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Central Valley Regional Water Quality Control Board

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21 November 2017

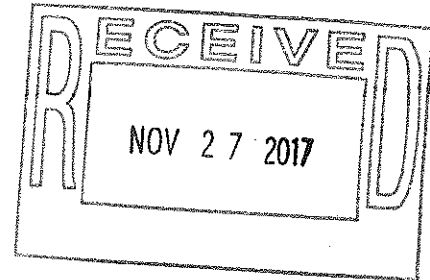
**REVISED COPPER, CYANIDE, NITRATE PLUS NITRITE POLLUTION PREVENTION PLAN;
CEASE AND DESIST ORDER R5-2014-0146; MALAGA COUNTY WATER DISTRICT;
WASTEWATER TREATMENT FACILITY; FRESNO COUNTY**

On 20 January 2016, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) provided a review of the Malaga County Water District's (District) Copper, Cyanide, and Nitrate plus Nitrite Pollution Prevention Plan. The Central Valley Water Board directed the District to revise the Pollution Prevention Plan in order to fully satisfy the requirements of Cease and Desist Order R5-2014-0146, Provision 5, Task 5a. The District submitted a revised Pollution Prevention Plan on 15 May 2017 to address the concerns raised in the 20 January 2016 review.

We have reviewed the 15 May 2017 revised Pollution Prevention Plan. As detailed in the enclosed memorandum, the revised Pollution Prevention Plan and associated cover letter satisfy the requirements of California Water Code, Section 13263.3 and include a commitment to perform specific pollution prevention activities. Therefore, the District's revised Pollution Prevention Plan fulfills Cease and Desist Order R5-2014-0146, Provision 5, Task 5a.

If you have any questions regarding this matter, please contact Nicolette Dentoni at (559) 444-2505 or at Nicolette.Dentoni@waterboards.ca.gov.

MATTHEW S. SCROGGINS
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Enclosure: 21 November 2017 Memorandum

cc: Charles Garabedian, Jr., President, Malaga County Water District, Fresno, CA

Central Valley Regional Water Quality Control Board

TO: Matt Scroggins
Senior Water Resource Control Engineer
Central Valley Regional Water Quality Control Board

FROM: Nicolette Dentoni
Water Resource Control Engineer
Central Valley Regional Water Quality Control Board

DATE: 21 November 2017

SUBJECT: REVISED COPPER, CYANIDE, NITRATE PLUS NITRITE POLLUTION
PREVENTION PLAN; MALAGA COUNTY WATER DISTRICT;
WASTEWATER TREATMENT FACILITY; FRESNO COUNTY

Background

On 20 January 2016, the Central Valley Water Quality Control Board (Central Valley Water Board) provided a review of the Pollution and Prevention Plan (PPP) for the Malaga County Water District (District), Wastewater Treatment Facility (Facility). The review identified deficiencies in the submittal, including a lack of commitment to implement any pollution prevention measures. The District provided a revised PPP on 15 May 2017 prepared by Provost and Pritchard Consulting Group. The following is a review of the revised submittal to determine compliance with the requirements of Cease and Desist Order R5-2014-0146, Provision 5, Task 5a.

Analysis of Pollutant Sources

The District, in accordance with California Water Code, section 13263.3(d)(3)(A), is required to estimate all sources and potential sources of copper, cyanide, and nitrate plus nitrite contributing to the loading of these pollutants in the treatment plant influent. The Revised PPP presents average concentrations and mass loadings for ammonia, nitrate, cyanide, and copper from the water supply, residential users, industrial users, and sampled commercial users.

The Revised PPP assesses the generation and discharge of nitrate plus nitrite in conjunction with ammonia. Data show the highest ammonia loading is from residential and commercial sources. Cyanide was not detected in the supply water, and low detections were recorded for the other sources. Of the data presented, the most significant source of cyanide is attributed to Significant Industrial Users (SIUs) at a loading of 0.01 lbs/day. Data for copper show the highest loading from SIUs and the highest concentrations from commercial truck washes.

California Water Code, section 13263.3(d)(3)(B) requires publicly owned treatment works (POTWs) to identify any sources or potential sources that are not within the ability or authority of the POTW to control. Included in this analysis should be an estimate of the magnitude of those sources. The District notes that ammonia is an intrinsic constituent of domestic wastewater and beyond the ability of the District to control.

Pollution Prevention Activities

California Water Code, section 13263.3(d)(3)(G) requires dischargers to include a description of existing pollution prevention programs. The Revised PPP states that there are not existing pollution prevention methods, aside from the existing local limit for copper.

California Water Code, section 13263.3(d)(3)(B) requires dischargers to conduct an analysis of the methods that could be used to prevent the discharge of the pollutants into the POTW, including application of local limits, public education and outreach, and other innovative and alternative approaches to reduce discharges of the pollutants to the POTW. California Water Code, section 13263.3(d)(3)(C) requires dischargers to approximate load reductions achievable through these methods.

