

EXECUTIVE OFFICER SUMMARY REPORT
December 14, 2016

- ITEM: 6
- SUBJECT: Master Recycling Permit Reissuance: Carlsbad Municipal Water District, Carlsbad Water Recycling Facility, San Diego County (Tentative Order No. R9-2016-0183) (*Fisayo Osibodu*)
- PURPOSE: To consider adoption of Tentative Order No. R9-2016-0183 (Tentative Order).
- RECOMMENDATION: Adoption of Tentative Order No. R9-2016-0183 is recommended (Supporting Document No. 1).
- KEY ISSUES:
1. Adoption of the Tentative Order will allow Carlsbad Municipal Water District (District) to expand the wastewater treatment capacity from 4 to 7 million gallons per day (mgd) at the Carlsbad Water Recycling Facility (CWRF).
 2. The Tentative Order requires the District to ensure that recycled water and fertilizer are applied at rates that do not exceed plant demand in the use areas. In lieu of establishing a discharge specification for nitrogen, the Tentative Order requires the City to conduct a nitrate study to evaluate potential impacts of nitrogen in recycled water on groundwater quality.
- PRACTICAL VISION: The Tentative Order is consistent with the Chapter of the Practical Vision¹ pertaining to a Sustainable Local Water Supply. Continuing potable water conservation efforts facilitates the goal of increasing regional uses of recycled water as envisioned by the State Recycled Water Policy.²
- DISCUSSION: The Tentative Order replaces Order No. 2001-352, which established requirements for the production and purveyance of tertiary treated recycled water from the CWRF (Supporting

¹ Practical Vision: http://www.waterboards.ca.gov/sandiego/water_issues/Practical_Vision/index.shtml

² Recycled Water Policy: http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2013/rs2013_0003_a.pdf

Document No. 2). The CWRF receives secondary treated wastewater effluent from the Encina Water Pollution Control Facility and treats that waste stream to produce disinfected tertiary treated recycled water. Existing treatment facilities at the CWRF include an influent flow equalization basin, a granular media filtration system, a microfiltration system, a reverse osmosis system, a chlorine contact basin, a waste thickener, and a recycled water storage basin. The District's service area also benefits from the distribution of recycled water from the Vallecitos Water District Meadowlark Water Reclamation Plant and the Leucadia Wastewater District Gafner Water Reclamation Facility.

The District plans to expand the wastewater treatment capacity of the CWRF from 4 mgd to 7 mgd and the District submitted a Report of Waste Discharge (ROWD)³ for a revised Master Recycling Permit. The expansion of the CWRF will add new filtration and chlorine disinfection facilities. The District also plans to expand its recycled water distribution system by converting existing potable water facilities to recycled water use, and retrofitting landscape irrigation water systems to use recycled water. Most of the recycled water produced from the CWRF will be used for landscape irrigation at end use sites located in the District's service area.

The Order eliminates the daily maximum and 30 day average discharge specifications for chloride and boron, and eliminates the daily maximum discharge specifications for total dissolved solids (TDS) and sulfate. Exceedances of daily maximum and 30-day average discharge specifications are not likely to result in exceedances of water quality objectives in receiving groundwater as long as the average quality of the effluent meets discharge specifications over the longer term. This change should improve the District's ability to comply with the master recycling permit without causing exceedances of water quality objectives in receiving groundwater.

The Tentative Order requires the District to conduct a nitrate study which evaluates impacts of nitrogen in recycled water on groundwater quality in lieu of establishing a discharge specification for nitrogen in the permit. Nitrogen is a nutrient utilized by vegetation for plant growth. The *Rules and Regulations for Recycled Water Use* (Supporting Document

³ ROWD dated May 23, 2016

No. 1, Attachment B) in the Tentative Order require the end users to ensure that recycled water and fertilizer are applied at appropriate rates that meet nutrient demand and prevent excess nitrogen from leaching beyond the plant root zone into groundwater. The nitrate study will also allow the District to demonstrate that nitrogen is applied at agronomic rates in the end use areas and to determine if nitrogen losses due to volatilization and denitrification are sufficiently protective mechanisms to prevent adverse effects upon groundwater quality and beneficial uses.

The District has established a recycled water fill station from which customers can haul recycled water for various non-potable reuses such as irrigation, dust control at construction sites, street sweeping, and firefighting. As a result, the Tentative Order establishes requirements to ensure that the transport and reuse of recycled water from the fill stations is protective of water quality, public health, and the environment.

Written comments on the Tentative Order and the Information Sheet were only received from the District (Supporting Document No. 3). Responses to these comments are included in the agenda package (Supporting Document No. 4). Changes made to the Tentative Order (Supporting Document No. 5) as a result of the District's comments include delaying the effective date of the monitoring and reporting program till January 1, 2017, postponing the deadline for the District to submit the nitrate study, and making revisions to clarify specific findings and provisions in the Tentative Order. The changes made to the Tentative Order as a result of the District's comments are shown in underline/strikeout format. A clean copy of the Tentative Order is included as Supporting Document No. 1.

LEGAL CONCERNS: None.

SIGNIFICANT CHANGES:

1. The Tentative Order eliminates the discharge specification for daily maximum concentrations for TDS, chloride, sulfate, and boron; as well as the 30-day average discharge specifications for chloride and sulfate.
2. The Tentative Order adds new provisions for the safe transport and reuses of recycled water from the District's recycled water fill station.

**COMPLIANCE
RECORD:**

The District consistently violated the discharge specifications for iron and manganese until its permit was revised in 2012. In June 2011, the District submitted a request for modification of the discharge specifications for iron and manganese. In response to the District's request, the San Diego Water Board revised the District's permit in 2012 to eliminate the 30 day average and daily maximum discharge specifications for iron and manganese. The annual average discharge specifications for all constituents in the District's permit were also changed from running averages to calendar averages. The discharge has been in compliance with all the discharge specifications since the permit was revised in 2012.

**SUPPORTING
DOCUMENTS:**

1. Tentative Order No. R9-2016-0183.
2. Map of Carlsbad Municipal Water District's Service Area.
3. Written Comments.
4. San Diego Water Board Responses to Comments.
5. Revised Tentative Order.
6. Transmittal Letter and Public Notice.

PUBLIC NOTICE:

Notification of this action was sent to known interested parties by mail and email on October 14, 2016 (Supporting Document No. 6). The tentative Order was also posted on the San Diego Water Board website on October 14, 2016.