

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2008-____
FOR
FRESNO COUTNY SERVICE AREA NO. 34
MILLERTON NEW TOWN WASTEWATER TREATMENT FACILITY
FRESNO COUNTY

This Monitoring and Reporting Program (MRP) is required pursuant to California Water Code section 13267.

The Discharger shall not implement any changes to this MRP unless and until the Regional Board adopts or the Executive Officer issues a revised MRP. Changes to sample location shall be established with concurrence of Regional Water Board staff, and a description of the revised stations shall be submitted for approval by the Executive Officer. All samples should be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each sample shall be recorded on the sample chain of custody form. All analyses shall be performed in accordance with the latest edition of *Guidelines Establishing Test Procedures for Analysis of Pollutants*, promulgated by USEPA (40 CFR 136) or other procedures approved by the applicable regional water board. In reporting monitoring data, the User shall indicate whether any analysis was performed using a method not in conformance with USEPA's Guidelines. The results of analyses performed in accordance with specified test procedures, taken more frequently than required at the locations specified in this MRP, shall be reported to the regional Water Board and used in determining compliance.

Field test instruments (such as pH) may be used provided that:

1. the operator is trained in the proper use of the instrument;
2. the instruments are calibrated prior to each use;
3. instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. field calibration reports are submitted as described in the "Reporting" section of this MRP.

Each laboratory report shall clearly identify the following:

1. analytical method;
2. measured value;
3. units;
4. what constituent a value is reported as;
5. method detection limit (MDL);
6. reporting limit (RL) (i.e., a practical quantitation limit or PQL);
7. documentation of cation/balance for general minerals analysis of supply water and groundwater samples.

If the regulatory limitation for a given constituent is less than the RL, then any laboratory analytical results for that constituent that are below the RL but above the MDL shall be reported and flagged as estimated.

Analytical procedures shall comply with the methods and holding times specified in: *Methods for Chemical Analysis of Water and Wastes* (EPA-600/4-79-020, 1983); *Methods for Determination of Inorganic Substances in Environmental Samples* (EPA/600/R-93/100, 1993); *Standard Methods for the Examination of Water and Wastewater, 20th Edition* (WEF, APHA, AWWA); and *Soil, Plant and Water Reference Methods for the Western Region, 2003, 2nd Edition* (hereafter Western Region Methods).

If monitoring consistently shows no significant variation in magnitude of a constituent concentration after at least 12 months of monitoring, the Discharger may request the MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for reduction in monitoring frequency.

INFLUENT MONITORING

The Discharger shall collect influent samples at the headworks of the treatment facility prior to any treatment of waste. Time of a grab sample shall be recorded. Influent monitoring shall include at least the following:

| <u>Constituent</u> | <u>Units</u> | <u>Type of Sample</u> | <u>Sampling Frequency</u> |
|-------------------------------|--------------|------------------------------|---------------------------|
| Flow | mgd | Continuous | Daily ¹ |
| Monthly Average Flow | mgd | Computed | Monthly |
| BOD ₅ ² | mg/L | 24-hr Composite ³ | Weekly |
| TSS ⁴ | mg/L | 24-hr Composite ³ | Weekly |

- ¹ Sample frequencies referenced hereafter in this program as daily shall not include weekends or holidays.
² Five-day, 20°C biochemical oxygen demand
³ 24-hour composite sampling as referred to in this program shall be flow-proportioned
⁴ Total Suspended Solids

EFFLUENT MONITORING

The Discharger shall collect effluent samples at a point in the system following treatment and before discharge to the effluent storage ponds. Time of collection of a grab sample shall be recorded. Effluent monitoring shall include the following:

| <u>Constituent</u> | <u>Units</u> | <u>Type of Sample</u> | <u>Sampling Frequency</u> ¹ |
|--------------------|--------------|------------------------------|----------------------------------------|
| pH | s.u. | 24-hr Composite ² | Weekly |
| EC ³ | µmhos/cm | 24-hr Composite ² | Weekly |
| BOD | | | |
| Concentration | mg/L | 24-hr Composite ² | Weekly |
| Monthly Average | mg/L | Calculated | Monthly |

| <u>Constituent</u> | <u>Units</u> | <u>Type of Sample</u> | <u>Sampling Frequency</u> ¹ |
|--------------------|--------------|------------------------------|----------------------------------------|
| TSS | | | |
| Concentration | mg/L | 24-hr Composite ² | Weekly |
| Monthly Average | mg/L | Calculated | Monthly |

