

Regional Water Quality Control Board
North Coast Region

Executive Officer's Summary Report
June 18, 2020

ITEM: 5

SUBJECT: Public Hearing on Modification Order No. R1-2020-0020 to extend deadlines in Cease and Desist Order No. R1-2016-0012, for the City of Eureka Elk River Wastewater Treatment Facility, WDID No. 1B82151OHUM (Cathleen Goodwin)

BOARD ACTION: The Board will consider adoption of Order No. R1-2020-0020 (Modification Order) modifying Cease and Desist Order No. R1-2016-0012. This action will extend the compliance dates for all six tasks in Requirement 2 of Cease and Desist Order No. R1-2016-0012 by 15 months.

BACKGROUND: The City of Eureka (Permittee) is the owner and operator of the Elk River Wastewater Treatment Facility (Facility), a publicly owned treatment works. The Facility serves a population of approximately 44,000 residential users from the City of Eureka and unincorporated areas within the Humboldt Community Services District. The Facility treats wastewater from many industrial and commercial facilities as well as treated groundwater from groundwater remediation projects and septage from local area haulers.

The Facility has an average dry weather design treatment capacity of 5.24 million gallons per day (mgd), a peak dry weather capacity of 8.6 mgd, and peak wet weather treatment capacity of 12 mgd. Wastewater is conveyed to the Facility through an extensive sanitary sewer system consisting of 125 miles of sewer mains, 9,500 service laterals, 17 lift stations, 3 pump stations, interceptor lines, collection lines, and manholes. The system collects and conveys over 1.5 billion gallons of wastewater per year, including infiltration and inflow (I/I). Once at the Facility, wastewater undergoes primary treatment with mechanical bar screens, grit removal, and primary clarification. Biological secondary treatment is accomplished using two trickling filters, followed by secondary clarification, and chlorine disinfection. The chlorinated effluent is stored in a holding pond then dechlorinated and discharged at Discharge Point 001 to Humboldt Bay in conjunction with ebb tide cycles in order to convey the maximum volume of effluent out of the bay to the Pacific Ocean.

The Facility is currently regulated under Waste Discharge Requirements (WDRs) contained in Order No. R1-2016-0001 (2016 Permit), adopted by the Regional Water Board on June 16, 2016. The 2016 Permit also serves as the National Pollutant Discharge Elimination System (NPDES) permit. Cease and Desist Order No. R1-2016-0012 (2016 CDO) was adopted concurrently with the 2016 Permit and requires the Permittee to complete specific tasks to achieve compliance with discharge prohibitions against discharges that do not comply with the Enclosed Bays and Estuaries Policy and

discharges of untreated or partially treated waste. These two key permit issues are further discussed in the following paragraphs.

Permit Issue 1: Prohibition against untreated or partially treated waste.

By design, during periods of high flow exceeding 12 mgd, excess primary treated wastewater bypasses the trickling filters and secondary clarification then combines with wastewater that has received full secondary treatment. The combined flow is then disinfected with chlorine and discharged to Humboldt Bay. Disinfected wastewater in excess of the effluent holding pond capacity can be directed to the 13-acre freshwater holding marsh (Overflow Marsh) and pumped back to the effluent storage pond once flows subside. The Regional Water Board has permitted bypass of secondary treatment in this way since 1981 for up to 20 mgd during wet weather flows at the Facility.

The previous permit required the City to analyze whether it is feasible to eliminate wet weather bypasses of the trickling filters and secondary clarifiers. The City submitted the Feasibility Analysis for Treating Peak Wet Weather Discharges (Utility Analysis) in 2014. The Utility Analysis provided an overview of existing hydraulic conditions at the Facility and confirms that in order to minimize or prevent bypass of secondary treatment during routine wet weather flow conditions, the Facility would require upgrades to better measure flows, improve secondary treatment capacity, manage or otherwise provide temporary storage and equalization of influent flows, and reduce infiltration and inflow (I/I) into the collection system.

Wet weather bypass and the resulting discharge of partially treated wastewater is no longer permitted under the 2016 Permit. The 2016 CDO requires the Permittee to implement actions to cease the discharge of untreated or partially treated waste as soon as practicable, but no later than July 1, 2028.

The schedule to cease discharges of untreated or partially treated waste remains unchanged in the proposed CDO Modification Order.

Permit Issue 2: Prohibition against discharges that don't comply with the Enclosed Bays and Estuaries Policy.

The State Water Board adopted Resolution 74-43, Water Quality Control Policy for the Enclosed Bays and Estuaries of California (Enclosed Bays and Estuaries Policy) on May 16, 1974. The Enclosed Bays and Estuaries Policy prohibits the discharge of municipal wastewater to enclosed bays and estuaries unless the discharge results in enhancement of the receiving waters.

