

Regional Water Quality Control Board  
North Coast Region

Executive Officer's Summary Report  
Thursday, March 13, 2014  
Regional Water Board Office  
Santa Rosa, California

- ITEM: 3
- SUBJECT: Public Hearing on Order No. R1-2014-0002, to consider adoption of Waste Discharge Requirements for the Russian River County Sanitation District and Sonoma County Water Agency, Russian River Wastewater Treatment Facility, WDID No. 1B820450SON, NPDES No. CA0024058, Sonoma County (*Cathleen Goodwin*)
- BOARD ACTION: The Board will consider adoption of Waste Discharge Requirements Order No. R1-2014-0002. The Order will serve as a National Pollutant Discharge Elimination System (NPDES) permit for a period of five years.
- BACKGROUND: The Russian River County Sanitation District and Sonoma County Water Agency (hereafter Permittee) own and operate a wastewater treatment facility (Facility), which provides wastewater treatment and disposal services for a population of approximately 8,300 people in unincorporated areas of Rio Nido, Vacation Park, Guerneville, and Guerneville Park. The majority of the Facility's wastewater flow is from residential and commercial users.
- The Facility is currently regulated under Waste Discharge Requirements Order No. R1-2009-0003, which serves as a NPDES permit for waste discharges to surface water and a master recycling permit for distribution and use of recycled water.
- A Draft Permit renewing the Permittee's waste discharge requirements was released for a 30-day public comment period on December 26, 2013. The December 2013 Draft Permit received significant comments from the Permittee, the U.S. Environmental Protection Agency (U.S. EPA), California Department of Public Health (CDPH), Russian River Watershed Protection Committee (RRWPC), and Castellon and Funderburk, LLP and AMEC Environment and Infrastructure on behalf of Roger and Michele Burch. The Proposed Permit under consideration by the Regional Water Board today has been revised in response to comments received on the Draft Permit.
- The Facility provides biological secondary treatment utilizing an extended air activated sludge process; followed by tertiary filtration and ultraviolet (UV) disinfection. The Facility produces wastewater that meets title 22 guidelines for tertiary recycled water. The

current Facility design treatment capacities are 0.71 million gallons per day (mgd) as an average dry weather flow (ADWF) and 3.5 MGD as a peak wet weather flow.

During the Basin Plan discharge prohibition season (May 15 – September 30) and other periods when weather conditions are dry, the Permittee reclaims its tertiary-treated water on the 43 acre Northwood Golf Course, located south of the treatment plant and on the opposite bank of the Russian River. Treated wastewater not used by the Northwood Golf Course during the irrigation season is disposed of by spray irrigation on 17 wooded acres adjacent to the treatment plant, referred to as the Burch property. Treated wastewater that is not reclaimed or disposed of on land is discharged to the Russian River during the permitted discharge season (October 1- May 14).

During the term of Order No. R1-2009-0003, the Permittee replaced its chlorination disinfection system with an ultraviolet light disinfection system. The Permittee is currently upgrading the Facility to include biological nutrient removal in order to comply with nitrate and ammonia effluent limitations in the Proposed Permit.

ISSUES:

Significant concerns expressed in written comments on the Draft Permit and staff's proposed resolution are summarized in the following paragraphs:

**1. Reasonable Potential Analysis**

U.S. EPA identified concerns with the reasonable potential analysis, requesting the inclusion of effluent limitations for bis (2-ethylhexyl) phthalate and recalculation of effluent limitations for ammonia using the approach described in the U.S. EPA *Technical Support Document for Water Quality-based Toxics Control* (March 1991) (TSD).

RRWPC is concerned about the allowance of a water effect ratio for copper which resulted in a finding of no reasonable potential for copper and the removal of effluent limitations and monitoring requirements for copper, stating concerns that salmonids have extremely sensitive olfactory systems and that the Permittee may be allowed to discharge concentrations of copper that are higher than salmonids can tolerate.

**Resolution:** Effluent limitations for bis (2-ethylhexyl) phthalate have been added to the Proposed Permit based on the maximum effluent concentration of 3.5 µg/L and the background receiving water concentration of 2.4 µg/L exceeding the California Toxics Rule human health water quality objective of 1.8 µg/L.

The reasonable potential analysis for ammonia was revised and effluent limitations calculated using the TSD methodology as requested by U.S. EPA. Based on this recalculation, the Proposed Permit contains ammonia effluent limitations that are more stringent than the Draft Permit. The average monthly effluent limitation (AMEL) changed from 0.95 mg/L to 0.47 mg/L, and the maximum daily effluent limitation changed from 5.2 mg/L to 1.2 mg/L.

Water quality standards for copper in the California Toxics Rule (CTR) were established by the U.S. EPA after considerable technical input and a lengthy public participation process, and were based on best available science. This includes the allowance for a discharger to conduct a discharge-specific study to determine if a water effect ratio is appropriate for use in the calculation of the water quality objective for copper. If new information becomes available in the future that convinces the U.S. EPA to modify the water quality standard for copper, discharge requirements for all dischargers will be reviewed and revised, if appropriate.

