

STAFF REPORT

MALAGA COUNTY WATER DISTRICT MALAGA WASTEWATER TREATMENT FACILITY FRESNO COUNTY

INTRODUCTION

Malaga County Water District (hereafter District) owns and operates a wastewater treatment and disposal facility (WWTF) that provides sewage service to approximately 1,000 residents and various light industries in the unincorporated community of Malaga. The WWTF is surrounded by the Central Canal, Santa Fe Railroad tracks, and by retail/industrial businesses.

The reported design treatment and disposal capacity of the WWTF is 1.2 million gallons per day (mgd). Up to 0.45 mgd can be discharged to the Central Canal by pending permit and the remainder is disposed of by evaporation and percolation in ponds. Pond capacity, however, is currently less than design due to deferred pond maintenance. Further, several treatment components are inoperable due to deferred maintenance making treatment capacity less than the design. Current flows are inaccurately measured, but indicate that estimated actual capacities are exceeded. As the pending permit authorizes discharge up to the design capacities, an enforcement order is needed to ensure the Discharger addresses the gaps between actual and design capacities.

Cease and Desist Order (CDO) No. 5-01-001, adopted on 26 January 2001, required the District install proposed tertiary treatment units and disinfection equipment to enable discharge to the Central Canal. The discharge was expected to provide relief from what had been complete reliance on disposal by ponds, which had by then already proven to have less than their design disposal capacity. The Order also addressed other matters, but is not applicable to the current problem. Hence, the proposed action would include rescission of CDO Order No. 5-01-001.

Staff proposes that the Board adopt a new CDO that requires the District to address maintenance, capacity, and monitoring issues and that rescinds CDO Order No. 5-01-001.

BACKGROUND

The District's maintenance and capacity issues go back many years. In 1997, the WWTF consisted of a 1.2 mgd activated sludge treatment system and 27 acres of evaporation/percolation ponds. Even then the District continually violated the standard freeboard requirements of WDRs Order No. 85-157 at an influent flow of 0.7 mgd. The District then proposed installation of tertiary treatment units and disinfection units to enable it to seasonally discharge a portion of its effluent to the Central Canal. The seasonal discharge was intended to enable the District to dry its ponds in sequence so they could be maintained (e.g., disked and ripped) to restore the original design percolation rates. WDRs Order No. 99-100 authorized the discharge of 0.35 mgd to the Central Canal.

Prior to completion of the tertiary treatment and disinfection units, the District proposed on 27 January 2000 an emergency discharge to the Canal to alleviate the freeboard conditions in the ponds that threatened levee failure. During February and March 2000, the Discharger

discharged a total of approximately 10 million gallons of partially treated wastewater to the Canal. The Discharger also constructed a one-foot deep temporary pond (hereafter 'temporary pond') adjacent to an existing disposal pond to provide additional percolation and storage capacity. It did not submit an engineering report detailing the pond's design, capacity, or operating conditions. On 1 August 2000, Regional Water Board staff observed an unknown quantity wastewater had spilled from the temporary pond onto adjacent property. The wastewater was reportedly disinfected.

Due to these problems and others concerning violation of limits and failure to implement pretreatment as directed in WDRs Order 99-100, the Regional Water Board adopted CDO No. 5-01-001 on 26 January 2001 to compel the District install the proposed tertiary treatment and disinfection units.

The District completed the tertiary/disinfection units in January 2002 and began to discharge to the canal. The proposed seasonal discharge to the canal became year-round almost immediately.

CURRENT SITUATION

The hydraulic relief to ponds provided by initiation of the canal discharge has not been enough to enable the essential maintenance to be performed on the ponds, as the District has yet to take any of ponds offline for the maintenance. To provide further relief, the Discharger's engineer re-evaluated the tertiary components and certified a capacity of 0.45 mgd. WDRs Order No. 2008-_____ (pending) allows discharge of up to 0.45 mgd to Central Canal.

In 2006 the Discharger's engineer calculated the total disposal capacity of the WWTF with a 0.45 mgd NPDES discharge and storage and disposal capacity of the ponds complying with waste discharge requirements (minimum freeboard and drawdown requirements, as well as routine maintenance) and infiltration constraints as about 0.87 mgd. Hence, pond disposal capacity under terms that conform to waste discharge requirements was determined by the Discharger's engineer to be 0.42 mgd until restoration of sustainable long-term infiltration rates could be achieved.

Influent flow rates into the WWTF increased in 2007: the reported average influent flow for 2007 was approximately 0.9 mgd and the monthly average flow reported for September 2007 was 1.02 mgd. This means, given that the canal discharge did not exceed 0.35 mgd, that discharge to the ponds averaged 0.55 mgd in 2007. The District, as it has for the past six or seven years, continued to operate with less than the minimum operating freeboard. Self-monitoring reports indicate the District has had less than the minimum requirement approximately 75% of the time since 2005.

Staff observations and District monitoring data indicate that the disposal capacity of the ponds is less than the engineer determined and used in the 2006 RWD water balance. That water balance used a pond percolation rate of 0.05 feet/day calculated using a non-representative

influent value. Regional Water Board staff noted in a 31 October 2007 inspection that the influent meter readings include a recirculated waste stream from the grit washer. According to the operator, no adjustments to the readings are made to account for the recirculation. As ongoing influent readings contain the same error, they remain good for comparative purposes.

From all indications the Discharger has allowed influent to more than consume any net relief benefit it might gain for ponds from the 0.1 mgd increase in the discharge to the canal. Its water balance assumed 0.8 mgd total flow and current total flows are averaging 0.9 mgd. Further, it is well behind as it has no available capacity, it is the middle of a wet season, and flow has increased. The water balance assumes an ongoing, sustainable condition. Consequently, the Discharger has virtually assured continuous freeboard violations and no opportunity to correct the situation, creating a probability of levee failure or overtopping unless discharge to the canal exceeds tertiary capacity and the effluent flow limitation. Breach or overflow of pond levees will cause uncontrolled discharges of partially treated wastewater to surrounding areas, causing potential nuisance. Fortunately, low precipitation in 2007 helped prevent this.

