

Regional Water Quality Control Board  
North Coast Region  
Executive Officer's Summary Report  
August 20, 2020

**ITEM: 6**

**SUBJECT:** Public Hearing on Order No. R1-2020-0010 to consider adoption of Waste Discharge Requirements for the Windsor Water District Wastewater Treatment, Reclamation, and Disposal Facility, NPDES No. CA0023345, WDID No. 1B820370SON, Sonoma County (Justin McSmith)

**BOARD ACTION:** The Board will consider adoption of Waste Discharge Requirements Order No. R1-2020-0010 (Proposed Permit). The Proposed Permit will serve as a National Pollutant Discharge Elimination System (NPDES) permit for a period of five years.

**BACKGROUND:** The Windsor Water District (Permittee) owns and operates the Windsor Wastewater Treatment, Reclamation, and Disposal Facility (Facility), which provides wastewater treatment and disposal services for residences, businesses, and industries within the Windsor area. The Permittee also produces reclaimed water for agricultural and urban irrigation and production of steam at the Geysers Recharge Project.

The Permittee is currently regulated under Waste Discharge Requirements Order No. R1-2013-0042, 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.

Wastewater treatment for the Facility consists of primary sedimentation tanks and biological secondary treatment utilizing extended air activated sludge aeration basins and secondary clarifiers 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 Facility are 2.25 million gallons per day (MGD) (average daily dry weather flow) and 7.2 MGD (peak weekly wet weather flow).

During the surface water discharge prohibition season from May 15 through September 30, advanced treated wastewater is recycled. Recycled water is supplied for irrigation of rural pasture, crops, and vineyards and for landscaping at the Windsor Golf Course and in-Town parks, playgrounds, commercial facilities, and residential properties. Recycled water is also supplied for toilet flushing at several locations, including Windsor High School and Fire Station No. 2. In addition, recycled water is delivered to the City of Santa Rosa Geysers Recharge project pipeline where it is used for recharge of the Geysers steamfields to enhance steam production for electrical energy generation. Currently, the Permittee's reclamation system includes 701 irrigated acres and 0.53 MGD to the Geyser's Recharge project pipeline, but it has the capability of increasing to 0.75 MGD under its contract with the City of Santa Rosa.

**DISCUSSION:**

Order No. R1-2020-0010 (Proposed Permit) replaces Order No. R1-2013-0042 (previous Permit). The Proposed Permit retains many effluent limitations, requirements and provisions from the previous Permit, including final effluent limitations for nitrogen and phosphorus. The “no net loading” phosphorus limitation is retained with provision for this limit to be met through compliance with either: 1) the Water Quality Trading Framework for the Laguna de Santa Rosa Watershed that was adopted by the Regional Water Board in July 2018 and modifications proposed for adoption as part of the Proposed Permit (Attachment I to the Proposed Permit) or 2) the Alternative Compliance Option for Total Phosphorus that is included as a provision of the Proposed Permit. The Phosphorus compliance options, along with several other changes and new requirements of the Proposed Permit are described in the following enumerated paragraphs:

1. Reasonable Potential. New effluent limitations for lead and cyanide at Discharge Point EFF-002 are included due to a finding of reasonable potential for these pollutants based on monitoring data collected during the term of Order No. R1-2013-0001.
2. Phosphorus Compliance Requirements. The Proposed Permit includes two new compliance options to achieve compliance with the “no net loading” requirement in Order section IV.A.2.a.i. The first option is to use the Laguna de Santa Rosa Water Quality Trading Framework (WQTF) that is included as Attachment I to the Proposed Permit. The WQTF proposed for adoption as Attachment I is a modified version of the WQTF adopted by the Regional Water Board by Resolution R1-2018-0025; most notably the modifications allow direct approval of restoration projects without a pre-qualified practice and to extend the maximum allowable credit banking period. The Proposed Permit also includes a second compliance option for phosphorus referred to as the Alternative Compliance Option that would allow the Permittee to comply with the “no net loading” limit through the completion of a high value restoration project in the Laguna de Santa Rosa or Mark West Creek and to develop, submit, and receive approval for two pre-qualified practices consistent with the Laguna WQTF. (Order section VII.N and Fact Sheet section IV.I)
3. Bacteria Provisions. New receiving water limitations for *E.coli* bacteria are included to implement provisions of the new bacteria provisions that were adopted by the State Water Board on August 7, 2018 and incorporated by amendment into the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California. (Receiving Water Limitations V.A.18)
4. Revised Basin Plan Receiving Water Limitations. Modified dissolved oxygen receiving water limitations and a new Basin Plan groundwater toxicity objective are included to implement these new water quality objectives that were incorporated into the Water Quality Control Plan for the North Coast Region (Basin Plan) in 2016. (Receiving Water Limitations V.A.3.a and V.B.6)

