling.	First Day Of Second Calendar Month Following Month Of Sampling
1 / Week	June 18, 2006	Sunday Through Saturday	First Day Of Second Calendar Month Following Month Of Sampling
1 / Month	July 1, 2006	1st Day Of Calendar Month Through Last Day Of Calendar Month	First Day Of Second Calendar Month Following Month Of Sampling
1 / Semi-Annual Period	July 1, 2006	January 1 Through June 30 July 1 Through December 31	August 1 February 1
1 / Year	January 1, 2007	January 1 Through December 31	February 1
1 / 5 Years	October 1, 2006	October 1 Through May 15	July 1, 2007

4. The Discharger shall report with each sample result the applicable Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.

5. SMR Content and Format.

    a. Monthly Reports. The purpose of the monthly report is to document treatment performance, effluent quality, and compliance with waste discharge requirements prescribed by Order No. R1-2006-0022. For each calendar month, an SMR shall be submitted to the Regional Water Board in accordance with the following:

        i. Letter of transmittal: Each SMR shall be submitted with a letter of transmittal. This letter shall include the following:

            - Identification of facility: Name, address, WDID number;
            - Date of report and monitoring period;
            - Identification of all violations of discharge prohibitions, effluent limitations or other discharge requirements found during the monitoring period;
            - Details of the violations: parameters, magnitude, test results, frequency, and dates;
            - The cause of the violation(s);
            - Discussion of corrective actions taken or planned to resolve violations and prevent recurrence, and dates or time of action implementation;
            - Authorized signature and certification statement.

        ii. Compliance Evaluation Summary: Each report shall include a compliance evaluation summary. The summary shall illustrate clearly the facility's compliance (or lack thereof) with all effluent limitations and other waste discharge requirements. During periods of no discharge, the reports shall certify "no discharge".

        iii. Results of Analyses and Observations.

            - Tabulations of all required analyses, including parameter, sample date, and time, sample station, and test result.
            - If the Discharger monitors any pollutant more frequently than required by this Permit, using test procedures approved under 40 CFR Part 136 or as specified

in this Permit, the results of this monitoring shall be included in the calculation and report of the data submitted in the Discharger's SMR.

- Calculation of all effluent limitations that require averaging, taking of a median, or other calculation.

b. **Annual Report**. The Discharger shall submit an annual report to the Regional Water Board for each calendar year. The report shall be submitted by February 1st of the following year. The report shall include, at a minimum, the following:

i. Both tabular and, where appropriate, graphical summaries of the monitoring data and disposal records from the previous year. If the Discharger monitors any pollutant more frequently than required by this Permit, using test procedures approved under 40 CFR Part 136 or as specified in this Permit, the results of this monitoring shall be included in the calculation and report of the data submitted SMR.

ii. Source control activities as required by Section VI.C.6.c.of Waste Discharge Requirements Order No. R1-2006-0022.

iii. Collection system activities as required by Section VI.C.6.a. of Waste Discharge Requirements Order No. R1-2006-0022.

iv. A comprehensive discussion of the facility's compliance (or lack thereof) with all effluent limitations and other waste discharge requirements, and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the Permit.

6. SMRs must be submitted to the Regional Water Board, signed and certified as required by the standard provisions (Attachment D), to the address listed below:

Regional Water Quality Control Board
5550 Skylane Blvd., Suite A
Santa Rosa, CA 95403

C. Discharge Monitoring Reports (DMRs)

1. A described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the discharger to electronically submit self-monitoring reports. Until such notification is given, the Discharger shall submit discharge monitoring reports (DMRs) in accordance with the requirements described below.

2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharge shall submit the original DMR and one copy of the DMR to the address listed below:

State Water Resources Control Board
Discharge Monitoring Report Processing Center
Post Office Box 671
Sacramento, CA 95812

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated or modified cannot be accepted.