Prior to submittal of the Revised PPP, the District submitted a Local Limits Study to the Central Valley Water Board for review. The Local Limits Study was reviewed on 21 July 2017, requiring a few revisions. The District submitted a revised Local Limits Study on 22 September 2017, which has yet to be reviewed by the Central Valley Water Board. Included in the revised Local Limits Study are the proposed limitations for ammonia, copper, and cyanide:

- Ammonia is proposed to be limited to 15.6 mg/L and was not previously limited for the industrial and commercial dischargers. Loading from the SIUs is relatively small, but commercial dischargers contribute to a larger loading, at 6.79 lbs/day. One specific discharger, Kinder Morgan, contributes 91 mg/L (6.39 lbs/day) of ammonia. If this commercial discharger reduced its effluent to the proposed local limit of 15.6 mg/L (1.09 lbs/day), ammonia loading to the POTW would be reduced by 5.3 lbs/day.
- Copper was previously limited at 5 mg/L, and the proposed new local limit is 0.07 mg/L. Industrial dischargers contribute a larger mass loading of copper than commercial dischargers, but typically industrial users discharge within the proposed local limits. Reduction of the local limit would result in a decrease in mass loading from commercial truck washes from 0.012 lbs/day to 0.007 lbs/day.
- Cyanide is proposed to be limited to 0.02 mg/L and was not previously limited for the industrial and commercial dischargers. This limit would not significantly affect the dischargers, since concentrations are already lower than the limit, but implementing this local limit would prevent increases in discharge.

To address nitrate and ammonia further, the District has been in the process of evaluating options for providing denitrification at the Facility. While treatment at the Facility is not a pollution prevention method, it will serve to reduce the Facility's effluent concentration of nitrate. The Revised PPP states that the District is pursuing aeration process modifications to facilitate denitrification. The District anticipates completion of the project by the end of 2017. After completion of the initial alterations, the process would be reevaluated for the need for additional modifications. The District intends for modifications to reduce the effluent nitrate below 10 mg/L, which would result in at least a 17.9 lbs/day effluent load reduction from the current averages presented in the Revised PPP.

California Water Code, section 13263.3(d)(3)(I) requires dischargers to include an analysis, to the extent feasible, of the costs and benefits that may be incurred to implement the pollution prevention program. The District notes that a full analysis of the costs and benefits of all potential pollution prevention measures cannot be conducted until further characterization monitoring is conducted. Included in the Revised PPP is a monitoring plan to target several

locations in the collection system, at the Facility, and in the water supply for presence of ammonia, nitrate, copper, and cyanide. The District proposes to sample these locations once every two weeks for two months. The District's Third Quarterly 2017 Pretreatment Report states that this initial monitoring program has been completed, and a new monitoring plan is being drafted to fill in sampling gaps in the discharge from residential and commercial users. The District states that this characterization monitoring will be used in the future to identify sources to the Facility with the greatest potential of load reduction.

Implementation Plan

California Water Code, section 13263.3(d)(3)(F) requires dischargers to state pollution prevention plan goals and strategies, including the plan's short term and long term priorities. The Revised PPP's stated goals are to gather water quality data to control the concentrations of nitrate, copper, and cyanide to the Facility and to achieve compliance with the permit. The described short-term priorities of the plan are to implement the monitoring program and pollution prevention measures. Long-term priorities of the plan are to continue the ongoing Facility monitoring to document effluent trends for a determination of whether pollution prevention efforts are working. Other long-term strategies of the Revised PPP are to denitrify, permit commercial and industrial dischargers as appropriate, and implement options to minimize ammonia from residential users.

California Water Code, section 13263.3(d)(3)(E) requires a description of the tasks, cost, and time required to investigate and implement various elements in the pollution prevention plan. Included in the Implementation Plan section of the Revised PPP is a table listing specific elements to pursue. The table identifies a monitoring program, evaluation of residential discharges, ongoing Facility monitoring, installation of a denitrification system, evaluation of the success of denitrification efforts, implementation of local limits, updated pollution prevention actions and findings, and an updated sampling plan. Approximate costs and estimated time requirements are also listed. The cover letter associated with the Revised PPP confirms that the District will implement or has implemented these steps.

As described in California Water Code, section 13263.3(d)(2)(D), a monitoring plan is required for monitoring the results of the pollution prevention program. The District states that the regular monitoring conducted for the NPDES permit will be sufficient to determine the success of the pollution prevention measures.

California Water Code, section 13263.3(d)(3)(H) requires pollution prevention plans to include an analysis of any adverse environmental impacts, including cross media impacts or substitute chemicals that may result from the implementation of the pollution prevention program. The Revised PPP states that currently there are no known adverse environmental impacts. Additionally, the implementation of nitrification/denitrification upgrades at the Facility may include a California Environmental Quality Act effort to identify environmental impacts at a later date.

Conclusion

The denitrification commitment, Local Limits assessment, and the rest of the Implementation Plan should be sufficient to address the copper, cyanide, and nitrate plus nitrite contribution to and from the Facility in concentrations exceeding effluent limitations. The plan provides denitrification, which will continue to be relevant to the Facility's discharge outside of the NPDES program. Based upon this review, the District has satisfied the requirement to submit a pollution prevention plan for nitrate plus nitrite, copper, and cyanide, pursuant to California Water Code, section 13263.3.