

**STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION**

STAFF REPORT FOR REGULAR MEETING OF JUNE 16-17, 2022

Prepared on May 23, 2022

ITEM NUMBER: 7

SUBJECT: Consideration of Proposed Order No. R3-2022-0029, Waste Discharge Requirements and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0047881 for the City of Morro Bay Water Reclamation Facility, San Luis Obispo County

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KEY INFORMATION

Location: 555 South Bay Boulevard, Morro Bay, San Luis Obispo County.

Type of Discharge: Blended primary and tertiary treated municipal wastewater, saline waste, and reverse osmosis (RO) concentrate from brackish water facility, and RO concentrate from advanced water treatment facility.

Permitted Flow: Annual average dry weather flow 0.97 million gallons per day (MGD), 2.74 MGD (peak wet weather flow).

Treatment: Wastewater treatment includes coarse screens, grit removal, and membrane bioreactor (MBR) producing tertiary treated effluent. The advanced water treatment system consists of reverse osmosis (RO), ultraviolet disinfection with advanced oxidation (UV AOP), stabilization through calcite contactors, and chlorination. The Facility also includes a stormwater adaptive filtration equipment (SAFE) system that will produce primary treated effluent during peak wet weather events.

Disposal: Treated wastewater, saline waste, and reverse osmosis concentrate discharged to the Pacific Ocean through existing 4400-foot outfall with a 170-foot diffuser system at a depth of approximately 50 feet.

Reclamation: Production of recycled water by MBR and an advanced purification system. The advanced treated water will recharge groundwater through indirect potable reuse (IPR) that will be permitted by a separate order.

Existing Orders: New facility (previous Morro Bay treatment facility currently discharging through same ocean outfall under Order No. R3-2017-0050, NPDES Permit No. CA0047881).

ACTION: Adopt Proposed Order No. R3-2022-0029

SUMMARY

This staff report provides a brief overview of the proposed NPDES permit for the City of Morro Bay's new Water Reclamation Facility (Facility). The Facility is a publicly owned treatment works (POTW) operated by the City of Morro Bay (Discharger). The proposed order (Attachment 1) includes requirements that ensure the discharge of treated wastewater is protective of water quality and beneficial uses and that recycled water is treated to a standard that is protective of public health and the environment. Central Coast Water Board staff recommends adoption of the proposed order.

DISCUSSION

Background

The Discharger owns and will operate a new water reclamation facility currently under construction that will treat wastewater from the City of Morro Bay. The Facility will receive domestic, commercial, and industrial wastewater. The Discharger currently discharges secondary-treated wastewater from an older facility, located at 160 Atascadero Road, pursuant to Order No. R3-2017-0050, NPDES Permit No. CA0047881, which also previously regulated discharges by the Cayucos Sanitary District.

In 2018, the Central Coast Water Board issued Time Schedule Order (TSO) No. R3-2018-0019¹ to the City of Morro Bay and the Cayucos Sanitary District requiring compliance with Order No. R3-2017-0050. The TSO included compliance dates for several required actions, including completion of the water reclamation facility improvements project by December 30, 2022 and full compliance with R3-2017-0050 by February 28, 2023.

The Cayucos Sanitary District, within the schedule required by TSO No. R3-2018-0019, constructed and began operation of the Cayucos Sanitary District Water Resource Recovery Facility near Toro Creek. Since 2020, the Central Coast Water Board has regulated discharges from the Cayucos Sanitary District Water Resource Recovery Facility under Order No. R3-2020-0004.

In order for the City of Morro Bay to comply with TSO No. R3-2018-0019, provide a sustainable water supply, and comply with a California Coastal Commission mandate to relocate the treatment facility from the existing coastal location subject to coastal

¹ TSO No. R3-2018-0019 can be found at the following link:
https://www.waterboards.ca.gov/centralcoast/board_decisions/adopted_orders/2018/06272018_NPDES_f inal_TSO_R3_2018_0019.pdf

hazards and vulnerabilities associated with climate change, the Discharger is constructing a new Facility near the intersection of South Bay Boulevard and Highway 1 in Morro Bay as part of the Morro Bay Our Water Program. More information on the Morro Bay Our Water Program can be found online at <https://morrobaywrf.com/>. Facility construction completion is anticipated in late 2022.

On March 8, 2021, the Discharger submitted a report of waste discharge (i.e., permit application) for a new Facility to replace the existing wastewater treatment plant (WWTP) and produce tertiary treated effluent that exceeds secondary standards for discharge. The new MBR system at the Facility is designed with a peak treatment capacity of 1.88 MGD and this tertiary treated disinfected effluent, when not being further treated for recycling, will discharge through the existing ocean outfall.