Upon startup of the Tertiary WWTF include the following in the Effluent Monitoring:

| <u>Constituent</u> | <u>Units</u> | <u>Type of Sample</u> | <u>Sampling Frequency</u> ¹ |
|-------------------------------|--------------|------------------------------|----------------------------------------|
| Turbidity | NTU | Flow | Continuous |
| Chlorine Residual | mg/L | Grab | Daily ^{4,5} |
| Total Coliform Organisms | MPN/100 mL | Grab | Daily ^{4,5} |
| Salinity | | | |
| TDS ⁶ | mg/L | 24-hr Composite ² | Monthly |
| Chloride | mg/L | 24-hr Composite ² | Monthly |
| Nitrogen Forms | | | |
| Ammonia (as N) | mg/L | 24-hr Composite ² | Monthly |
| Nitrate (as N) | mg/L | 24-hr Composite ² | Monthly |
| Total Kjeldahl Nitrogen | mg/L | 24-hr Composite ² | Monthly |
| Total Nitrogen | mg/L | Calculated | Monthly |
| General Minerals ⁷ | mg/L | 24-hr Composite ² | Annually ⁸ |
| Total Trihalomethanes | mg/L | 24-hr Composite ² | Annually ⁸ |

¹ If results of monitoring a pollutant appear to indicate either the failure to achieve the design treatment goals of the wastewater treatment facility (e.g., the monthly mean for BOD₅ or TSS exceeds 10 mg/L) or potential upset of the treatment process, but monitoring frequency is not sufficient to validate the results, the frequency of sampling shall be increased to confirm the magnitude and duration of such treatment failures, if any, and aid in identification and resolution of the problem.

² Flow proportioned.

³ Electrical conductivity at 25°C.

⁴ The treated effluent shall be sampled at least once daily, including weekends and holidays, to satisfy Title 22, California Code of Regulations, section 60321, unless the California Department of Health Services approves a lesser frequency.

⁵ Required if the Discharger wishes to conduct a study to determine the correlation between the effluent chlorine residual and total coliform concentration that demonstrates that a certain level of chloride residual will provide with reasonable certainty, consistent assurance that total coliform organisms will be less than 23 MPN/100 mL.

⁶ Total dissolved solids (TDS) referenced hereafter in this program shall be determined using Environmental Protection Agency (EPA) Method No. 160.1 for combined organic and inorganic TDS and EPA Method No. 160.4 for inorganic TDS or equivalent analytical procedures specified in 40 Code of Federal Regulations (CFR) Part 136.

⁷ General Minerals as referred to in this program shall include the constituents in the General Minerals Analyte List presented below.

⁸ In October

General Minerals Analyte List¹

| | | |
|-------------------------------------|----------------------------------|------------------------|
| Alkalinity (as CaCO ₃) | Chloride | Sodium |
| Bicarbonate (as CaCO ₃) | Hardness (as CaCO ₃) | Sulfate |
| Calcium | Magnesium | Total Dissolved Solids |
| Carbonate (as CaCO ₃) | Potassium | |

¹ General Minerals Analyte lists may vary depending on the laboratory, but shall include at least the above analytes and properties. An anion cation balance shall accompany results.

POND MONITORING

The effluent storage ponds shall be sampled systematically for the parameters specified below. Storage and disposal pond monitoring shall include at least the following:

| <u>Constituent/Parameter</u> | <u>Units</u> | <u>Type of Sample</u> | <u>Sampling Frequency</u> |
|------------------------------------|-------------------|-----------------------|---------------------------|
| Dissolved Oxygen ¹ (DO) | mg/L | Grab ² | Weekly |
| Freeboard ³ | feet ⁴ | Observation | Weekly |
| pH | pH Units | Grab | Weekly |
| Total Nitrogen ⁵ | mg/L | Grab | Monthly |
| Pond seepage test | | | 1/Five years |