The discharge of treated effluent to Humboldt Bay was originally permitted in 1981 based upon mathematical modeling, tidal monitoring, and a dye study completed in 1979. These studies indicated that discharging on the outgoing tide was expected to carry all of the effluent out of the bay to the Pacific Ocean. Based upon these findings, the Facility was determined to be in compliance with the Enclosed Bays and Estuaries

Policy at that time and was previously regulated under the California Ocean Plan requirements, including allowance of a 30:1 dilution credit.

The previous permit, Order No. R1-2009-0033, required the City of Eureka (City) to perform an effluent discharge study to assess the transport and fate of pollutants discharged with the outgoing tides. In 2014, the City submitted the Effluent Discharge Study modeling analysis which showed that under all simulations the effluent is never completely conveyed to the ocean, and under certain conditions up to 90% of the effluent discharged remains in Humboldt Bay. As a result of this new information, the discharge does not qualify as an ocean discharge subject to the California Ocean Plan, but rather qualifies as a bay discharge that is currently not compliant with the Enclosed Bays and Estuaries Policy and is subject to the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, commonly referred to as the State Implementation Policy or (SIP).

The 2016 CDO requires the Permittee to implement actions to either comply with the Enclosed Bays and Estuaries Policy by developing and implementing a plan to achieve enhancement of Humboldt Bay receiving waters or to cease the discharge to Humboldt Bay by developing an alternative discharge option such as an ocean outfall.

The schedule requiring compliance with the Enclosed Bays and Estuaries is proposed for change under this proposed CDO Modification Order.

DISCUSSION:

The Permittee has completed tasks 1A through 1D to make progress toward eliminating the discharge of partially treated waste under the 2016 CDO. The Permittee is incrementally addressing infiltration and inflow issues in the City's collection system. The Permittee submitted a Wet Weather Improvement Plan (WWIP) on March 1, 2017 as required by Task 1B of the CDO and has completed infiltration and inflow projects in high priority sewer basins described in the WWIP, including rehabilitation and replacement of aging sewer mains, manholes, and laterals, as well as removal of abandoned laterals. The Permittee's strategy also identified the potential need to increase capacity of the secondary treatment system at the Facility. The proposed CDO Modification retains the 2016 CDO requirement to achieve compliance (i.e. to implement actions to cease the discharge of untreated or partially treated waste) by July 1, 2028.

The 2016 CDO stated that the Regional Water Board may wish to revisit the assumptions that were used in developing the original compliance schedule as more information becomes available from the Permittee's evaluations. The Permittee has worked diligently to comply with the 2016 CDO compliance schedules and has met quarterly with Regional Water Board staff during the development of its Enclosed Bays and Estuaries Feasibility Study of enhancement alternatives. The Permittee has made good progress toward identifying potential projects that could be implemented to provide enhancement to Humboldt Bay in order to be granted an exception to the discharge prohibition in the Enclosed Bays and Estuaries Policy. The Permittee has stated, and Regional Water Board staff agree, that more time is needed to gather additional

information to narrow the enhancement project list to a list of potentially feasible enhancement projects and to further evaluate the feasibility of the most promising project options.

Due to numerous unforeseen delays in the development of the Enclosed Bays and Estuaries Feasibility Study required by Task 2A of the 2016 CDO, the Permittee needs additional time to complete those tasks. Several factors have contributed to the delays including longer than anticipated review times by Regional Water Board staff of the City's work products, an evolving understanding of the possible compliance solutions and the need to research those solutions, and Regional Water Board staffs' recent recognition of the need to consult with other environmental permitting agencies such as the California Coastal Commission to ensure permitting consistency. In addition, several emergency situations caused temporary, but significant redirection of Permittee and Regional Water Board staff resources and priorities, including mandatory power outages in the North Coast Region during Fall 2019, fires in Sonoma County in Fall 2019, and the COVID-19 emergency in Winter/Spring 2020.

This proposed CDO Modification extends the compliance dates for all tasks (Tasks 2A through 2F) in Requirement 2 of the 2016 CDO by 15 months because each task is dependent on completion of Task 2A, the development of the Enclosed Bays and Estuaries Compliance Feasibility Study. This 15-month extension, to October 1, 2021 for Task 2A, is after the expiration date for the 2016 Permit, thus the CDO compliance dates may be reassessed during the development of the next permit in 2021. Regional Water Board staff will continue to regularly meet with the Permittee during the development of the Enclosed Bays and Estuaries Plan Feasibility Study.

The proposed CDO Modification Order was available for a 20-day public comment period from April 15 to May 5, 2020. No comments were received. Regional Water Board staff anticipate the proposed CDO Modification Order is uncontested.

RECOMMENDATIONS: Adopt Order No. R1-2020-0020, as proposed.

SUPPORTING DOCUMENTS:

1. Proposed Modification Order No. R1-2020-0020
2. Modified Cease and Desist Order No. R1-2016-0012 (Revised on June 18, 2020 by Modification Order No. R1-2020-0020)
3. Public Notice

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