NPDES Permit Renewal Issues
Drinking Water Supply and Public Health
Sacramento Regional County Sanitation District
Sacramento Regional Wastewater Treatment Plant
14 December 2009

Background/Purpose

Central Valley Regional Water Quality Control Board (Central Valley Water Board) staff is currently developing the National Pollutant Discharge Elimination System (NPDES) permit renewal for the Sacramento Regional County Sanitation District's (SRCSD) Sacramento Regional Wastewater Treatment Plant discharge to the Sacramento River. The proposed permit renewal is scheduled to be considered by the Central Valley Water Board for adoption in 2010. The existing NPDES permit (Waste Discharge Requirements Order No. 5-00-188[1]) regulates the discharge of secondary treated municipal wastewater up to 181 million gallons per day (mgd) to the Sacramento River, within the Sacramento-San Joaquin Delta (Delta). For the proposed permit renewal, the SRCSD is requesting an increase of its permitted average dry weather discharge flow from 181 mgd to 218 mgd.

The purpose of this issue paper is to identify issues and provide information regarding the NPDES permitting requirements necessary to protect the municipal and domestic supply (MUN) beneficial use of the Delta (e.g., drinking water supply issues). Issues regarding public health protection due to public contact with treated wastewater are also discussed in this issue paper (e.g., disinfection issues). In this issue paper we are requesting public comments and/or data from interested stakeholders to assist Central Valley Water Board staff in developing NPDES permit requirements for the surface water discharge.

Setting

Sacramento Regional Wastewater Treatment Plant (SRWTP) - The SRWTP is a publicly owned treatment works (POTW) that serves about 1.3 million people in the greater Sacramento area, including the Cities of Folsom, Rancho Cordova, West Sacramento, Sacramento, Elk Grove and Citrus Heights, and urbanized areas of Sacramento County. The SRWTP is located in Elk Grove and discharges disinfected secondary treated wastewater to the Sacramento River immediately below the Freeport Bridge. The existing secondary treatment at the facility consists of preliminary screening and grit removal, primary sedimentation, a pure oxygen activated sludge treatment system, and chlorination and dechlorination for disinfection. The current permitted capacity of the SRWTP is 181 mgd (average dry weather flow) and current flows average 141 mgd. The SRCSD has requested an increase of the permitted average dry weather flow from 181 mgd to 218 mgd to accommodate future growth in the Sacramento area. Because SRWTP is a regional facility, SRCSD's current permitted discharge (181 mgd) represents nearly 60% of all POTW discharges to the Delta as shown in Figure 1, below.

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[1] Order No. 5-00-188 was adopted 4 August 2000 and expired 1 August 2005. The SRCSD submitted a complete Report of Waste Discharge and application for renewal on 1 February 2005 The expired permit has been administratively extended until the renewed permit is adopted in accordance with Federal Regulations (40 CFR 122.6)

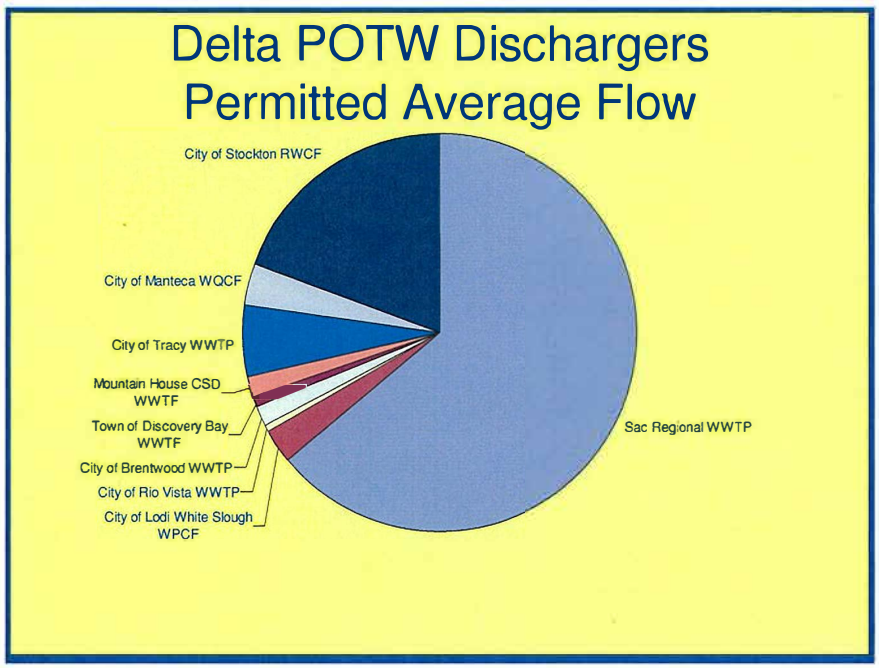

Figure 1 – Delta POTW Dischargers Permitted Average Flow

The secondary treated effluent is discharged through a diffuser on the bottom of the Sacramento River where the river surface width is approximately 600 feet wide. The outfall diffuser is approximately 300 feet long with 74 ports and is placed perpendicular to the river flow. At times, due to tidal activity during low flows, the river flows in the reverse direction northeast towards the City of Sacramento.

The Delta - The discharge is to the Sacramento River within the Delta. The Delta comprises over 700 miles of interconnected waterways and encompasses 1,153 square miles. The Delta is home to over two hundred eighty species of birds and more than fifty species of fish, making it one of the most ecologically important aquatic habitats in the State. Drinking water for over 25 million Californians is pumped from the Delta via the State Water Project, Central Valley Water Project, and local water intakes. The Delta supports California's trillion dollar economy with $27 billion annually for agriculture. Additionally, the Delta has 12 million user days for recreation each year.

Beneficial Uses and Water Quality Objectives - The Central Valley Water Board adopted the Water Quality Control Plan for the Sacramento and San Joaquin River Basins (Basin Plan). The Basin Plan designates beneficial uses for the Sacramento River and the Delta. The Basin Plan includes, in part, the following beneficial uses for the Delta: municipal and domestic water supply (MUN), water contact recreation (REC-1) non-contact water recreation (REC-2), and agricultural water supply (AGR).

To protect these beneficial uses the Basin Plan contains both numeric and narrative water quality objectives. Numeric water quality objectives are included through the Basin Plan's chemical constituents objective, which include California Department of Public Health (DPH) primary and secondary Maximum Contaminant Levels (MCLs) and site-specific trace element water quality objectives (see Table 1).