

**REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

**EXECUTIVE OFFICER SUMMARY REPORT
December 11, 2019**

ITEM 11

SUBJECT

NPDES Permit Reissuance: Waste Discharge Requirements for the City of Oceanside, San Luis Rey Water Reclamation Facility, La Salina Wastewater Treatment Plant, and Mission Basin Groundwater Purification Facility Discharge to the Pacific Ocean through the Oceanside Ocean Outfall (Tentative Order No. R9-2019-0166, NPDES No. CA0107433). (*Joann Lim and Keith Yaeger*)

STAFF RECOMMENDATION

Adoption of Tentative Order No. R9-2019-0166 (Tentative Order) is recommended.

KEY ISSUE

The Tentative Order (**Supporting Document No. 1**) includes a requirement to investigate alternatives for tracking the location and movement of the Oceanside Ocean Outfall (OOO) wastewater plume and its potential encroachment on shoreline water contact recreational areas. The question of where the OOO plume is going also has a regional component for determining when and where multiple plumes congregate from different outfalls. The San Diego Water Board has previously included similar requirements to investigate wastewater plume tracking in the National Pollutant Discharge Elimination System (NPDES) permits for the San Elijo Ocean Outfall and Encina Ocean Outfall, with the goal of using the findings from these studies to develop a unified regional monitoring program for all three ocean outfalls. The San Diego Water Board also included similar plume tracking investigative requirements in the NPDES permits for the Point Loma Ocean Outfall and the South Bay Ocean Outfall in support of coordinated regional monitoring at those outfalls.

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 to optimize protection of water quality and beneficial uses in the Pacific Ocean. 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 of Oceanside (City) is the owner and operator of the San Luis Rey Water Reclamation Facility (SLRWRF), La Salina Wastewater Treatment Plant (LSWTP), and Mission Basin Groundwater Purification Facility (MBGPF). The SLRWRF, LSWTP, and MBGPF currently discharge disinfected secondary-treated wastewater, secondary-treated wastewater, and waste brine, respectively, to the Pacific Ocean through the OOO, which is also owned and operated by the City. A description of each of these facilities can be found in **Supporting Document No. 1**, Attachment F, section II.A. The location of these facilities is shown in **Supporting Document No. 2**.

The SLRWRF, LSWTP, and MBGPF have a combined discharge of up to 16.6 MGD to the OOO. The OOO also receives discharges from 1) Fallbrook Public Utility District's Fallbrook Water Reclamation Plant; 2) Marine Corps Base, Camp Pendleton's Southern Regional Tertiary Treatment Plant and Advanced Water Treatment Plant at Haybarn Canyon; and 3) Genentech, Inc. These discharges are regulated by separate individual NPDES permits for each of these agencies. The reissuance of these three separate NPDES permits are also being considered by the San Diego Water Board at today's meeting under Agenda Item Nos. 12, 13, and 14. The total permitted flow from all dischargers to the OOO is 41.5 million gallons per day (MGD).

The SLRWRF and the LSWTP treat wastewater from a population of approximately 180,000 within the City, a portion of the City of Vista, and a portion of the Rainbow Municipal Water District. Both facilities provide secondary treatment for wastewater flows; the effluent is discharged to the OOO. A portion of the SLRWRF secondary-treated effluent also receives tertiary treatment to produce recycled water to irrigate landscape and to maintain the water level in Whelan Lake. In 2018, approximately 150 million gallons of tertiary-treated wastewater from the SLRWRF was reused for beneficial purposes. The recycled water is regulated under separate waste discharge requirements (WDRs). An addendum to these separate WDRs is also being considered by the San Diego Water Board at today's meeting under Agenda Item No. 6.

As noted in **Supporting Document No. 1**, Attachment F, section II.D and summarized below in the Compliance Record, the LSWTP had 33 effluent violations during the current permit term. As noted in **Supporting Document No. 1**, Attachment F, section II.F, the City is in the planning process for decommissioning the LSWTP. Following completion of LSWTP decommissioning, all wastewater will be sent to the SLRWRF for beneficial reuse, expanding the non-potable water system that conveys tertiary-treated effluent from the SLRWRF and studying the possible implementation of indirect potable reuse with recycled water groundwater recharge and extraction. The City has not provided a timeline for these wastewater projects.

The MBGPF is a groundwater desalination plant that treats local brackish groundwater extracted from the Mission Hydrologic Subarea (HSA) 903.11 to produce up to 6.37 MGD of potable water, an amount that the City equates to 15 percent of the City's water demand.