Regional Water Board staff observed the primary clarifier/dissolved air flotation unit, as well as two of the WWTF's three secondary clarifiers, out of service. The District's consultant reported in a 9 February 2007 memo to the Board that construction was anticipated to begin in April 2007 on the coating of the interior of the primary clarifier, and that this would be completed by May 2007. In a 22 February 2007 memo, the consultant reported the capacity of the remaining clarifier was 0.863 mgd, which is below the current average daily flow and well below the design capacity. In that memo, the consultant stated that a schedule for repair of the secondary clarifiers would be submitted. No schedule has been submitted yet and the work on the clarifier/dissolved air flotation unit promised for completion by May 2007 remains uncompleted.

A significant gap exists between both actual and design treatment as well as disposal capacity. Flow limitations in WDRs Order No. 2008-00__ (pending) generally reflect design capacity. The gap must be remedied before other violations and possible nuisance conditions develop and an enforcement document is the appropriate means to do that.

The Regional Water Board adopted CDO No. 5-01-001 for violations of WDRs Order No. 99-100, including violations of minimum freeboard requirements, exceedances of EC, turbidity, and chlorine residual limitations and failing to develop a pretreatment program. CDO No. 5-01-001 required the Discharger primarily to complete its proposed tertiary filters and chlorination and dechlorination units, and to submit an updated pretreatment program. As mentioned, the Discharger completed the tertiary treatment units in January 2002. The Discharger has also submitted a revised pretreatment program, which WDRs Order No. 2008-00__ (pending) approves. As CDO No. 5-01-001 enforces violations and threatened violations of WDRs Order No. 99-100, which is being updated, and as the Discharger has substantially completed the compliance tasks in CDO No. 5-01-001, it is appropriate to rescind the CDO and replace it with an updated version.

CONDITIONS OF DISCHARGE

Waste Discharge Requirements Order No. R5-2008-_____, NPDES No. CA0084239, specifies, in part, the following:

Discharge Prohibitions, III.A.-C., which state:

- A. Discharge of pollutants or wastewater at a location or in a manner or of a character substantively different from that described in the Findings is prohibited.
- B. The by-pass or overflow of wastes from the Facility is prohibited, except as allowed by federal Standard Provisions I.G. and I.H. (Attachment D).
- C. Creation of a condition of pollution or nuisance, as defined in Section 13050 of the California Water Code, is prohibited.

Provision VI.C.4.a.ii., which states:

Ponds shall have sufficient capacity to contain all wastewater volume generated annually that cannot be reliably and consistently disposed of by evaporation and percolation from the ponds, or discharged at Discharge Point D-001, including ancillary inflow and infiltration and design seasonal precipitation. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.

Provision VI.C.4.a.iii. which states:

Prior to the onset of the rainy season of each year, available pond storage capacity shall at least equal the design volume necessary to comply with the previous paragraph.

Provision VI.C.4.a.iv. which states:

The Discharger shall maintain and operate all ponds sufficient to protect the integrity of containment levees and prevent overtopping or overflows. Unless a California civil engineer certifies (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, the operating freeboard in any pond shall never be less than two feet (measured vertically)...

Provision VI.C.6.k. which states:

Physical facilities shall be designed and constructed according to accepted engineering practice and shall be capable of full and consistent compliance with this Order when properly operated and maintained...

Provision VI.A.1., which requires compliance with Standard Provisions in Attachment D. Attachment D, Standard Provisions I.D. states:

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve

compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures...

Standard Provision III.A, and Monitoring and Reporting Program, General Monitoring Provision I.A, which state, respectively, the following:

Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR 122.41(j)(1).)

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of this Regional Water Board.

PROPOSED CDO AND STAFF RECOMMENDATIONS

The situation at the Malaga WWTF as described above and as more specifically documented in the proposed cease and desist order indicates that the District violates or threatens to violate the waste discharge requirements cited above as part of WDRs Order No. 5-2008-____.

Section 13301 of the California Water Code (CWC) states, in part, that:

When a regional board finds that a discharge of waste is taking place or threatening to take place in violation of requirements or discharge prohibitions prescribed by the regional board or the state board, the board may issue an order to cease and desist and direct that those persons not complying with the requirements or discharge prohibitions (a) comply forthwith, (b) comply in accordance with a time schedule set by the board, or (c) in the event of a threatened violation, take appropriate remedial or preventive action. In the event of an existing or threatened violation of waste discharge requirements in the operation of a community sewer system, cease and desist orders may restrict or prohibit the volume, type, or concentration of waste that might be added to such system by dischargers who did not discharge into the system prior to the issuance of the cease and desist order. Cease and desist orders may be issued directly by a board, after notice and hearing, or in accordance with the procedure set forth in Section 13302.

Section 13267 of the CWC states, in part, that:

...the regional board may require that any person who has discharged, discharges,... waste within its region ...shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires.

The proposed CDO directs the District to resolve the violations and threatened violations in accordance with prescribed tasks and time schedules. These include tasks for providing representative monitoring of flow, providing treatment capacity equal to the total authorized flow, providing disposal capacity equal to the total authorized flow, and projecting needs to meet the demands of the service area through 2028.

SUMMARY

Due largely to deferred maintenance, the actual treatment and disposal capacity of the WWTF is considerably less than authorized by permit. This has caused extended freeboard violations, and threat of nuisance. Corrections are overdue. A CDO establishing a time schedule to for modifications and repairs is appropriate.