

State of California
Regional Water Quality Control Board
San Diego Region

EXECUTIVE OFFICER SUMMARY REPORT
December 14, 2016

ITEM: 11

SUBJECT: NPDES Permit Reissuance and Decision for a Variance from Secondary Treatment Requirements: Waste Discharge Requirements and NPDES Permit for the City of San Diego, E.W. Blom Point Loma Wastewater Treatment Plant Discharge to the Pacific Ocean through the Point Loma Ocean Outfall (Tentative Order No. R9-2017-0007, NPDES No. CA0107409) and the Tentative Decision Document for a Variance from Secondary Treatment Requirements Pursuant to Clean Water Act section 301(h). (*Joann Lim*)

PURPOSE: The U.S. Environmental Protection Agency (USEPA), Region IX and the San Diego Water Board will conduct a joint public hearing to receive comments on Tentative Order No. R9-2017-0007 (Tentative Order) (**Supporting Document No. 1**) and the Tentative Decision Document (**Supporting Document No. 2**). USEPA, Region IX and the San Diego Water Board will not take action at today's public hearing, but will formally act on the Tentative Order and the Tentative Decision Document at a subsequent Board meeting in 2017. The public comment period for this item will remain open until 5:00 p.m. on December 21, 2016, and all written comments submitted by the deadline will be considered by USEPA, Region IX and the San Diego Water Board before taking action on the Tentative Order and the Tentative Decision Document.

RECOMMENDATION: None

KEY ISSUES:

1. Issuance of a final decision to grant a variance from secondary treatment requirements pursuant to Clean Water Act (CWA) section 301(h) (Secondary Treatment Waiver) and adoption of the Tentative Order implementing the Technical Decision Document would extend the Secondary Treatment Waiver for the five-year term of the Tentative Order.
2. As a condition of the Secondary Treatment Waiver, the Tentative Order requires the City of San Diego to

implement an initial schedule of tasks for the *Pure Water San Diego* program, which would ultimately produce 83 million gallons per day (MGD) of potable reuse water in incremental stages by December 31, 2035 and significantly reduce wastewater flows and pollutant loads discharged to the Pacific Ocean.

PRACTICAL VISION: Consistent with the mission of the *Strategy for Healthy Waters* chapter of the Practical Vision, the Tentative Order integrates all applicable technology-based requirements, water quality-based effluent limitations, and receiving water quality standards in order to optimize protection of water quality and beneficial uses in the Pacific Ocean. The Tentative Order also requires that the City of San Diego (City) implement an initial schedule of *Pure Water San Diego* program tasks over the next 5 years that will ultimately produce potable water to advance the State's water recycling goals, consistent with the *Strategy for a Sustainable Local Water Supply* chapter of the Practical Vision. Implementation of *Pure Water San Diego* potable reuse projects will also systematically reduce Point Loma Ocean Outfall discharge flows and suspended solids loading to the ocean and thus further the goals of the *Strategizing for Healthy Waters* chapter of the Practical Vision. Additionally, the Tentative Order has provisions allowing for participation in regional monitoring and assessment programs in keeping with San Diego Water Board Resolution No. R9-2012-0069, *Resolution in Support of a Regional Monitoring Framework*.

DISCUSSION: The City owns and operates the E.W. Blom Point Loma Wastewater Treatment Plant (Facility), an advanced primary treatment plant on the Point Loma peninsula in San Diego, California that serves as the terminal treatment facility of the San Diego Metropolitan Sewerage System (Metro System).¹ (See **Supporting Document 3**, Location Maps.)

The City is currently discharging advanced primary treated wastewater from the Facility to the Pacific Ocean through the Point Loma Ocean Outfall pursuant to Order No. R9-2009-0001. Because the terminus of the Point Loma Ocean Outfall, approximately 4.5 miles offshore, lies within federal

¹ The Metro System collects and treats wastewater from the City of San Diego and 12 participating agencies (City of Chula Vista, City of Coronado, City of Del Mar, City of El Cajon, City of Imperial Beach, City of La Mesa, City of National City, City of Poway, Otay Water District, Padre Dam Municipal Water District, Lemon Grove Sanitation District, and San Diego County) within a 450-square mile service area throughout San Diego County.

waters and the potential exists for migration of the treated wastewater to State waters, the discharge of the treated wastewater to the Pacific Ocean through the Point Loma Ocean Outfall is regulated jointly by USEPA, Region IX and the San Diego Water Board.²

CWA sections 301(b)(1)(B) and 304(d) required the USEPA to establish the minimum performance requirements attainable through the application of secondary treatment for publicly-owned treatment works (POTWs). Based on these statutory requirements, USEPA developed secondary treatment regulations which are specified in title 40 of the Code of Federal Regulations, section 133 that apply to all POTWs. The regulations identify the minimum level of effluent quality attainable by secondary treatment in terms of biochemical oxygen demand (BOD), total suspended solids (TSS), and pH unless USEPA grants a Secondary Treatment Waiver pursuant to CWA section 301(h). Issuance of a final decision to grant a Secondary Treatment Waiver and adoption of the Tentative Order would extend a Secondary Treatment Waiver that has been in place since 1995 for the term of the Tentative Order.

