

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

STAFF REPORT FOR REGULAR MEETING OF May 9, 2008
Revised on April 4, 2008

ITEM NUMBER: 20

SUBJECT: Resolution No. R3-2008-0025; modification to the molybdenum effluent limitations in the City of Lompoc Wastewater Treatment Facility Waste Discharge Requirements Order No. R3-2006-0037, National Pollutant Discharge Eliminations System No. CA0048127

KEY INFORMATION

Discharger:	City of Lompoc
Facility Name:	Lompoc Wastewater Treatment Facility
Facility Address:	1801 West Central Avenue Lompoc, CA 93438 Santa Barbara County
Type of Waste:	Domestic wastewater
Treatment:	Facility effluent is treated to secondary standards.
Disposal:	To San Miguelito Creek and Santa Ynez River
Facility Design Flow:	Average dry weather flow of 5.0 million gallons per day (MGD)
Facility Permitted Flow:	Average monthly dry weather flow of 5.0 MGD
Existing Order:	Waste Discharge Requirements Order No. R3-2006-0037, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0048127
Recycling Requirements:	no
This Action:	Modify Molybdenum Effluent Limitation identified in Waste Discharge Requirements No. R3-2006-0037

SUMMARY

Background: The Central Coast Water Board adopted Waste Discharge Requirements Order No. R3-2006-0037, National Pollutant Discharge Elimination System (NPDES) Permit CA0048127, on July 7, 2006. Order No. R3-2006-0037 regulates the discharge of secondary treated effluent from the City of Lompoc Wastewater Treatment Facility (Facility) to San Miguelito Creek, which is tributary to the Santa Ynez River (waters of the United States), located within the Santa Ynez River Hydrologic Unit. The Order's effective date was September 8, 2006.

Order No. R3-2006-0037 prescribes effluent limits for molybdenum, which were first established as final effluent limits effective May 18, 2006, in Order No. 01-87. The existing Facility does not comply with the molybdenum effluent limits established in Order No. R3-2006-0037.

The City began work to upgrade the Facility (i.e., oxidation ditches, flow equalization basins, ultraviolet disinfection, etc). The proposed upgrade for the Facility does not include treatment for molybdenum. At the time, the City contended that the molybdenum was coming from influent sources, specifically, the City water supply. However, existing data did not provide compelling evidence for the City's claims.

As a result, Central Coast Water Board issued Time Schedule Order No. R3-2007-0021 (TSO) to the City to comply with molybdenum effluent limits identified in Section IV.A.1.a., Table IV-1 of Order No. R3-2006-0037. The TSO provided the City with interim effluent limitations for molybdenum. Furthermore, the TSO required the City to conduct a comprehensive Molybdenum Study to identify the source of molybdenum concentrations in the City's influent and required the City to propose planned actions in response to the study findings. The intent of these actions is to decrease impacts to the receiving waters (i.e., San Miguelito Creek and Santa Ynez River). The TSO required the City to comply with a compliance schedule in determining the source of molybdenum and proposing solutions based on the findings of the Molybdenum Study. The City has consistently complied with the TSO requirements and interim limits.

Molybdenum Characterization Study: The City submitted the final *Molybdenum Characterization Study Second Quarterly Report* on December 20, 2007. The report discusses naturally occurring molybdenum in the environment, molybdenum concentrations detected in various monitoring locations (i.e., San Miguelito Creek, Santa Ynez River, City of Lompoc Municipal Supply, Vandenberg Air Force Base discharges, Vandenberg Village Community Services District discharges, City of Lompoc's Wastewater Treatment Plan Influent/Effluent), and the Molybdenum Study's results and conclusions.

The Molybdenum Study explains that molybdenum concentrations found in the City's water supply are naturally occurring in the Lompoc Valley. Additionally, groundwater monitoring indicates that the City's water supply wells demonstrated presence of molybdenum concentrations above the water quality criterion of 10 micrograms per liter ($\mu\text{g/L}$).

The City conducted receiving water sampling in both San Miguelito Creek and Santa Ynez. Data demonstrate elevated concentrations of molybdenum in San Miguelito Creek (average concentration of 48.23 $\mu\text{g/L}$). Santa Ynez River sampling and testing also resulted in concentrations of molybdenum above water quality objectives.

The City conducted statistical analysis at the request of Central Coast Water Board staff. A summary of statistics for monitoring results demonstrate confidence in the sample set. Data for 20 of 23 sampling locations yielded a coefficient of variation of 0.13 or less,

indicating a high level of precision. The City also conducted a 95 percent confidence interval providing an estimate of uncertainty in the true mean. Data for 19 of 23 sample locations provided a narrower upper and lower limit of the true mean, indicating a more precise estimate. Finally, a power analysis was conducted further concluding confidence in the data set and that the data collected demonstrated accuracy and reliability.