- ¹ If results of monitoring indicate DO concentrations less than 1.0 mg/L, but monitoring frequency is not sufficient to validate the results, the frequency of sampling shall be increased to confirm the magnitude and duration of such low concentrations of DO, if any, and aid in identification and resolution of the problem.
- ² Samples shall be collected at a depth of one foot from the storage reservoirs, opposite the inlet, and analyzed for DO. Samples shall be collected between 0700 and 0900 hours.
- ³ To prevent overtopping, overflows, or levee failures, freeboard in the reservoirs should never be less than two feet in the reservoir (measured vertically).
- ⁴ Freeboard shall be monitored to the nearest tenth of a foot.
- ⁵ Sampling to begin upon startup of the recycling operation. Sample to be collected at the discharge point from the effluent storage pond to the irrigation system for use in calculating nitrogen loading to the reclamation areas.

In addition, the Discharger shall inspect the condition of the ponds once per week and write visual observations in a bound logbook. Notations shall include observations of whether weeds are developing in the water or along the bank, and their location; whether dead algae, vegetation, scum, or debris are accumulating on the storage and disposal pond surface and their location; whether burrowing animals or insects are present; and the color of the reservoirs (e.g., dark sparkling green, dull green, yellow, gray, tan, brown, etc.). A summary of the entries made in the log during each month shall be submitted along with the monitoring report the following month.

WATER SUPPLY MONITORING

The supply water shall be monitored as follows:

| <u>Constituent</u> | <u>Units</u> | <u>Measurement</u> | <u>Frequency</u> |
|-------------------------------|--------------|--------------------|------------------------|
| EC ¹ | µmhos/cm | Grab | Quarterly ² |
| General Minerals ³ | mg/L | Grab | Annually ⁴ |

¹ EC shall be reported as a flow-weighted average from all sources. Include copies of supporting calculations with monitoring reports.

² January, April, July and October.

³ General minerals lists may vary, depending on the laboratory, but shall include at least the analytes and properties listed herein in the Effluent Monitoring section. An anion/cation balance demonstrating that analyses are complete shall accompany the results.

⁴ In October.

SLUDGE MONITORING

To ensure that discharges to the WWTF are not interfering with treatment process, the Discharger shall collect a composite sample of sludge annually, as set forth by Title 40 Code of federal Regulations (CFR) Part 503.16. Any Notice of Necessary Information (NANI) form prepared for submittal to the United States Environmental Protection Agency shall be forwarded to the Regional Board.

Composite samples shall be collected in accordance with the Environmental Protection Agency's *POTW Sludge Sampling And Analysis Guidance Document* (EPA/ 833B89100, August 1989) and test for metals:

| | | |
|------------|---------|----------|
| Arsenic | Copper | Nickel |
| Cadmium | Lead | Selenium |
| Molybdenum | Mercury | Zinc |

The control of pathogens and the reduction of vector attraction shall be achieved in accordance with the Environmental Protection Agency's *Control of Pathogens and Vectors In sewage Sludge* (EPA/625-R-92/013, July 2003).

Sampling records shall be retained for a minimum of five years. A log shall be kept of sludge quantities generated and of handling, application, and disposal activities. The frequency of entries is discretionary; however, a log should be complete enough to serve as a basis for part of the annual report.

REPORTING

The Discharger shall report monitoring data and information as required in this MRP and as required in the Standard Provisions and Reporting Requirements. Daily, weekly, semi-monthly, and monthly data shall be reported in monthly monitoring reports.

Monitoring data and/or discussions submitted concerning WWTF performance must also be signed and certified by the chief plant operator. When reports contain laboratory analyses performed by the Discharger and the chief plant operator is not in the direct line of supervision of the laboratory, reports must also be signed and certified by the chief of the laboratory.

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner that illustrates clearly, whether the Discharger complies with waste discharge requirements. If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the discharge monitoring report.

A. Monthly Reports

Daily, weekly, and monthly monitoring data shall be reported in monthly monitoring reports. Monthly monitoring reports shall be submitted to the Regional Board **by the 1st day of the second month following sampling** (i.e., the January Report is due by 1 March). At a minimum, the reports shall include:

1. Results of influent, effluent, and pond monitoring;
2. Calculated Monthly Average Daily Flow;
3. A comparison of monitoring data to the discharge specifications and an explanation of any violation of those requirements. Data shall be presented in tabular format;
4. Copies of laboratory analytical reports; and
5. A calibration log verifying calibration of all hand-held monitoring instruments and devices used to comply with the prescribed monitoring program.