During the past several years, the City has proceeded with phased implementation of a proprietary technology called *Peroxide Regenerated Iron Sulfide Control*, which has contributed to a significant increase in TSS removal. The TSS annual mass emission rate from the Facility has been reduced by approximately 50 percent from 11,060 metric ton per year (mt/yr) in 1995 to 5,466 mt/yr in 2015.

The City has also committed to implementing a comprehensive long-term (approximately 20 years) water reuse program called *Pure Water San Diego* that has the goal of producing a safe, reliable, and cost-effective drinking water supply for the San Diego area through the application of advanced treatment technology to purify recycled water. This program is the result of collaboration between the City, the Metro Wastewater Joint Powers Authority, and an array of regional stakeholders. Through this program, the City plans a significant investment in potable water reuse and

² The State of California's territorial marine waters generally extend three nautical miles outward from the mainland, offshore islands and the outer edge of harbors and bays. The authority of the San Diego Water Board to regulate persons discharging waste extends to discharges outside the boundaries of the State's territorial marine waters if such discharges could affect the quality of waters of the State. (Water Code section 13260(a)(2).)

ancillary facilities to eventually produce 83 MGD of potable reuse water, an amount that the City equates to approximately one-third of the total City potable water demand. Implementation of the Program would help achieve Recycled Water Policy goals³ by increasing regional recycled water use by 15 MGD by December 31, 2023, 30 MGD by December 31, 2027, and 83 MGD by December 31, 2035.

The City reports that wastewater flows and associated loads to the Facility will be off-loaded as each new purified water treatment plant and associated facilities become operational. This will reduce wastewater flows and pollutant loads discharged from the Facility to the Pacific Ocean, resulting in TSS annual mass emission rates that are less than or equivalent to the 9,942 mt/yr that would have occurred if the 240-MGD Facility were to achieve TSS concentration standards consistent with secondary treatment regulations. This concept is referred to by the City as *secondary treatment equivalency*. The TSS average annual mass emission rate for 2015 was less than 6,000 mt/yr. Based on an increase in TSS due to water conservation and on historic TSS removal rates, the City is conservatively projecting TSS average annual mass emission rates of 9,678 mt/yr in 2023, 9,433 mt/yr in 2027, and 7,832 mt/yr in 2035. Based on upstream recycled water production and use; diversion of flows to the South Bay Water Reclamation Plant; and production and use of purified water, the City is projecting annual flow rates of 172 MGD in 2023, 160 MGD in 2027, and 139 MGD in 2035.

As a condition of the Secondary Treatment Waiver, the Tentative Order incorporates in section VI.C.7 a detailed compliance schedule of enforceable tasks covering the five-year term of the Tentative Order which focus on the initial 15 MGD potable reuse component of the *Pure Water San Diego* program. The City has committed to implementing the full *Pure Water San Diego* program by 2035 as a condition of the Secondary Treatment Waiver and the Tentative Order

³ The Recycled Water Policy was established by the State Water Board with the adoption of Resolutions 2009-0011 and 2013-0003 and is available at http://www.swrcb.ca.gov/board_decisions/adopted_orders/resolutions/2013/rs2013_0003_a.pdf (as of November 21, 2016). The Recycled Water Policy establishes statewide recycled water goals, provides implementation direction to Regional Water Boards for achieving the goals, and mandates that the Regional Water Boards exercise the authority provided to them by the Legislature to the fullest extent possible to encourage the use of recycled water, consistent with State and federal water quality laws.

also includes a schedule for achieving key program goals within the years 2023 to 2035, which fall beyond the five-year term of the Tentative Order. The program goals may be included as required enforceable tasks in the compliance schedules of subsequent Orders.

The Tentative Order assigns effluent limitations for all constituents found to have the reasonable potential to cause or contribute to an exceedance of applicable water quality objectives based on the results of monitoring performed during the past five years. Consistent with the Technical Decision Document, the BOD and TSS effluent limitations within the Tentative Order are less stringent than federal secondary requirements. The Tentative Order does require a reduction in the mass emissions of TSS, in accordance with the Ocean Pollution Reduction Act (OPRA), and those requirements are more stringent than the requirements in the existing Order.