## **2. Collection System and Treatment System Capacity, Condition, and Operation and Maintenance**

RRWPC expressed concerns about the condition, maintenance and repair of the Permittee's collection system and that the collection system and treatment facility may have inadequate capacity to handle high wet-weather flows.

**Resolution:** The Permittee implements a flood control and flow reduction mitigation plan, including measures to ensure that all cleanouts in low-lying areas are closed and setting lift station pumps to ensure that influent flows to the plant do not exceed the treatment plant wet-weather design capacity of 3.5 mgd. Although extreme wet-weather conditions have not been the norm in recent years, there have been some wet-weather months (e.g., December 2012, February 2014) and the Permittee reported that the treatment plant was able to handle the wet-weather flows with no violations of effluent limitations.

The Permittee is enrolled under Order No. 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. This Order establishes minimum requirements to prevent sanitary sewer overflows (SSOs) and requires preparation of a sewer system management plan (SSMP) which includes a System Evaluation and Capacity Assurance Plan for all parts of the sanitary sewer system owned or operated by the Permittee, an operation and maintenance program, and an overflow emergency response plan. The Permittee initiated a Sewer Master Plan/Modeling study agreement in fiscal year 2012-2013. The Sewer Master Plan/Modeling study includes a

sewer system capacity analysis. It is anticipated that the Sewer Master Plan/Modeling Study will be completed in late 2014.

As required by its current permit, Order No. R1-2009-0003, the Permittee conducts regular maintenance and repair activities of its collection system, including regular inspections to identify and correct inflow and infiltration, cleaning of the collection system to remove grease and roots to prevent sanitary sewer overflows, and regular inspection and preventative maintenance of lift stations. The Permittee is not responsible for the maintenance and repair of private laterals. However, the Permittee responds to all sanitary sewer stoppages and overflows from private laterals to ensure that everything is contained and cleaned up properly. In 2011, the Permittee reported cleaning approximately 49,000 feet of its collection system, that no SSOs occurred in the Permittee's collection system, and that the Permittee responded to 9 private lateral stoppages/SSOs. In 2012, the Permittee reported cleaning approximately 91,000 feet of its collection system, that two SSOs were caused by grease blockage, and that the Permittee responded to 11 private lateral stoppages/SSOs. The Permittee's 2013 Annual Report is not yet available, but no SSOs were reported during the year. During the large storm in February 2014 that brought over 11 inches of rain to the Guerneville area, there were no SSOs identified.

The Permittee reported leakage from the force main at the Vacation Beach lift station on February 12, 2014 and failure of the force main pipe on February 13, 2014 that resulted in the discharge of a large volume of raw sewage to the Russian River. The Permittee believes that the spill was caused by the age of the pipe (approximately 40 years old), the lack of cathodic protection on the steel pipe, and is investigating if other factors contributed to the spill. This incident is expected to result in the Permittee making it a high priority to evaluate the condition of the force mains at its 11 lift stations and the condition of the force main that runs under the Russian River.

The Draft Permit and the Statewide General WDRs for Sanitary Sewer Systems include requirements for the operation and maintenance of the Permittee's collection system that are protective of water quality. When the Permittee's written spill report regarding the February 2014 incident is submitted, Regional Water Board staff will evaluate whether the Permittee followed all permit requirements and the Permittee's SSMP and Overflow Emergency Response Plan.

### **3. Inability of Permittee to Achieve Immediate Compliance with Land Discharge Specifications and Groundwater Receiving Water Limitations**

The Permittee has stated that immediate compliance with land discharge specifications for total dissolved solids (TDS) and sodium in section IV.B.1 (Table 7) of the Draft Permit and groundwater receiving water limitations in section V.B of the Draft Permit is not possible. The Permittee has requested that the Regional Water Board adopt a cease and desist (CDO) order that allows time for the Permittee to investigate source control options, treatment process changes, and disposal procedures to bring the effluent into compliance and ensure that groundwater objectives are consistently met.

RRWPC questioned whether environmental review pursuant to the California Environmental Quality Act (CEQA) is required for the existing discharges, particularly the land disposal of effluent to the Burch property.

**Resolution:** Regional Water Board staff proposes to prepare a CDO for the Regional Water Board's consideration at a Board Meeting in the near future to provide the Permittee with a time schedule to achieve compliance with discharge specifications for TDS and sodium.

Fact Sheet section IV.D.2.b (Antidegradation - Groundwater) of the Proposed Permit has been modified to identify the fact that groundwater monitoring at the Burch property irrigation area shows that groundwater beneath the irrigation field has elevated concentrations of wastewater pollutants such as nitrate and total dissolved solids in comparison to concentrations of the same pollutants in an up-gradient well.

The CDO to be prepared by Regional Water Board staff for Regional Water Board consideration will require the Permittee to address the identified violations of land discharge specification and to gather additional information to assess impacts on groundwater from the Permittee's land disposal operation, the fate and transport of pollutants, and a plan to address any identified problems.

### **4. Land Disposal on Burch Property**

Stakeholders are concerned that too much water is being applied to the Burch property, resulting in adverse impacts to the environment and the resource values of the land and interference of the property owners' use of the land and exercise of its timber rights.

