

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

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

ITEM 12

SUBJECT

NPDES Permit Reissuance: Waste Discharge Requirements for the Fallbrook Public Utility District, Fallbrook Water Reclamation Plant and Santa Margarita Groundwater Treatment Plant Discharge to the Pacific Ocean through the Oceanside Ocean Outfall (Tentative Order No. R9-2019-0169, NPDES No. CA0108031). (*Joann Lim and Keith Yaeger*)

STAFF RECOMMENDATION

Adoption of Tentative Order No. R9-2019-0169 (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

Fallbrook Public Utility District (District) is the owner and operator of the Fallbrook Water Reclamation Plant (WRP). The District is planning on constructing, owning, and operating the Santa Margarita Groundwater Treatment Plant (GTP). A description 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 Fallbrook WRP discharges up to 3.6 million gallons per day (MGD) of wastewater to the OOO. After the Santa Margarita GTP is online, the Fallbrook WRP and Santa Margarita GTP will have a combined discharge of up to 3.6 MGD; the District did not request an increase in its total discharge flow to the OOO. The OOO also receives discharges from 1) the City of Oceanside's San Luis Rey Water Reclamation Facility (SLRWRF), La Salina Wastewater Treatment Plant (LSWTP), and Mission Basin Groundwater Purification Facility (MBGPF); 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 is also being considered by the San Diego Water Board at today's meeting under Agenda Item Nos. 11, 13, and 14. The total permitted flow from all dischargers to the OOO is 41.5 MGD.

The Fallbrook WRP serves approximately 23,000 residents, treating predominately residential and commercial wastewater. All wastewater entering the Fallbrook WRP is tertiary treated for reuse within the District's service area and conveyance through the Fallbrook Land Outfall to a State of California Department of Transportation reuse site in Oceanside (regulated under separate waste discharge requirements Order No. 91-93). Tertiary-treated effluent from the Fallbrook WRP not distributed as recycled water is discharged to the OOO.

The Santa Margarita GTP is a component of the Conjunctive Use Project (CUP), a project proposed by the Marine Corps Base, Camp Pendleton; U.S. Department of the Interior, Bureau of Reclamation; and the District to resolve water rights issues between Marine Corps Base, Camp Pendleton and the District. The CUP proposes to capture surface runoff during high streamflow events in the Santa Margarita River that currently flows out to the Pacific Ocean, use the captured flow to recharge groundwater basins during wet years, and use the banked groundwater to augment water supplies during dry years, thereby reducing reliance on imported water. Raw groundwater would be pumped from the aquifer and conveyed to the Marine Corps Base, Camp Pendleton's water treatment plant (Advanced Water Treatment Plant at Haybarn Canyon) and to the Santa Margarita GTP to produce potable water. Raw groundwater delivered to the Santa Margarita GTP is expected to average 3,100 acre-feet per year and is not expected to exceed 800 acre-feet in any given month.

The Santa Margarita GTP will include an equalization tank, pretreatment oxidation with sodium hypochlorite, iron and manganese filters, sodium bisulfite and anti-scalant to protect the reverse osmosis (RO) units, RO demineralization, neutralization with sodium hydroxide, sodium hypochlorite for primary disinfection, and ammonia hydroxide to form a chloramine residual in the pipeline. Concentrated flows (i.e., waste brine) from the RO unit will be discharged to the Pacific Ocean through the OOO, with a maximum flow of about 0.65 MGD and a total dissolved solids concentration of 6,567 mg/L.

The discharge from the Fallbrook WRP to the OOO is currently regulated by Order No. R9-2012-0004, NPDES No. CA0108031. The Tentative Order will, if adopted, supersede Order No. R9-2012-0004 and reissue the NPDES Permit for the Fallbrook WRP discharge and proposed Santa Margarita GTP discharge to the OOO for a five-year term. The Tentative Order was developed based on information in the District's reissuance

application, self-monitoring reports, and other available sources (e.g. inspection reports, meetings, and emails with the District).

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 two comment letters on the Tentative Order during the comment period (**Supporting Document Nos. 3 and 4**) from the District and the Southern California Alliance of Publicly Owned Treatment Works. The comment letters have been provided to San Diego Water Board Members for consideration and are available for review by interested persons upon request. The Response to Comments Report (**Supporting Document No. 5**) 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 was provided to the Discharger.