REGULATORY JUSTIFICATION FOR MODIFICATIONS

This Resolution modifies Order No. R3-2006-0037 by establishing final effluent limits for molybdenum that are less stringent than the final effluent limits set forth in that Order. Clean Water Act section 402(o)(2)(B)(i) allows renewed, reissued, or modified state issued NPDES permits to contain effluent limits less stringent than those established in the previous permit based on new information or data that were not available at the time of permit issuance that would have justified a less stringent effluent limit. In this case, the new information supports the conclusion that the receiving waters are naturally high in molybdenum concentrations, that the discharge at the proposed effluent limit concentrations would not further degrade the receiving waters and in fact may improve their quality, that the causes of the high molybdenum concentrations in the receiving waters are uncontrollable consistent with the Basin Plan policy, and that the discharge is controlled using best practicable treatment or control. The Resolution also contains a finding that the revised effluent limits are consistent with State Water Resources Control Board Resolution No. 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California") and the federal anti-degradation policy at 40 CFR 131.12. Staff believes that the Resolution adoption and associated modifications to Order No. R3-2006-0037 will be protective of water quality.

PURPOSE OF THE RESOLUTION

The purpose of proposed Resolution No. R3-2008-0025, is to modify the molybdenum effluent limitations in Order No. R3-2006-0037. The Resolution provides a thorough discussion and justification for such modifications. Adoption of the Resolution will implement the following:

1. Replace the existing molybdenum effluent limitations in Order No. R3-2006-0037 with the following effluent limitations:

Parameter	Units	Average Monthly	Maximum Daily
Molybdenum	µg/L	0.025	0.035

µg/L – micrograms per liter

2. Rescind Time Schedule Order No. R3-2007-0021.

NOTIFICATION OF INTERESTED PARTIES

The Central Coast Water Board notified the City of Lompoc and interested parties of its intent to modify the molybdenum effluent limitations in Order No. R3-2006-0037. The interested parties were provided with the opportunity to submit their written comments and recommendations. Notification was provided through direct mailing to the following known interested parties. Written comments were due no later than March 28, 2008.

- Ms. Susan Halpin, Wastewater Superintendant, City of Lompoc
- Mr. Gary Keefe, City of Lompoc
- Mr. Garry Sanchez, Water Quality Manager, Vandenberg Air Force Base
- Mr. Joe Barget, General Manager, Vandenberg Village Community Services District
- Mr. Rob Almy, Water Agency Manager, Santa Barbara County Water Agency
- Kira Redmond, ChannelKeeper
- Mr. Bruce Wales, Santa Ynez Water Conservation District
- Mr. Steve Jordan
- Santa Barbara County, Environmental Health Services Department
- Environmental Protection Agency, Region 9

CHANGES IN RESPONSE TO WRITTEN COMMENTS

The City of Lompoc submitted written comments on March 27, 2008. No other comments were received from the interested parties. The following comments and staff responses are provided below. Typographical errors and minor revisions that do not alter the intent of the Resolution are not discussed below.

Comment 1: Molybdenum Effluent Limitation Effective Date – The City requested that the paragraph 1, Finding 3 of the Resolution should properly reflect the effective date of the final molybdenum effluent limitations.

Staff concurs with the City's recommendation and made the appropriate modifications to Finding 3 of the Resolution.

Comment 2: Molybdenum Treatment Description – The City recommended language modifications to paragraph 1, Finding 3 of the Resolution providing further clarification regarding potential for molybdenum treatment.

Staff concurs with the City's recommendations and has made the appropriate modifications regarding molybdenum treatment to Finding 3 of the Resolution.

Comment 3: Receiving Water – The City requested to delete language discussing the City's effluent discharge reducing molybdenum concentrations in the receiving water (Finding 6 of the Resolution). Additionally, Finding 10 also discusses the City's effluent discharge potentially improving water quality. The City contends that there should be no expectation that the City's effluent will dilute molybdenum concentrations.

Staff concurs with the City's request and has removed the last two sentences of Finding 6 and similar language in Finding 10 of the Resolution. However, it should be highlighted that the City's effluent discharge appears to reduce molybdenum concentrations in the receiving water.

Comment 4: Power Analysis Clarification – The City requested to add language providing clarification on the power analysis conducted for the receiving water data as well as variability between sampling locations.

Staff accepts the proposed language to further clarify the statistical analysis conducted for the receiving water data. Staff has made the appropriate additions to Finding 7 of the Resolution.

Comment 5: Finding 11 Revised Language – The City requested to modify language in Finding 11 of the Resolution addressing the establishment of effluent limitations for state issued NPDES permits (Title 40, Code of Federal Regulations, Section 122.44(d)). The City requests that the language adequately reflect the federal regulations and proposes modified language to replace the draft language (refer to the March 27, 2008 comment letter - Attachment 2).

Upon review of Title 40 Code of Federal Regulations, Section 122.44(d) and the City's proposed modified language, staff concurs with most of the language modification and has made the appropriate changes to Finding 11 of the Resolution. Some of the City's proposed language was not included as staff revised language for clarity and consistency with federal regulations.

RECOMMENDATION

Adopt Resolution No. R3-2008-0025 as proposed.

ATTACHMENTS

1. Proposed Resolution No. R3-2008-0025
2. Letter dated March 27, 2008, from the City of Lompoc to the Central Coast Water Board