B. Quarterly Reports

Wastewater: Daily, weekly, monthly, and quarterly monitoring data shall be reported in quarterly monitoring reports. Quarterly monitoring reports shall be submitted to the Regional Water Board **by the 1st day of the second month after the calendar quarter** (i.e., the 1st Quarter Report is due by 1 May, 2nd Quarter Report is due by 1 August, and the 3rd Quarter Report is due 1 November). The monthly reports required on 1 May, 1 August, and 1 November shall be combined with the quarterly report for ease of submittal. Quarterly monitoring reports shall include all monitoring data required in the

monthly monitoring schedule, and the data from quarterly effluent and water supply monitoring events.

C. Annual Reports

Wastewater: An Annual Report shall be prepared as a fourth quarter monitoring report. The Annual Report will include all monitoring data required in the monthly/quarterly schedule plus the results of any annually sampled constituents (general minerals, selected metals, etc). The Annual Report shall be submitted to the Regional Board **by 1 February of the year following the year the samples were collected.** In addition to the data normally presented, the Annual Report shall include the following:

1. The names, certificate grades, and general responsibilities of all persons in charge of wastewater treatment and disposal;
2. The names and telephone numbers of persons to contact regarding the WWTF for emergency and routine situations;
3. A statement certifying when the flow meter and other monitoring instruments and devices were last calibrated, including identification of who performed the calibrations (standard Provision C.4);
4. A statement whether the current operation and maintenance manual, and contingency plan, reflect the WWTF as currently constructed and operated, and the dates when these documents were last reviewed for adequacy;
5. The results of an annual evaluation conducted pursuant to Standard Provisions E.4 and a figure depicting monthly average discharge flow for the previous five calendar years;
6. The most recent water supply report including laboratory data;
7. A summary of sludge monitoring, including:
 - a. Annual sludge production in dry tons and percent solids;
 - b. A schematic diagram showing sludge handling facilities and solids flow diagram; and
 - c. A description of disposal methods, including the following information related to the disposal methods used at the WWTF. If more than one method is used, include the percentage of sludge production disposed of by each method.
 - i. For **landfill disposal**, include (a) the Order numbers that regulate the landfill(s) used, (b) the present classifications of the landfill(s) used, and (c) the names and locations of the facilities receiving the sludge.
 - ii. For **land application**, include: (a) the locations of the site(s), and (b) the Order number of any WDRs that regulates the site(s).
 - iii. For **incineration**, include: (a) the names and location of the site(s) where sludge incineration occurs, (b) the Order numbers of WDRs that regulate the site(s), (c) the disposal method of ash, and (d) the names and locations of facilities receiving ash (if applicable); and

- iv. For **composting**, include: (a) the location of the site(s), and (b) the order numbers of any WDRs that regulate the site(s).
8. A summary of all recycled water operations for the previous year (i.e., from October through September). The summary shall discuss total monthly water application; total wastewater recycled annually; total nutrient loading annually from applied wastewater, biosolids, and chemical fertilizers; and total estimated amount of nutrients removed through crop harvest. The summary shall also review the use area management plan (described in Provision F.7) and make recommendations regarding continuation or modification of the plan. In short, the summary shall present a mass balance relative to constituents of concern and hydraulic loading along with supporting data and calculations.
9. A summary and discussion of the compliance record for the reporting period. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with this Order.

All technical reports required herein must be overseen and certified by a California registered civil engineer, certified engineering geologist, or certified hydrogeologist in accordance with California Business and Professions Code, sections 6735, 7835, and 7835.1.

All reports submitted in response to this Order shall comply with the signatory requirements in Standard Provision B.3.

A transmittal letter shall accompany each self-monitoring report. The letter shall discuss any violations during the reporting period and all actions taken or planned for correcting violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory.

The Discharger shall implement the above monitoring program on the first day of the month following adoption of this Order.

PAMELA C. CREEDON, Executive Officer

(Date)