

Proposed Minor Modifications of Waste Discharge Requirements  
Order No. R1-2006-0045  
For  
Santa Rosa Subregional Water Reclamation System  
(NPDES Permit No. CA0022764)

**STAFF REPORT**

The City of Santa Rosa (hereinafter Discharger) currently discharges municipal wastewater under Waste Discharge Requirements Order No R1-2006-0045 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0022764 adopted on September 20, 2006. The Discharger has requested that the Regional Water Board make two minor modifications to the existing Order that better clarify permit conditions, and several modifications to the Monitoring and Reporting Program based on new information that was not available at the time the permit was issued that justify monitoring requirement adjustments. Regional Water Board staff have reviewed the request and find that the Discharger's proposed changes are appropriate. Changes are in highlighted text. Additions are denoted by underlined text and deletions are identified by strikeout.

1. Minor Modifications of Permit Conditions

- a. Replace total coliform effluent limitation expressed as a weekly geometric mean concentration with an effluent limitation expressed as a 7-day median concentration.

*Action:* On page 11 of the Order, modify section V.A.1.b to read:

- b. Disinfection: The disinfected effluent, sampled in each of the three effluent discharge channels shall not contain concentrations of total coliform bacteria exceeding the following concentrations:

- i. The ~~weekly geometric mean~~ median concentration of the discharge channels shall not exceed a Most Probable Number (MPN) of 2.2 per 100 milliliters, using the bacteriological results of the last seven days for which analyses have been completed.

*Justification:* The current effluent limitation was expressed in the adopted Order as a weekly geometric mean. Title 22, California Code of Regulations, the regulation on which the effluent limit is based, requires disinfected effluent used as recycled water to meet a median concentration of total coliform organisms using results of the preceding seven days. Although the Discharger had originally requested to use a geometric mean value, the Discharger is now requesting that the limitation use a median concentration value for consistency with title 22. The proposed permit modification brings the effluent limitations into conformance with the applicable regulation and the Fact Sheet.

- b. Remove phrase "or will be zero (i.e., no net loading)" in footnote 4 on page 12 of the Order.

*Action:* On Page 12, Table 8, Footnote 4, of the Order, change to read:

<sup>4</sup> If, as a result of a nutrient TMDL for the Laguna de Santa Rosa, a WLA for nitrate or total nitrogen is numerically lower than 10.0 mg/l (as N), then the final WQBELs for nitrate will be determined by an approved TMDL for the Laguna de Santa Rosa. ~~or will be zero (i.e., “no net loading”).~~

*Justification:* The phrase “or will be zero (i.e., no net loading)” in footnote 4 on page 12 of the Order is confusing in that it implies that nitrate would be subject to a final effluent limit of “no net loading” independent of the limit for other nutrients. Because nitrate is regulated as a biostimulatory substance in addition to being regulated as a drinking water contaminant, the final water quality-based effluent limitation (WQBEL) determined by a nutrient waste load allocation (WLA) may be numerically lower than the drinking water standard of 10 mg/L. Removing the phrase correctly indicates that if a nutrient TMDL is adopted and the waste allocation results in an effluent nitrate concentration of less than 10 mg/L, the final effluent limit for nitrate established a future discharge permit will be based on the WLA.

2. Minor Modifications to the Monitoring and Reporting Program

- a. Replace specified analytical method in Table 4 of the Monitoring and Reporting Program for acenaphthene and pyrene, EPA Method 610, with EPA Method 625. Also in Table 4, replace specified method for mercury, EPA Method 1316B, with EPA method 1631E.

*Action:* Modify Table 4 of the Monitoring and Reporting Program (Attachment E) as follows:

**Table 4. Effluent Monitoring for Surface Water Discharge**

| Parameter    | Units | Sample Type | Minimum Sampling Frequency  | Required Test Method                   |
|--------------|-------|-------------|-----------------------------|--|
| Mercury      | µg/L  | Grab        | <del>Weekly</del> Quarterly | USEPA Method <del>1316B</del><br>1631E |
| Acenaphthene | µg/L  | Grab        | Monthly                     | USEPA Method <del>610</del> <u>625</u> |
| Pyrene       | µg/L  | Grab        | Monthly                     | USEPA Method <del>610</del> <u>625</u> |

*Justification:* The analytical methods specified in Table 4 of the existing Monitoring and Reporting Program for acenaphthene, pyrene, and mercury were misstated. The proposed permit modifications specify the appropriate analytical methods for these constituents.

- b. Reduce minimum monitoring frequencies for pH, dissolved oxygen, temperature, turbidity, and specific conductance from continuous (daily or weekly) monitoring to continuous monitoring for two weeks per month.

