

Regional Water Quality Control Board
North Coast Region

Executive Officer's Summary Report
Thursday, November 21, 2013
Regional Water Board Office
Santa Rosa, California

- ITEM: 5
- SUBJECT: Public Hearing on Order No. R1-2013-0001, to consider adoption of Waste Discharge Requirements for City of Santa Rosa Subregional Water Reclamation System, NPDES No. CA0022764, WDID No. 1B830990SON, Sonoma County (*Charles Reed*)
- BOARD ACTION: The Board will consider adoption of Waste Discharge Requirements Order No. R1-2013-0001. The Order will serve as a National Pollutant Discharge Elimination System (NPDES) permit for a period of five years.
- BACKGROUND: The City of Santa Rosa owns and operates the Santa Rosa Subregional Water Reclamation System, which provides wastewater treatment and disposal services for residences, businesses, and industries within the Santa Rosa area, the communities of Cotati, Rohnert Park, and Sebastopol, and produces reclaimed water for irrigation for agricultural and urban use, and production of steam at the Geysers Recharge Project.
- The City of Santa Rosa is regulated under Waste Discharge Requirements Order No. R1-2006-0045, which serves as a NPDES permit for its waste discharges to surface water and a Master Water Reclamation permit for distribution and use of recycled water.
- WDR Order No. R1-2006-0045 includes final effluent limitations for nitrogen and phosphorus that are expressed as “no net loading,” a limitation that may be met through treatment upgrades, waste diversion, or through an approved nutrient offset program. The limitations went into effect on November 9, 2011. The final date for compliance with these limitations through a nutrient offset program approved by the Regional Water Board was extended under Time Schedule Order No. R1-2011-0105 issued by the Regional Water Board Executive Officer on November 4, 2011. Additional time to comply is being proposed under Resolution No. R1-2013-0048, which is currently under consideration by the Regional Water Board (see Item 6).
- A draft Order renewing the City's waste discharge requirements was released for public comment on October 31, 2012. After numerous and significant comments were received from the City and other interested parties, the draft Order was revised and re-released for

public comment on June 20, 2013. The June 2013 draft Order also received significant comments from the City and other interested parties. The draft under consideration by the Regional Water Board today has been revised in response to comments received. Comment letters and staff responses are attached.

ISSUES:

Wastewater treatment for the Subregional System occurs at the Laguna Treatment Plant and consists of primary sedimentation tanks and biological secondary treatment (activated sludge) followed by tertiary filtration and ultraviolet light disinfection that produces wastewater that meets title 22 guidelines for tertiary recycled water. The current design treatment capacities of the Laguna Treatment Plant are 21.3 MGD (average daily dry weather flow) and 64 MGD (peak weekly wet weather flow).

The City reclaims approximately 98 percent of its tertiary-treated water through irrigation on approximately 6,400 acres of farmlands, vineyards, urban landscaping including City parks and golf courses, and through diversion to the Geysers Recharge Project for steam production. Treated wastewater that is not reclaimed or held in storage is discharged to surface water during the discharge season (October 1- May 14) immediately upstream of the confluence of the Laguna de Santa Rosa and Santa Rosa Creek, which are tributary to the Russian River.

Prior to distribution to the water reclamation system or discharge to surface water, advanced treated effluent is discharged to an effluent storage pond system. The storage ponds, with a maximum capacity of 1.650 billion gallons, allow the City to control the timing, location, and volume of discharge to protect beneficial uses of the receiving water and provide a source of reclaimed (aka recycled) water during the discharge prohibition period (May 15-September 30).

Major Permit Concerns Expressed in Comment Letters and Staff's Proposed Resolution:

1. Effluent Limitations for Nitrogen and Phosphorus

Final effluent limitations for total phosphorus that are expressed as "no net loading" are retained from the previous permit, but the previous permit's "no net loading" limitation for nitrogen is replaced with a concentration-based effluent limitation that is based on current treatment plant performance. These limitations are based on the results of a reasonable potential analysis showing no assimilative capacity in the receiving water for total phosphorus, but some remaining assimilative capacity for total nitrogen.

The Permittee objects to the final limitation for total phosphorus, asserting that the “no net loading” limitation is inappropriate, unreasonable, not supported by science, and contrary to State Water Board and judicial precedent. In addition, the Permittee’s chosen compliance strategy (i.e., implementation of an approved nutrient offset program) has proved challenging and raises doubts on the part of the Permittee about its ability to comply with the “no net loading” limitation, should it be retained. The Permittee requests a performance-based effluent limitation for phosphorus in place of “no net loading.”

Resolution: Regional Water Board staff has concluded that the “no net loading” limitation for phosphorus is scientifically sound, based on available evidence, is appropriate, and achievable by the Permittee. The performance-based limitation for phosphorus proposed by the Permittee to replace the “no net loading” limitation will not prevent further degradation of water quality in the greater Laguna de Santa Rosa watershed and is not legally allowable in combination with nutrient offset credits. The final performance-based limitation for nitrogen is appropriate to comply with anti-degradation requirements, is permitted under federal anti-backsliding regulations, and is achievable by the Permittee. This rationale is discussed in detail in the permit Fact Sheet and in the response to the Permittee’s comments.

2. Adequacy of Permit Requirements for Recycled Water Use

The proposed Order includes requirements for monitoring and reporting of water reuse, best management practice (BMP) effectiveness, Permittee coordination with recycled water users, and system malfunctions, including malfunctions resulting in incidental runoff. The proposed Order relies heavily on the Permittee’s effective implementation of its Recycled Water User’s Guide to ensure application of recycled water at agronomic rates and to minimize the number and volume of all runoff events.