## 5. Reopener and Special Study Provisions.

- a. Mixing Zone Study reopener is included at the request of the Permittee. (Provisions VI.C.1.i)
- b. Pathogen reopener and pathogen special study requirements are included to assess compliance with the new *E. coli* bacteria requirements and to ensure that sufficient data is gathered prior to the next permit renewal for assessment of compliance with the Russian River Watershed Pathogen TMDL Action Plan adopted by the Regional Water Board on August 14, 2019. (Provision VI.C.1.k and VI.C.2.a). The Monitoring and Reporting Program (MRP) includes new monitoring requirements for *E. coli* bacteria so that sufficient data is gathered prior to the next permit renewal for assessment of compliance with the Russian River Watershed Pathogen TMDL Action Plan. (MRP sections IV.A.1 and IV.B)
- d. A requirement to conduct an engineering evaluation of the recycled water storage ponds and discharge outfalls study are included to ensure that these crucial structures are in proper operating condition to ensure functionality and protection of surface water and groundwater. (Provision VI.C.2.b)
- e. A new requirement to develop a disaster preparedness assessment report and action plan has been included. This is a new standard requirement for permits for facilities that are vulnerable to natural disasters and extreme weather and other conditions that may be exacerbated by climate change. (Provision VI.C.2.c)

### Comments Received and Staff's Responses:

A full explanation of the comments on the Draft Permit and responses is provided in the attached Response to Comments document. The Proposed Permit has been revised in response to some of the comments received. The most significant concerns expressed in the comments are summarized in the following enumerated paragraphs with Regional Water Board Staff's response and proposed resolution where applicable.

#### 1. Weekly and Monthly Flow Limitations

The Draft Permit includes new flow prohibitions for a Peak Weekly Wet Weather Flow (PWWWF) of 7.2 MGD and a Peak Monthly Wet Weather Flow (PMWWF) of 3.75 MGD and retains the Average Dry Weather Flow (ADWF) of 2.25 MGD. The previous permit only contained the ADWF prohibition. Flow prohibitions are included in permits to ensure that the Facility is not overwhelmed with high flows that can negatively impact treatment processes and storage of treated water. Significant and persistent increases in wet weather flows entering the Facility can also indicate excessive inflow and/or infiltration within the collection system that, if observed, may require corrective action by the Permittee.

The Permittee objects to the inclusion of both PWWWF and the PMWWF as prohibitions in section III.H of the Proposed Permit. The Permittee states that they have never experienced a bypass or overflow at the Facility. They also state that the

current permit has no such limit and imposition of wet weather flow limits is not supported with any justification or technical analysis in the Fact Sheet of the Proposed Permit. Therefore, the Permittee considers imposition of the wet weather flow limits unsupported, unwarranted, and unnecessary, and requests that they be removed from the Proposed Permit.

Response: Regional Water Board staff (Staff) acknowledge that the Draft Permit did not have sufficient justification for the inclusion of the PWWWF and PMWWF when it was posted for public comment. The PWWWF and PMWWF were included in Table 1 and Table F-1 of the previous permit but were not included as discharge prohibitions. The Draft Permit included the PWWWF and PMWWF to maintain consistency with other NPDES permits in the region and to ensure that the flows that the Facility was designed for are met. The Permittee included, as part of their January 2019 Title 22 Engineering Report, Facility capacities of 2.25 MGD as the ADWF and 7.2 MGD as the PWWWF. Staff performed literature review to determine the PMWWF design flow and could not determine the basis of the 3.75 MGD being included in the previous permit. Therefore, the prohibition associated with a PMWWF of 3.75 MGD has been removed from the Proposed Permit.