**Resolution:** The Burch property is recognized in the Proposed Permit as a land disposal site which generally means that irrigation is permitted to occur at greater than agronomic rates.

Land disposal is allowed to the extent that it does not result in a statistically significant degradation of groundwater quality, unless a technical evaluation is performed to demonstrate that any degradation that occurs after implementation of best practicable treatment or control of the discharge will not result in a pollution or nuisance and the highest water quality consistent with maximum benefit to the people of the state will be maintained.

As noted in Item 3, above, Regional Water Board staff will prepare a CDO for Regional Water Board consideration, addressing the exceedances of land discharge specifications and groundwater limitations and an assessment of impacts to groundwater.

#### **5. Downstream Monitoring Location**

RRWPC asked why the Proposed Permit does not address the need to change the location of the downstream receiving water monitoring location to a point closer to the discharge point.

**Resolution:** Section VI.B of the Proposed Permit has been modified to include a requirement for the Permittee to review, revise as appropriate, and resubmit its Receiving Water Limit Compliance Assurance and Monitoring Plan with a schedule for implementing a plan to establish a new downstream receiving water monitoring location closer to its discharge outfall.

#### **6. Adequacy of Permit Requirements for Recycled Water**

RRWPC is concerned that recycled water requirements in the Draft Permit are not specific enough to ensure compliance and that irrigation runoff is being authorized.

CDPH requested several modifications of permit requirements based on title 22 of the California Code of Regulations (Cal. Code Regs).

**Resolution:** The Proposed Permit includes requirements for monitoring and reporting of recycled water use, monitoring and reporting of best management practice (BMP) effectiveness, Permittee coordination with recycled water users, and response to system malfunctions, including malfunctions resulting in runoff. Due to the fact that there is only one recycled water user, the Northwood Golf Course, it is fairly straight-forward for the Permittee to work with the golf course manager and ensure compliance with recycled water requirements. The Proposed Permit includes requirements addressing all of RRWPC's concerns and requires the Permittee to submit a Recycled Water BMP/Operations and Management Plan to identify the BMPs and operational practices that will be implemented to ensure compliance with recycled water requirements. Regional Water Board staff believes that the recycled water requirements in the

Proposed Permit are adequate to ensure that the recycled water system is operated in a manner that is protective of water quality.

Section IV.D.1 of the Proposed Permit was modified to include the proper filtration rate requirement from Cal. Code Regs., title 22, section 60301.320(a)(1) and to remove an incorrect citation to section 60301.230(a)(2) of title 22.

## **7. Monitoring for Endocrine-Disrupting Chemicals**

RRWPC expressed concerns that the Draft Permit does not address the threat that endocrine-disrupting chemicals pose to water quality, aquatic life, and public health and that there is no monitoring requirements for these chemicals.

**Resolution:** The State Water Board Recycled Water Policy clearly restricts the ability of the regional water boards to require monitoring in waste discharge permits for constituents of emerging concern (CECs) in recycled water.

To assess the threat from CECs in discharges from POTWs, a pilot study is being funded by the State Water Board. A statewide monitoring plan for CECs will be developed by April 2014 that will include 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.

## **8. Public Participation**

Stakeholders expressed concern that technical reports that will document compliance with permit requirements are required to be submitted after permit adoption. Stakeholders have requested that permit adoption be delayed until the technical reports are submitted or provide for a public comment period prior to Executive Officer approval of each technical report.

**Resolution:** The Proposed Permit requires submittal of four technical reports after permit adoption: the Recycled Water BMP/Operations and Management Plan, an Assimilative Capacity Analysis, a Receiving Water Limit Compliance Assurance and Monitoring Plan, and a Treatment and Disposal Capacity Analysis. In addition, the Permittee must update its existing title 22 Recycled Water Engineering Report to reflect changes to the Facility and reclamation system that have occurred since 2004. All of these reports will be available for public review upon submittal.

Since the Recycled Water BMP/Operations and Management Plan and Assimilative Capacity Analysis may include proposals that directly affect the operation of the reclamation and land disposal systems during the term of the adopted permit, the Proposed Permit has been modified to include a 30-day public notice period prior to the Executive Officer's final approval of these technical reports.

Regional Water Board staff agree that the title 22 engineering report needs to be updated to reflect changes to the treatment Facility and any changes in the reclamation system that have occurred since the title 22 engineering report was prepared in 2004. Under the terms of the Memorandum of Agreement between the State Water Board and CDPH, the title 22 Engineering Report is reviewed and assessed for completeness and adequacy by CDPH, thus the Proposed Permit has not been modified to include a public comment period for this report. Section IV.C.1 of the Proposed Permit has been modified to require the Permittee to submit an updated title 22 recycled water engineering report for CDPH review and approval.

RECOMMENDATION: Adopt Order No. R1-2014-0002, as proposed.

SUPPORTING  
DOCUMENTS:

1. Proposed Order No. R1-2014-0002
2. Staff Response to Comments
3. Comment Letters
4. Public Notice