To accommodate flows during peak wet weather events that exceed the MBR capacity, the new Facility also includes a SAFE system. The SAFE system is an overflow system, consisting of a settling basin followed by rapid filtration that will produce primary treated effluent. Influent flows greater than 1.88 MGD are diverted upstream of the MBR from the SAFE diversion box to the settling tank and the rapid cloth filter. The settling tank and filtration system also act as detention basins in that their effluent flows can be rerouted back through the diversion box into the MBR influent if MBR treatment capacity frees up. The SAFE system can treat excess flows up to 0.86 MGD (peak day) resulting in a permitted peak wet weather flow of 2.74 MGD that is blended (in an outfall balancing tank) tertiary (1.88 MGD) and primary (0.86 MGD) treated water before discharge to the ocean.

The proposed order also authorizes the Discharger to act as the producer of recycled water. Under the proposed order, the recycled water may be used on the Facility site, and the use and distribution of the recycled water for offsite uses including IPR will be authorized by other permits. As much as possible, the MBR effluent will be further treated for IPR by the advanced purification system which has an average annual dry weather design flow of 0.97 MGD. The Discharger has already constructed the advanced water purification facility that will produce advanced treated water for groundwater recharge at one or more injection wells planned by the City. The advanced purification process will also produce RO concentrate that will be blended with the MBR effluent before discharge to the ocean outfall. The permitted blended discharge to the ocean outfall also includes downstream additions of up to 0.446 MGD RO concentrate from the City's groundwater brackish well system and small amounts (up to 2,700 gallons/day) of saline waste from a local water softening company.

Proposed Order Considerations

The proposed order includes a comprehensive monitoring program tailored to the new facility and consistent with other similar ocean discharge facilities to collect water quality data to ensure the Facility performs effectively. At the time of development of this permit, the new Facility was under construction. Therefore, effluent data was unavailable, and the Central Coast Water Board could not conduct a reasonable potential analysis (RPA), which is an analysis that uses water quality data to assess

potential impacts to water quality and establish water quality-based effluent limitations. This permit establishes an annual monitoring requirement for pollutants in Table 3 of the Ocean Plan to allow for a robust set of data so that an RPA may be conducted during future permit renewals. Central Coast Water Board staff recommends adoption of the proposed order because the new Facility proposes to produce higher quality effluent relative to the old treatment plant and to beneficially reuse a significant portion of the treated effluent, and thus result in decreased ocean discharges. Therefore, the new facility will be more protective of receiving water quality.

Central Coast Water Board staff structured the proposed order in accordance with the statewide NPDES permit template. The following summarizes the significant differences between the proposed order and the existing Order No. R3-2017-0050, which is also discussed in detail in the proposed order fact sheet:

Accessibility updates. The State Water Board template for NPDES permits has been updated and revised to accommodate document accessibility needs associated with text styles formatting to facilitate the use of document reader software for persons with visual impairments or learning disabilities. Most notably, there are numerous changes to table formatting and outline structure from the previous order.

Updated Facility, Owner, Contact Information, and Facility Name. The Facility has new contact information since the previous order. The proposed order updates the current contact information (Attachment F – Fact Sheet, Table F-1).

Updated references. Many guidance documents, policies, and orders referenced in the previous order have been updated, amended, or superseded since 2017. The proposed order has updated citations and provides website links where direct access to the current versions of the references are available.

Recycled Water Production. The proposed order implements the Recycled Water Policy by supporting the production of recycled water and requiring volumetric reporting of wastewater and recycled water to the State Water Board.

Maps and Process Flow Diagrams. Attachments B and C consist of updated, higher quality maps for the area and process flow diagrams for the new Facility.

Order Findings. The proposed order (Findings, section 2) includes findings for Water Reclamation Requirements for Recycled Water Production and Use, Response to Climate Change, Human Right to Water, and Disadvantaged Community Status.

Climate Change Adaptation. The new Facility located away from the beach and the recycled water production are major climate change adaptations. In order for the City to assess any other potential improvements, the proposed order (Other Special Provisions) includes the requirement for the Discharger to submit a Climate Change Response Hazards and Vulnerabilities Plan to the Central Coast

Water Board Executive Officer describing the Discharger's long-term approach for identifying and addressing climate change hazards and vulnerabilities at the Facility, including all associated infrastructure (e.g., treatment facilities, conveyances to discharge points, discharge facilities).

Changes from the Public Draft

The draft order was released for public comment on April 13, 2022, and comments were due by May 12, 2022. The only comments received during the public comment period were from the Discharger, who pointed out a few minor typographical errors by email and requested the due date for the annual report be changed from February 1 to April 1, which is the annual report due date in the existing permit, to help with logistics. Central Coast Water Board staff made these few minor non-substantive changes to the draft order for clarity and accuracy.

Human Right to Water

California Water Code section 106.3, subdivision (a) states that it is the policy of the State of California "that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitation purposes." On January 26, 2017, the Central Coast Water Board adopted Resolution No. R3-2017-0004, which affirms the realization of the human right to water and the protection of human health as the Central Coast Water Board's top priorities.

The proposed order incorporates requirements for the Facility to beneficially reuse treated effluent to improve water supply resiliency and to prepare for uncertainties in water resources due to the changing climate. The proposed order establishes effluent discharge limitations to protect the municipal and domestic supply (MUN) drinking water beneficial use and improve drinking water quality for those that depend on groundwater and surface waters as their drinking water source.