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

- 1 *The District objects to the increase in monitoring requirements that will increase the cost of compliance with the Tentative Order. The District estimates an increase of approximately \$100,000 per year, which appears to be mostly driven by the cost of the plume tracking monitoring requirement.*

The District's comment on this issue is summarized and responded to in Comment No. 1.2 of the Response to Comments Report. The San Diego Water Board acknowledges that in some areas monitoring costs have increased. However, the District failed to account for the significant cost savings put in place in the Tentative Order that will help offset the costs of additional monitoring requirements not otherwise required by the Water Quality Control Plan Ocean Waters of California (Ocean Plan), such as reduced sampling for fecal indicator bacteria and sediment monitoring.

The District asserts that they received a quote for the plume tracking monitoring requirement from Scripps Institute of Oceanography (SIO) for \$1 million. The basis for the plume tracking cost estimate of \$1 million is unclear. While multiple methods exist for plume tracking, agencies from other ocean outfalls in the San Diego Region that have plume tracking requirements are tentatively proposing to use autonomous underwater vehicles (AUVs). At the San Diego Water Board's recent plume tracking workshop held on October 22, 2019, which the District attended, a presentation included an initial cost estimate from SIO of approximately \$100,000 per AUV deployment. The other agencies are proposing two AUV deployments, with a possibility of a third deployment depending on the results of the first two deployments. Assuming three AUV deployments, the total cost is estimated at around \$300,000 over the permit term. If the District does not agree with these costs, the Tentative Order allows the District to propose alternative plume tracking methods through a feasibility analysis.

To further reduce monitoring costs, the San Diego Water Board modified the Tentative Order to remove the requirement to monitor for fecal coliform, Enterococci, total nitrogen, and total phosphorous at mid-depth at the nearshore

monitoring locations (Attachment E section IV.B.1, Table E-7, Note 3), remove the requirement to monitor for the Human Marker HF-183 at the nearshore monitoring locations (Attachment E section IV.B.1, Table E-7, Footnote 5; Attachment E section IV.B.2.a; and Attachment F section VII.B.2.d), and reduce the monitoring frequency of total coliform at surf zone monitoring locations from five times per month to three times per month (Attachment E section IV.A, Table E-6; Attachment E section IV.A, Table E-6, Note 3; and Attachment F section VII.B.1).

- 2 *The District 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 Part 136.*

The District's comment on this issue is summarized and responded to in Comment No. 1.11 through 1.18 of the Response to Comments Report. The San Diego Water Board has determined that the effluent limitation for chronic toxicity is not warranted at this time. The District's discharge flowrate is under the 5 MGD threshold used by USEPA to define larger publicly owned treatment works (POTWS) where influent flows have higher risk of toxicity that can affect plant operations and effluent quality. The District's monitoring data from the previous Order shows no exceedances of the chronic toxicity performance goal. The District's service collection area is primarily residential sources with no known industrial sources and the District does not have an industrial pretreatment program. The Tentative Order retains chronic toxicity as a performance goal.

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 not toxic when it is actually toxic), and the occurrence of false positives (i.e., declaring an effluent toxic when it is actually not toxic). As described in the Tentative Order's Fact Sheet, Attachment F section IV.C.5, 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 No Observed Effect Concentration – Lowest Observed Effect Concentration (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 District's comments, while other changes were made to be consistent with the other three Tentative Orders for the OOO being considered by the San Diego Water Board at today's meeting under Agenda Item Nos. 11, 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 District 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. of the Tentative Order.
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 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 October 2012 to August 2019, the District reported four effluent violations for the Fallbrook WRP, one late report, and six 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 II.D To address these violations, the San Diego Water Board issued the District a Notice of Violation on August 7, 2013; staff enforcement letters on July 9, 2015, September 12, 2016, and March 14, 2017; and mandatory minimum penalties of \$3,000 on April 19, 2019.

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. 6**. 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 Fallbrook Public Utility District
4. Comment Letter from Southern California Alliance of Publicly Owned Treatment Works
5. Response to Comments Document
6. Notice of Public Hearing and Comment Period