The Permittee cautions that over-regulation of recycled water in the permit will discourage water reclamation and requests a greater reliance on the Recycled Water User’s Guide and fewer and less prescriptive monitoring and reporting requirements in the permit. Other stakeholders take an opposing view, arguing that permit requirements are inadequate to demonstrate compliance with the State policies for water recycling and anti-degradation, do not prevent runoff from recycled water irrigation areas, and do not clearly empower the Regional Water

Board to take effective enforcement action for noncompliance with recycled water requirements.

Resolution: Regional Water Board staff considered the arguments made by all stakeholders and revised the draft Order to achieve a balance between the statewide objective to encourage water recycling and the need of Regional Water Board staff and the public to obtain information from the water producer and users that demonstrates that recycled water is being managed in accordance with State regulations and policies and with the Basin Plan.

3. Incidental Runoff

Stakeholders who believe that water reclamation requirements in the Order are inadequate maintain that incidental runoff is more frequent, based on recent observed events, and a greater threat to water quality and public health than viewed by the State and Regional Water Board staff. Stakeholders offered many suggestions for additional permit requirements (e.g., minimum setbacks, irrigation restrictions and prohibitions, and third-party inspections) to address these concerns.

Resolution: Staff believes that the additional requirements suggested by the stakeholders are unnecessary. In staff's responses to comments, the importance of minimizing recycled water runoff, including incidental runoff, is stressed repeatedly. Staff believes that it is through consistent enforcement of permit requirements, including routine compliance inspections, and demonstration by the Permittee that it is effectively implementing its Recycled Water User's Guide that all runoff events can be minimized so that State waters are not degraded and all beneficial uses are protected.

4. Monitoring for Endocrine Disrupting Chemicals

In accordance with the State Water Recycling Policy, the proposed Order does not include monitoring and reporting requirements for recycled water for endocrine disrupting chemicals (also referred to as Constituents of Emerging Concern or CECs).

Some stakeholders believe that the State Water Board has underestimated the threat that CECs pose to water quality, aquatic life, and public health and ignored scientific opinion that is contrary to findings in the State Policy. Stakeholders have requested that the proposed permit include routine monitoring

and reporting requirements for CECs in recycled water, in particular monitoring for an estrogen (17B-estadiol).

Resolution: The State Water Board Recycled Water Policy clearly restricts the ability of regional water boards to require monitoring of CECs in recycled water in waste discharge permits.

To assess the threat from CECs in discharges from POTWs, generally, a pilot study is being funded by the State Water Board that by April 2014 will produce a statewide monitoring plan for CECs that includes target constituents, laboratory methods and detection levels, and other quality assurance practices. While the pilot project does not include actual monitoring, Regional Water Board staff anticipates that, once the monitoring plan is completed, monitoring will occur in the north coast region as soon as funding is available, but no later than the 2015/2016 discharge season.

5. Permit Requirements for Mercury

The proposed permit requires weekly effluent monitoring for mercury, but does not include an effluent limitation for mercury as a result of a finding of no reasonable potential to exceed the numeric water quality objective for mercury.

One stakeholder has concluded that because the Laguna de Santa Rosa is listed as impaired for mercury and there is recent evidence of mercury in fish tissue from fish caught in the Laguna de Santa Rosa, the permit should prohibit all discharges of mercury and that the Permittee should be required to conduct monitoring and special studies to determine the extent of mercury pollution on beneficial uses, the processes by which mercury is accumulating in the environment, and the probable sources of mercury in the Laguna de Santa Rosa watershed.

Resolution: Regional Water Board staff has conducted a reasonable potential analysis for mercury based on the procedure in the State's Policy for Implementation of Toxic Standards Inland Surface Water, Enclosed Bays, and Estuaries of California (SIP), and determined that effluent limitations for mercury were not required. However, in acknowledgement that more information is needed to understand the extent to which the Permittee's treated wastewater contributes mercury to the Laguna de Santa Rosa, the proposed Order retains the requirement for weekly effluent monitoring for mercury and rejects the

request by the Permittee to relax the monitoring frequency to a quarterly frequency consistent with other priority pollutants where there is a finding of no reasonable potential. Regional Water Board staff also rejects the notion suggested by some stakeholders that the Permittee should carry the burden of pre-TMDL source assessment and implementation actions.

6. Compliance with Anti-degradation Policy

Some stakeholders question whether the Order complies with state and federal anti-degradation requirements when it authorizes both the existing recycled water uses and an anticipated expansion of the Permittee's recycled water capacity from 21.34 to 25.9 million gallons per day.

Resolution: Regional Water Board staff has determined that both existing and proposed recycled water uses comply with the anti-degradation policy, as described in the Recycled Water Policy.

In Item 6, the Regional Water Board is considering whether to adopt Resolution No. R1-2013-0048 that amends Time Schedule Order No. R1-2011-0103, granting the Permittee additional time to comply with final limitations for total phosphorus in the proposed Order.

RECOMMENDATION: Adopt Order No. R1-2013-0001, as proposed.

SUPPORTING DOCUMENTS:

1. Proposed Order No. R1-2013-0001
2. Staff Response to Comments
3. Comment Letters
4. Regional Water Board Resolution No. R1-2008-0061 (Santa Rosa Nutrient Offset Program)
5. Revised Fitzgerald Memorandum – (Support Document cited in the Proposed Order and in the Staff Response to Comments)
6. Public Notice