Environmental Justice

Environmental Justice principles call for the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income in the development, adoption, implementation, and enforcement of all environmental laws, regulations, and policies that affect every community's natural resources and the places people live, work, play, and learn. The Central Coast Water Board implements regulatory activities and water quality projects in a manner that ensures the fair treatment of all people, including Underrepresented Communities. Underrepresented Communities include but are not limited to Disadvantaged Communities (DACs), Severely Disadvantaged Communities (SDACs), Economically Distressed Areas (EDAs), Tribes, Environmentally Disadvantaged Communities (EnvDACs), and members of Fringe Communities.²

² Disadvantaged Community: a community with an annual median household income that is less than 80% of the statewide annual median household income (Public Resources Code section 80002(e)); Severely Disadvantaged Community: a community with a median household income of less than 60% of

Furthermore, the Central Coast Water Board is committed to providing all persons the opportunity to participate in the public process and provide meaningful input to decisions that affect their communities.

The proposed order regulates the production of recycled water and discharge of treated domestic wastewater. The 2018 census data identifies three block groups as DACs in the City of Morro Bay, representing approximately thirty percent of the city population. Operation of this publicly owned treatment works in compliance with the proposed order will not pose a significant threat to water quality and is therefore unlikely to impact DACs. The potential costs to the Discharger and associated communities associated with the new requirements are supported by the water quality and beneficial use protection and restoration benefits, including the protection of public health. If impacts to surface water result from the discharges regulated by the proposed order, Central Coast Water Board staff will work with the discharger to rectify the water quality impacts and help facilitate outreach and education to inform affected communities and connect them with available resources.

Climate Change

The Central Coast faces the threat and the effects of climate change for the foreseeable and distant future. To proactively prepare and respond, the Central Coast Water Board has launched the Central Coast Water Board's Climate Action Initiative, which identifies how the Central Coast Water Board's work relates to climate change and prioritizes actions that improve water supply resiliency through water conservation and wastewater reuse and recycling; mitigate for and adapt to sea level rise and increased flooding; improve energy efficiency; and reduce greenhouse gas production. The Climate Action Initiative is consistent with the Governor's Executive Order B-30-15 and the State Water Board's Climate Change Resolution No. 2017-0012.

The proposed order aligns with the Climate Action Initiative's objectives and aligns with State Water Board Resolution No. 2017-0012. To take steps towards building climate change resiliency on the Central Coast, the proposed order increases water supply reliability as a climate adaptation strategy by supporting beneficial reuse of the Facility's treated effluent for municipal uses. The Discharger has identified and assessed the

the statewide average. (Public Resources Code section 80002(n)); Economically Distressed Area: a municipality with a population of 20,000 persons or less, a rural county, or a reasonably isolated and divisible segment of a larger municipality where the segment of the population is 20,000 persons or less with an annual median household income that is less than 85% of the statewide median household income and with one or more of the following conditions as determined by the department: (1) financial hardship, (2) unemployment rate at least 2% higher than the statewide average, or (3) low population density. (Water Code section 79702(k)); Tribes: federally recognized Indian Tribes and California State Indian Tribes listed on the Native American Heritage Commission's California Tribal Consultation List; EnvDACs: CalEPA designates the top 25 percent scoring census tracts as DACs. Census tracts that score the highest five percent of pollution burden scores but do not have an overall CalEnviroScreen score because of unreliable socioeconomic or health data are also designated as DACs (refer to the CalEnviroScreen 3.0 Mapping Tool or Results Excel Sheet); Fringe Community: a community that does not meet the established DAC, SDAC, and EDA definitions but can show that it scores in the top 25 percent of either the Pollution Burden or Population Characteristics score using the CalEnviroScreen 3.0.

viability of beneficially reusing the Facility's treated effluent to achieve recycled water benefits identified in the State Water Board Recycled Water Policy. With the anticipated IPR project that will be permitted separately, the Discharger plans to provide water for approved uses, diversify community water supplies, and mitigate the impacts of climate change. Also proactively adapting to climate change, the Discharger sited the Facility away from coastal hazards and vulnerabilities that threaten the existing Morro Bay/Cayucos wastewater treatment plant. Additionally, to proactively plan for the future, the proposed order requires the Discharger to continue to identify and plan for such hazards and vulnerabilities at the Facility including flooding, extreme temperature, and influent flow and loading fluctuations exacerbated by climate change.

CONCLUSION

Proposed Order No. R3-2022-0029 is for a new state of the art facility and has been drafted and prepared in compliance with the California Ocean Plan and state and federal guidance and regulations. The proposed order is protective of water quality, requires a monitoring and reporting program sufficient to demonstrate compliance with the proposed order's effluent limitations and other requirements, and supports efforts to produce and reuse recycled water.

RECOMMENDATION

Adopt Proposed Order No. R3-2022-0029

ATTACHMENTS

1. Proposed Order No. R3-2022-0029

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