*Action:* Modify Tables 4, 5, and 6 of the Monitoring and Reporting Program (Attachment E) as follows:

**Table 4. Effluent Monitoring for Surface Water Discharge**

| Parameter             | Units    | Sample Type | Minimum Sampling Frequency             | Required Test Method |
|-----------------------|----------|-------------|--|----------------------|
| Hydrogen Ion          | pH       | Continuous  | <del>Weekly</del><br>2 weeks per month | Standard Methods     |
| Dissolved Oxygen      | mg/L     | Continuous  | <del>Weekly</del><br>2 weeks per month | Standard Methods     |
| Turbidity             | NTU      | Continuous  | <del>Weekly</del><br>2 weeks per month | Standard Methods     |
| Temperature           | °C       | Continuous  | <del>Weekly</del><br>2 weeks per month | Standard Methods     |
| Specific Conductivity | µmhos/cm | Continuous  | <del>Weekly</del><br>2 weeks per month | Standard Methods     |

**Table 5. Upstream Receiving Water Monitoring**

| Parameter             | Units    | Sample Type | Minimum Sampling Frequency                   | Required Analytical Test Method |
|-----------------------|----------|-------------|--|---------------------------------|
| Hydrogen Ion          | pH       | Continuous  | <del>Daily</del><br><u>2 weeks per month</u> | Standard Methods                |
| Dissolved Oxygen      | mg/L     | Continuous  | <del>Daily</del><br><u>2 weeks per month</u> | Standard Methods                |
| Turbidity             | NTU      | Continuous  | <del>Daily</del><br><u>2 weeks per month</u> | Standard Methods                |
| Temperature           | °C       | Continuous  | <del>Daily</del><br><u>2 weeks per month</u> | Standard Methods                |
| Specific Conductivity | µmhos/cm | Continuous  | <del>Daily</del><br><u>2 weeks per month</u> | Standard Methods                |

**Table 6. Downstream Receiving Water Monitoring**

| Parameter             | Units    | Sample Type | Minimum Sampling Frequency                   | Required Analytical Test Method |
|-----------------------|----------|-------------|--|---------------------------------|
| Hydrogen Ion          | pH       | Continuous  | <del>Daily</del><br><u>2 weeks per month</u> | Standard Methods                |
| Dissolved Oxygen      | mg/L     | Continuous  | <del>Daily</del><br><u>2 weeks per month</u> | Standard Methods                |
| Turbidity             | NTU      | Continuous  | <del>Daily</del><br><u>2 weeks per month</u> | Standard Methods                |
| Temperature           | °C       | Continuous  | <del>Daily</del><br><u>2 weeks per month</u> | Standard Methods                |
| Specific Conductivity | µmhos/cm | Continuous  | <del>Daily</del><br><u>2 weeks per month</u> | Standard Methods                |

*Justification:* The existing requirement to deploy the continuous monitoring device full-time does not adequately provide for time needed to deploy the

continuous monitoring devices, unexpected delays due to equipment malfunction, and delays related to obtaining access to the monitoring sites. The Discharger demonstrated that the current monitoring frequency at Discharge Point 012B of two weeks per month, in practice, provides coverage for 67 percent of days of actual discharge at this discharge location. A requirement for a minimum frequency of two weeks per month will result in adequate receiving water data to assess compliance with the surface water limitations.

- c. Reduce minimum monitoring frequency for mercury from weekly to quarterly.

**Table 3. Effluent Monitoring for Treatment Plant Final Effluent**

| Parameter | Units | Sample Type | Minimum Sampling Frequency     | Required Analytical Test Method |
|-----------|-------|-------------|--------------------------------|---------------------------------|
| Mercury   | µg/L  | Grab        | <del>Weekly</del><br>Quarterly | USEPA Method 1631E              |

*Justification:* Recent effluent monitoring conducted by the Discharger shows the effluent concentration of mercury is consistently less than the water quality objective and justifies the reduction in monitoring frequency from accelerated weekly monitoring to routine quarterly monitoring. The proposed permit modification will modify Table 3 and Table 4 of the Monitoring and Reporting Program (Attachment E of the Order).

- d. Reduce minimum monitoring frequencies for cyanide, copper, lead, and nickel from weekly to quarterly.

*Action:* Modify Table 4 of the Monitoring and Reporting Program (Attachment E) as follows:

**Table 4. Effluent Monitoring for Surface Water Discharge**

| Parameter | Units | Sample Type | Minimum Sampling Frequency  | Required Test Method                   |
|-----------|-------|-------------|-----------------------------|--|
| Copper    | µg/L  | Grab        | <del>Weekly</del> Quarterly | USEPA Method 200.8                     |
| Lead      | µg/L  | Grab        | <del>Weekly</del> Quarterly | USEPA Method 200.8                     |
| Nickel    | µg/L  | Grab        | <del>Weekly</del> Quarterly | USEPA Method 200.8                     |
| Cyanide   | µg/L  | Grab        | <del>Weekly</del> Quarterly | USEPA Method 335.4                     |
| Mercury   | µg/L  | Grab        | <del>Weekly</del> Quarterly | USEPA Method <del>1316B</del><br>1631E |

*Justification:* The Discharger has demonstrated that, as a result of improved sample handling procedures and analytical protocols, the discharge will consistently meet final effluent limitations for these priority pollutants. Consistent compliance with final limitations justifies the reduction in monitoring frequency from accelerated weekly monitoring to routine quarterly monitoring. The proposed permit modifications will modify Table 4 of the Monitoring and Reporting Program (Attachment E of the Order).