The City's discharges to the OOO are currently regulated by Order No. R9-2011-0016, NPDES No. CA0107433. The Tentative Order will, if adopted, supersede Order No. R9-2011-0016 and reissue the NPDES Permit for the City's discharge to the OOO for a five-year term. The Tentative Order was developed based on information in the City's reissuance application, self-monitoring reports, and other available sources (e.g. inspection reports, meetings, and emails with the City).

The Tentative Order was noticed for a public hearing and released for public review and comment for a 30-day period on September 27, 2019. The public comment period closed on October 28, 2019. The San Diego Water Board received one comment letter on the Tentative Order during the comment period (**Supporting Document No. 3**) which was from the City. The comment letter has been provided to San Diego Water Board Members for consideration and is available for review by interested persons upon request. The Response to Comments Report (**Supporting Document No. 4**) contains the San Diego

Water Board responses to all the comments received and, if applicable, describes actions taken to revise the Tentative Order in response to the comments received. A copy of the Response to Comments Report and the Revised Tentative Order (**Supporting Document No. 1**) was provided to the Discharger.

The following is a summary of the most significant comments and the responses to those comments:

- 1 *The City objects to the requirement to monitor for the Human Marker HF-183 at nearshore and offshore monitoring locations. The City states this requirement is overly burdensome and will not determine the source of a fecal coliform receiving water limitation exceedance. The City provided a cost estimate of \$28,558 per year to sample and analyze HF-183 at the nearshore and offshore monitoring locations.*

The City's comment on this issue is summarized and responded to in Comment No. 1.6 of the Response to Comments Report. The City is required to collect samples for the Human Marker HF-183 concurrently with samples collected for fecal coliform at the nearshore and offshore monitoring locations. The City is only required to analyze the HF-183 sample if the concurrently collected sample for fecal coliform exceeds the single sample maximum receiving water limitation. Monitoring for HF-183 when a fecal coliform exceedance occurs will provide a valuable line of evidence for determining the potential sources of receiving water bacteria exceedances. While sampling for the human marker will not solely identify the source of the exceedance, it can rule out the Oceanside Ocean Outfall as a source if the human marker HF-183 is not detected. If the human marker is consistently detected when there are fecal coliform exceedances, it suggests that the source of the exceedances may be due to the Oceanside Ocean Outfall as there are limited sources of the human marker HF-183 in the vicinity of the Oceanside Ocean Outfall. Furthermore, total and fecal coliforms, and enterococci (collectively fecal indicator bacteria or FIB) receiving water limitation exceedances occur more frequently at monitoring locations near the Oceanside Ocean Outfall than at the reference monitoring locations located one mile north and south of the Oceanside Ocean Outfall, with 65 exceedances occurring near the outfall and only 6 exceedances occurring at the reference monitoring locations from 2011 to 2019.

The City estimated the HF-183 monitoring requirements to cost \$28,558 per year. However, this estimate is the worst-case scenario assuming every offshore and nearshore monitoring location exceeds the fecal coliform receiving water limitation during every sampling event. From 2011 to 2019, 28 fecal coliform samples exceeded receiving water limitations at the offshore monitoring stations. Assuming one fecal coliform exceedance per quarter and using the City's cost estimates, the HF-183 monitoring requirements would cost the City approximately \$10,480 per year. This estimate includes filtration, cooler preparation, and DNA/RNA extraction and storage at all nearshore and offshore monitoring locations.

For the reasons noted above, the San Diego Water Board concludes the cost of the HF-163 monitoring is reasonable. The information obtained will provide a line of evidence for identifying potential sources of bacteria receiving water limitation exceedances that occur more frequently around the Oceanside Ocean Outfall than at the offshore reference stations. However, to reduce monitoring costs further, the

San Diego Water Board has modified the Tentative Order to remove the requirement to monitor for HF-183 at the nearshore monitoring locations as these monitoring locations have not had bacteria exceedances.

- 2 The City asserts that the Tentative Order should not have an effluent limitation for chronic toxicity and that the Test of Significant Toxicity (TST) statistical approach is not an approved method in USEPA's test procedure guidelines established in 40 CFR 136.*

The City's comment on this issue is summarized and responded to in Comment No. 1.3 of the Response to Comments Report. The San Diego Water Board determined no changes to the Tentative Order are needed. The San Diego Water Board used best professional judgement to include the chronic toxicity maximum daily effluent limitation. The City is authorized to discharge up to 16.6 MGD to the OOO. The City's influent consists of a variety of sources that may include municipal and industrial discharges. Toxicants may enter the influent from a variety of sources, and the types, nature, quality of the possible toxicants contained in the influent are not fully understood. The influent may also contain pollutants, such as pesticides, that interact with plant operations affecting the quality of the effluent. These pollutants may also pass through the SLRWRF and LSWTP pollutant treatment process into the final effluent discharge through the OOO. In addition, because a variety of potential sources of toxicity exists, differing pollutants, from more than one source, may have synergistic or additive toxic effects creating a higher risk of toxicity that can affect plant operations and effluent quality. Any pollutants that are discharged in the effluent from these facilities may adversely impact aquatic life beneficial uses in receiving water. Routine monitoring for chronic toxicity would alert dischargers to toxic events, and effluent limitations would in turn provide a higher level of ecological protection.