The PWWWF of 7.2 MGD was established in order to ensure that the Facility's design treatment capacity is not exceeded which has the potential to cause bypass in the Facility's treatment processes. Influent data collected during the previous permit term had a maximum weekly flow of 4.8 MGD, well under the 7.2 MGD prohibition. Therefore, the Proposed Permit retains the PWWWF capacity of 7.2 MGD and ADWF capacity of 2.25 MGD in Discharge Prohibition III.H, as was proposed in the Draft Permit, but removes the PMWWF of 3.75 MGD.

## 2. Compliance with Dissolved Oxygen Receiving Water Limitations.

The Permittee requested an in-permit compliance schedule and interim receiving water limitations for dissolved oxygen in light of the inclusion of a more stringent receiving water limitation for dissolved oxygen in the Proposed Permit. The new dissolved oxygen receiving water limitation is based on the dissolved oxygen objective included in the Basin Plan amendment that the Regional Water Board adopted in June 2015 and was approved by U.S. EPA in April 2017. The Permittee has expressed that the new dissolved oxygen receiving water limitation will result in more stringent operational requirements for the Permittee.

Response: Staff recognize the concern of the Permittee in meeting the dissolved oxygen (DO) surface water limitation in the Basin Plan, but have determined that a compliance schedule and interim receiving water limitations for DO are not necessary. Section 3.3.5 of the Basin Plan includes the daily minimum objective of 9.0 mg/L dissolved oxygen for the spawning, reproduction, and/or early development (SPWN) beneficial use. This section also includes a 7-day moving average objective of 11.0 mg/L that was inadvertently omitted from the Draft Permit and is being included in the Proposed Permit. To ensure that the 7-day moving average of 11.0

mg/L is maintained, Section V.A.1. of the Proposed Permit has been modified as follows.

“The discharge shall not cause the dissolved oxygen (DO) concentration of the receiving water to be depressed below 9.0 mg/L daily and 11.0 mg/L as a rolling average.”

Staff pulled the DO data for the effluent, and upstream and downstream receiving water monitoring locations from CIWQS for 2012-2020 to analyze the Permittees potential impact on DO concentrations in Mark West Creek. An analysis of the receiving water DO concentrations and the Permittee’s effluent DO concentrations resulted in the conclusion that the Permittee’s discharge likely does not cause the receiving water concentration to be depressed below 9.0 mg/L or the 11.0 mg/L rolling average. Further, the Permittee intends to implement process changes in the storage ponds and discharge to ensure that the DO concentration in the effluent is maintained at an appropriate level before discharge to Mark West Creek.

When Staff met with the Permittee to discuss the Permittee’s comments, Staff informed the Permittee that the language in the Proposed Permit states that the Permittee shall not cause the receiving water to be depressed below the 9 mg/L and 11 mg/L (emphasis added for clarity). The Regional Water Board has the authority to use its discretion for enforcement as a result of impacts to the receiving water from the Permittee’s discharge. If Staff determines, during the life of the Proposed Permit, that the Permittee is causing the DO to be depressed below these levels then the Regional Water Board may require an investigation to determine cause and culpability prior to asserting that a violation has occurred. Staff recognize that many factors must be considered when assessing compliance with receiving water limitations. Section V (Receiving Water Limitations) of the Proposed Permit has been modified to read, “...The Regional Water Board may require an investigation and/or may consider other available information to determine cause and culpability prior to asserting that a violation has occurred.” Additionally, in the case that it’s determined that the dissolved oxygen limitations are unachievable due to natural conditions, the Fact Sheet section V.A has been modified to include the following sentence: “The dissolved oxygen receiving water limitation provides for consideration of a modified limit for waterbodies for which the aquatic life-based dissolved oxygen requirements are unachievable due to natural conditions. The intent of this language is to provide a means to adjust the dissolved oxygen limit to a concentration less than the 9.0 mg/L daily limit and 11.0 mg/L 7-day moving average limit established in section V.A of the Order and not to increase the limits.”

No other changes were made to the Proposed Permit in response to this comment.

### 3. Cyanide Effluent Limitations

The Permittee requested that the cyanide effluent limitation be removed, and that additional monitoring and a provisional study should be required to investigate

interferences in cyanide measurements and the identification of a reliable analytical test method. The Permittee states that cyanide measurements are prone to interference by the preservative sodium hydroxide and that the results of the samples are “likely” not representative of the effluent or receiving water quality.