The following is a summary of the significant differences between the existing Order and the Tentative Order that have not otherwise been discussed:

1. The average monthly total suspended solids effluent limitation for TSS of 75 mg/L contained in the 1995, 2003, and 2009 Orders for the Facility was reduced to 60 mg/L, consistent with the *Water Quality Control Plan, Ocean Waters of California, California Ocean Plan*. This change was made based on improved Facility performance in removing TSS as documented by the City's data for monthly average effluent TSS concentrations at the Facility between the years 2008-2015. The federal secondary treatment standard for TSS is 30 mg/L. There is no federal advanced primary treatment standard for TSS.
2. The Tentative Order includes a requirement to develop and implement a Plume Tracking Monitoring Plan to improve receiving water monitoring and to identify specific areas of the coastal shelf that are most likely affected by the Facility discharge.
3. The receiving water monitoring requirements for the Point Loma Ocean Outfall have been modified to be consistent with the receiving water monitoring requirements for the

South Bay Ocean Outfall.⁴ The City conducts the receiving water monitoring for both the Point Loma Ocean Outfall and the South Bay Ocean Outfall. Standardizing the two monitoring programs makes it easier and more efficient for the City to manage the two monitoring programs and provides a better regional picture of water quality conditions in the vicinity of both ocean outfalls.

4. In response to a request by the City, the Tentative Order requires the submittal of detailed Biennial Receiving Water Monitoring Reports instead of Annual Receiving Water Monitoring Reports. Less-detailed Interim Receiving Water Monitoring Reports are reported in the “off” years. The Tentative Order also allows the City to submit an integrated report covering the receiving water monitoring requirements for both the Point Loma Ocean Outfall and the South Bay Ocean Outfall.
5. The Tentative Order requires the City to develop and submit a Climate Change Action Plan to identify potential impacts to the City’s wastewater collection and treatment system due to climate change if current trends continue and steps being taken or planned to address these impacts.

As of November 30, 2016, comments on the Tentative Order have been received from the City of San Diego.

(Supporting Documents No. 4). Additional comments received after November 30, 2016, but before December 7, 2016, will be submitted to the Board in a supplemental mailing prior to the Board meeting. Additional comments received on or after December 7, 2017, and a Response to Comments Report will be provided to the Board subsequently in preparation for a future Board meeting where the San Diego Water Board will formally act on the Tentative Order. Comments on the Technical Decision Document will be addressed by USEPA, Region IX.

⁴ Receiving water monitoring requirements for the SBOO are contained in Order No. R9-2013-0006 as amended by Order No. R9-2014-0071, NPDES Permit No. CA0109045, *Waste Discharge Requirements for the City of San Diego South Bay Water Reclamation Plant Discharge to the Pacific Ocean via the South Bay Ocean Outfall*, and Order No. R9-2014-0009 as amended by Order No. R9-2014-0094, NPDES Permit No. CA0108928, *Waste Discharge Requirements for the United States Section of the International Boundary and Water Commission, South Bay International Wastewater Treatment Plant Discharge to the Pacific Ocean via the South Bay Ocean Outfall*.

LEGAL CONCERNS: None

SUPPORTING DOCUMENTS:

1. Tentative Order No. R9-2017-0007
2. Technical Decision Document
3. Location Maps
4. City of San Diego Comment letter dated November 30, 2016

COMPLIANCE RECORD: According to the City's self-monitoring reports, there were 16 noncompliance incidents during the term of the previous Order, Order No. R9-2009-0001, between August 2010 and September 2016. These noncompliance incidents are generally classified as follows:

- 2 effluent limitation violations for chronic toxicity;
- 3 effluent limitation violations for settleable solids;
- 9 monitoring and/or reporting violations; and
- 2 inadequate operation/maintenance resulting in spills at the Facility.

Staff enforcement letters were sent to the City requiring that steps be taken to prevent the reoccurrence of such violations. A mandatory minimum penalty in the amount of \$3,000 was imposed for one of the effluent limitation violations.

PUBLIC NOTICE: The Tentative Order and Technical Decision Document were noticed and released for formal public review and comment on October 28, 2016. USEPA, Region IX and the San Diego Water Board published a Joint Notice of Proposed Actions in the San Diego Union Tribune newspaper on October 28, 2016, which announced the December 14, 2016 public hearing, availability of the draft documents and provided instructions on submittal of comments on the Tentative Order and Technical Decision Document. Notice was also provided in the Meeting Notice and Agenda for the December 14, 2016 Board meeting, which is posted on the San Diego Water Board's website. The release for public review and comment also included an email sent to all known interested parties and posting on the San Diego Water Board's website. The public comment period will remain open until 5 p.m. on December 21, 2016.