The TST approach is not a toxicity test method and does not alter the USEPA approved toxicity test methods. Rather, the TST approach is a statistical approach to analyze the data generated by the existing USEPA approved toxicity test methods. The TST approach analyzes data from a single concentration toxicity test compared to a control toxicity test when such toxicity tests are conducted using the required method under 40 CFR Part 136. Using the TST approach to interpret and analyze the resulting data from a 40 CFR Part 136 whole effluent toxicity (WET) test method does not result in changes to the WET test methods or USEPA method manuals. The TST approach does not alter any specified procedures in the test methods (e.g. organism age, food, temperature, exposure length), nor does it alter the number of concentrations required to be used in producing data. Therefore, the TST approach does not need to be approved at 40 CFR Part 136 since it is only a statistical analysis of the data and not a test method.

The TST approach provides greater confidence in the accuracy of the toxicity monitoring results as the TST approach minimizes both the occurrence of false negatives (i.e., declaring an effluent safe when it is actually toxic), and the occurrence of false positives (i.e., declaring an effluent toxic when it is actually not toxic). The findings of the peer-reviewed journal article by Diamond et al, 2013, found that the TST approach improves understanding of the discharge condition by correctly identifying toxic and non-toxic samples more often than when using the

NOEC-LOEC statistical approach. Using the TST approach, the San Diego Water Board and the District will have more confidence when making reasonable potential and permit compliance determinations as to whether the District's effluent discharge is toxic or non-toxic.

The Revised Tentative Order (**Supporting Document No. 1**) displays the changes made after the September 27, 2019 public release in red-underline for added text and ~~red-strikeout~~ for deleted text. Some changes have been made in response to the City's comments, while other changes were made to be consistent with the other three Tentative Orders for the Oceanside Ocean Outfall being considered by the San Diego Water Board at today's meeting under Agenda Item Nos. 12, 13, and 14.

SIGNIFICANT CHANGES

The following are the significant differences between the Tentative Order and the current Order:

1. The Tentative Order requires the City to evaluate the chronic toxicity in the discharge using USEPA's 2010 Test of Significant Toxicity (TST) hypothesis testing approach as described in Supporting Document No. 1, Attachment E, section III.C.
2. The Tentative Order adds a requirement to conduct a Plume Tracking Monitoring Program.
3. The Tentative Order reduces the receiving water monitoring frequency at nearshore and offshore stations from monthly to quarterly for fecal coliform and enterococci, and removes the requirement to monitor for total coliform at the nearshore and offshore stations, to help offset the costs of additional monitoring requirements and the development of a Plume Tracking Monitoring Program.
4. The Tentative Order adds a requirement to prepare and submit a Climate Change Action Plan within three years of the effective date of the Order.

COMPLIANCE RECORD

From March 2011 through June 2019, the City reported three illicit discharges, two effluent violations for the SLRWRF, 29 effluent violations for the LSWTP, two effluent violations for the MBGPF, three late reports, two deficient reporting violations, and 11 deficient monitoring violations. Details on these violations are contained in the compliance summary information provided in the Fact Sheet of the Tentative Order in Attachment F, section IID. To address these violations, the San Diego Water Board issued the City eleven staff enforcement letters and two administrative civil liabilities (ACLs) (Order No. R9-2013-0107, mandatory minimum penalties of \$3,000; and Order No. R9-2018-0159, ACL penalty of \$188,395 and Supplemental Environmental Project for \$135,998).

PUBLIC NOTICE

The Tentative Order was noticed and released for public review and comment on September 27, 2019, with comments due October 28, 2019. The Notice of Public Hearing and Comment Period was posted on the San Diego Water Board website for the duration of the comment period and sent to all interested parties. The Notice announced a public hearing to be held on December 11, 2019; availability of the Tentative Order for review; and provided instructions for submittal of written comments. A copy of the Notice is

provided in **Supporting Document No. 5**. Notice of the public hearing on the Tentative Order was also provided in the Meeting Notice and Agenda for the December 11, 2019 San Diego Water Board meeting, which is posted on the Board website.

SUPPORTING DOCUMENTS

1. Revised Tentative Order
2. Location Map
3. Comment Letter from the City of Oceanside
4. Response to Comments Document
5. Notice of Public Hearing and Comment Period