

ITEM: 28

SUBJECT: City of Turlock Regional Water Quality Control Facility and City of Modesto Water Quality Control Facility, North Valley Regional Recycled Water Program, Stanislaus County

BOARD ACTION: *Consideration of New NPDES Permit (NPDES Permit No. CA0085316)*

BACKGROUND: The City of Turlock is the owner and operator of the City of Turlock Regional Water Quality Control Facility (RWQCF), a publicly-owned treatment works (POTW) located at 901 S. Walnut Road, Turlock, California. RWQCF provides sewerage services for the City of Turlock and the community service districts of Denair and Keys, and receives up to 2 million gallons per day (MGD) of primary treated effluent from the City of Ceres. RWQCF serves a population of approximately 88,000. RWQCF is designed to provide tertiary treatment for up to 20 MGD.

The City of Modesto is the owner and operator of the City of Modesto Water Quality Control Facility (WQCF), a POTW located at 1221 Sutter Avenue, Modesto, California. The WQCF provides sewerage services for the City of Modesto, the community of Empire, and a portion of the City of Ceres, serving a population of approximately 256,000. The City of Modesto is currently expanding the tertiary treatment capacity of the WQCF from 2.3 MGD to 14.9 MGD.

The Cities of Modesto and Turlock (Dischargers) and the Del Puerto Water District are partner agencies for the North Valley Regional Recycled Water Program (NVRWP). Discharges from the City of Turlock RWQCF and the City of Modesto WQCF (Facilities) are currently regulated by Waste Discharge Requirements Orders R5-2015-0027 and R5-2012-031, respectively, for discharges to the San Joaquin River. The proposed new Order and NPDES permit would regulate the surface water discharge from the Facilities to the Delta-Mendota Canal, a water of the United States, via the NVRWP Joint Outfall. NVRWP proposes to introduce and convey up to 59,000 acre-feet per year (52.7 MGD average dry weather flow at build out) of tertiary treated wastewater from the Facilities via a pipeline to the Delta-Mendota Canal, where it will be beneficially reused by agricultural users within the Del Puerto Water District via diversions at locations downstream of the outfall. NVRWP will also provide recycled water to supplement the irrigation of south of Delta refuges downstream of the Delta-Mendota Canal. The United States Environmental Protection Agency and the Central Valley Regional Water Quality Control Board (Central Valley Water Board) have classified this discharge a major discharge.

ISSUES: A Notice of Public Hearing was sent to the Dischargers and interested parties on 25 November 2015 for a 30-day public comment period. Public comments on the tentative Order were received on 28 December 2015 from the Discharger, Central Valley Clean Water Association (CVCWA), the United States Bureau of Reclamation (USBR), and the State Water Contractors (SWC). The Dischargers and CVCWA are not contesting the proposed Order. Detailed comments and responses are included in the Staff Response to Comments document included in the agenda package. The following is a summary of the comments on the major permitting issues and Central Valley Water Board staff responses.

***Monitoring and Reporting Program.*** USBR requested that the proposed Order include electrical conductivity monitoring at the combined outfall (EFF-002). USBR and SWC both requested that effluent monitoring for constituents of emerging concern (CEC's) are included in the proposed Order. SWC also requested that the proposed

*Order include monitoring of the combined effluent for nutrients (nitrate, ammonia, total Kjeldahl nitrogen, and total phosphorus), pathogens (Cryptosporidium and Giardia), and microcystin.*

At this time there is no standardized protocol for CEC monitoring or interpretation of results for surface water discharges. USBR recommended use of the monitoring requirements per the State Water Board's recycled water general permit. However, the factors for developing the CEC monitoring for the recycled water permit would not be the same for this situation. There will be significant dilution and environment factors that may degrade these constituents. Central Valley Water Board staff are working with State Water Board staff to conduct CEC studies and monitoring in a representative manner. With regard to microcystin monitoring, no changes are proposed to the Order. This monitoring would need to be done as part of a coordinated regional effort that would establish baseline conditions in the DMC and consider shifts in microcystin with other available information (e.g., nutrients, flow, light, nutrient ratios, etc.). The Central Valley Water Board is implementing the Delta Nutrient Research Plan that will provide the information needed to develop a nutrient monitoring plan. With regard to nutrient and pathogens monitoring, the proposed Order has been modified to add monthly nutrient monitoring and quarterly Cryptosporidium and Giardia monitoring during the one-year effluent and receiving water characterization monitoring.

***Surface Water Augmentation.*** *SWC requests that the Regional Water Board determine, in consultation with State Water Resources Control Board Division of Drinking Water (DDW), appropriate permit requirements and conditions applicable for a surface water augmentation project in order to be fully protective of public health and downstream drinking water uses.*

Central Valley Water Board staff consulted with DDW regarding the classification of NVRRWP as a drinking water Surface Water Augmentation project and requested a recommendation for the level of treatment to protect public health and downstream drinking water uses. DDW staff concluded that they would not classify NVRRWP as a drinking water Surface Water Augmentation project, for which DDW is currently developing regulations. To protect public health DDW staff recommended the proposed Order require the discharge meet the requirements of California Code of Regulations, Title 22, sections 60301.230 and 320, and section 60321 for tertiary recycled water. The proposed Order implements DDW's recommendations.

***Nutrient Discharge Limits.*** *SWC requests that the Regional Water Board include language in the NPDES Permit to further support nutrient controls for effluent discharge to DMC to prevent adverse impacts on downstream drinking water uses. The State Water Project and Central Valley Project are experiencing algae and aquatic macrophyte growth in the aqueducts and reservoirs. The Tentative Permit lacks protection of SWP drinking water supplies through the current provisions. In addition to the proposed nitrate plus nitrite effluent limitation of 10 mg/L, the permit should require phosphorus removal and optimization of denitrification treatment processes to maintain levels below permit requirements as deemed feasible.*

The proposed Order recognizes the issues discussed in SWC's comments. Accordingly, the proposed Order includes effluent limitations for ammonia and nitrate plus nitrite that requires the facilities implement advanced nutrient removal. There are currently no numeric water quality objectives for nutrients (e.g., total nitrogen and phosphorus) applicable to the receiving water for the specific impacts discussed in SWC's comments. The effect of nutrients is complex, and there are many factors that

impact algal growth, such as water temperature, residence time, and light limitation. A regional approach to evaluate nutrients is needed, rather than individual monitoring or studies. As part of its 2014 Delta Strategic Work Plan, the Central Valley Water Board is implementing the Delta Nutrient Research Plan to evaluate the need for nutrient objectives to protect beneficial uses of the Delta. The proposed Order includes a reopener provision that if applicable nutrient objectives are adopted by the Central Valley Water Board the Order may be reopened to implement the objectives. Furthermore, if data needs are identified the permit could be reopened to require additional monitoring.

RECOMMENDATION: Adopt NPDES Permit.

Mgmt. Review \_\_NM\_\_\_\_

Legal Review \_\_SY\_\_\_\_

18/19 February 2016

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