Response: Staff maintain that the reasonable potential analysis was sound and based on the available data. Staff must assume that the data submitted to CIWQS as part of the Permittee’s monthly reporting is representative of the discharge unless otherwise noted by the Permittee or the Permittee’s laboratory of choice. The Proposed Permit gives the Permittee the option to analyze for cyanide as total or weak acid dissociable cyanide using protocols specified in 40 C.F.R. Part 136, or an equivalent method in the latest Standard Method edition. No change was made to the Proposed Permit based on this comment and Cyanide effluent limitations have been retained.

#### 4. Lead Effluent Limitation

The Permittee requested that the Regional Water Board also reconsider its reasonable potential determination for lead. The CTR for lead includes hardness dependent criteria. The Permittee contends that the receiving water hardness value that resulted in affirmative reasonable potential occurred during an extreme wet weather event on February 13, 2019 where Creek flows during sampling event were approximately 2010 MGD (3,110 cubic feet per second) and effluent discharge was 3.4 MGD. The Permittee contends that the receiving water hardness value on this day was not representative of typical receiving water conditions.

Response: Lead was detected in four of the five receiving water samples and detected in the effluent during the term of the previous Permit. Consistent with the Policy for Implementations of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP), a determination of reasonable potential has been made based on the background concentration of 4.0 µg/L exceeding the most stringent water quality objective of 1.1 µg/L and lead being detected in the effluent.

Dilution was not taken into account when determining reasonable potential for pollutants under the Permittee’s previous permit because a mixing zone study was not completed. The Proposed Permit includes a mixing zone study reopener in the event that the Permittee submits a dilution/mixing zone study that affects the result of the reasonable potential analysis. The Proposed Permit also includes a Lead Impact Ratio to allow the Permittee to account for the hardness level at the time of the actual lead sample was taken to meet the water quality-based effluent limitation for lead. No change to the Proposed Permit was made based on this comment.

#### 5. Water Quality Trading Framework.

The Permittee objected to modifying the Water Quality Trading Framework (WQTF) as an attachment to the Proposed Permit. The Permittee maintains that any changes to the WQTF should be made and adopted by the Regional Water Board outside of

the Proposed Permit so as to avoid different adopted WQTF versions and make all versions available to credit generators and purchasers consistently.

Response: The WQTF was developed to replace the Santa Rosa Nutrient Offset Program and to be available to both the City of Santa Rosa and the Town of Windsor as an approved method for complying with the “no net loading” effluent limitation for total phosphorus established in each Permittee’s NPDES permit. The WQTF was initially adopted in 2018 separately from the permit renewals in order to have the WQTF available as a compliance option for both NPDES permittees to meet the “no net loading” effluent limitation.

Adoption of the modified WQTF within the Proposed Permit will replace the WQTF that was adopted in July 2018; therefore, only one version will be available thereafter to credit generators and purchasers for consistent application.

#### 6. Division of Drinking Water Title 22 Engineering Report Acceptance Letter

The Division of Drinking Water (DDW) submitted comments on the Permittee’s Title 22 Engineering Report acceptance letter on April 16, 2020. DDW’s comment letter included comments on minor language changes in the Proposed Permit, turbidity alarm set points, UV disinfection alarm set points, decommissioning of a bypass pipeline, distribution system requirements and Engineering Report update requirements.

DDW’s recommendations have been included in the Proposed Permit.

A copy of the Draft Permit was posted on the Regional Water Board website and was available for public comment from February 28, 2020 through March 29, 2020 for an initial 30-day comment period. This statutory comment period was extended another 30 days to April 28, 2020 in light of the COVID-19 emergency. Comments were received from the Permittee and the State Water Board Division of Drinking Water. A full explanation of the comments and responses is provided in the attached Response to Comments document. The Proposed Permit has been revised in response to some of the comments received. The comment letter and staff responses are attached.

The Permittee has requested to address the Board during the public hearing.

**RECOMMENDATIONS:** Adopt Order No. R1-2020-0010, as proposed.

#### **SUPPORTING DOCUMENTS:**

1. Proposed Order No. R1-2020-0010
2. Staff Response to Comments
3. Comment Letters
4. Public Notice

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