

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

TIME SCHEDULE ORDER R5-2013-0101

REQUIRING THE CITY OF STOCKTON
REGIONAL WASTEWATER CONTROL FACILITY
SAN JOAQUIN COUNTY

TO COMPLY WITH REQUIREMENTS PRESCRIBED IN ORDER R5-2008-0154
(NPDES PERMIT NO. CA0079138)

The California Regional Water Quality Control Board, Central Valley Region, (hereinafter Central Valley Water Board) finds that:

1. On 23 October 2008, the Central Valley Water Board adopted Waste Discharge Requirements (WDR) Order R5-2008-0154, prescribing waste discharge requirements for the City of Stockton (hereinafter Discharger) at the Regional Wastewater Control Facility (hereafter Facility), in San Joaquin County.
2. WDR Order R5-2008-0154, contains Final Effluent Limitations IV.A.1.a. which reads, in part, as follows:

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Dichlorobromomethane	µg/L	6.8	--	20	--	--
Chlorodibromomethane	µg/L	5.0	--	16	--	--

3. The California Toxics Rule (CTR) includes dichlorobromomethane (DCBM) and chlorodibromomethane (CDBM) criteria of 0.56 µg/L and 0.41 µg/L, respectively, for the protection of human health based on a one-in-a-million cancer risk for waters from which both water and organisms are consumed. A dilution credit of 13:1, based on that allowance of a human health mixing zone, was granted in WDR Order R5-2008-0154 for the development of water quality-based effluent limits, resulting in the average monthly and maximum daily effluent limitations in the above table. The Discharger was unable to immediately comply with these effluent limits, therefore, the Central Valley Water Board adopted Time Schedule Order (TSO) R5-2008-0155 that provided, in part, time schedules for compliance with the effluent limitations for DCBM and CDBM.

Need for Time Schedule Extension and Legal Basis

4. The Discharger owns and operates the Facility, where tertiary treated effluent is discharged to the San Joaquin River, a water of the United States, within the Sacramento-San Joaquin Delta. Treatment facilities include screening, grit removal, raw sewage pumps, primary sedimentation, biotower treatment process, secondary clarifiers, ponds, engineered treatment wetlands, tertiary treatment consisting of nitrifying biotowers for ammonia removal, dissolved air floatation units, dual media tertiary filters, chlorination and dechlorination.
5. DCBM and CDBM are disinfection by-products that are formed when chlorine is used to disinfect the wastewater. Several factors affect the formation of disinfection by-products, such as chlorine dosage, chlorine contact time, and total organic carbon levels. On 6 May 2013, the Discharger submitted an infeasibility analysis and request for additional time to comply with the final effluent limitations for DCBM and CDBM. Since TSO R5-2008-0155 was adopted, the Discharger has made diligent efforts to reduce the formation of DCBM and CDBM during the chlorine disinfection process, but is still unable to comply with the final effluent limits.

Planning efforts have included:

- Method of Compliance Work Plan for Aluminum, Bis(2-Ethylhexyl)Phthalate, Cyanide, Chlorodibromomethane, and Dichlorobromomethane (MOC Work Plan), prepared in April 2009;
- Regional Wastewater Control Facility Pollution Prevention Plan for Aluminum, Bis(2-Ethylhexyl)Phthalate, Cyanide, Chlorodibromomethane and Dichlorobromomethane (PPP), prepared in April 2009; and
- Regional Wastewater Control Facility Capital Improvement and Energy Management Plan (CIEMP), prepared in August 2011. The CIEMP contained an evaluation of strategies to reduce DCBM and CDBM in the Facility's effluent, including but not limited to, ultraviolet light disinfection, switching to bulk hypochlorite and an air stripping pilot test to evaluate DCBM and CDBM removal effectiveness.

Implementation efforts have included:

- Added small doses of ammonia during the chlorination process (chloramination) to reduce chlorine dosage;
- Adjusted the chlorine dose rate thereby reducing the amount of free chlorine; and
- Moved the chlorine dosage point downstream in the chlorine contact channel to reduce chlorine contact time.

Mandatory Minimum Penalties

6. California Water Code (CWC) sections 13385(h) and (i) require the Central Valley Water Board to impose mandatory minimum penalties (MMPs) upon dischargers that violate certain effluent limitations. CWC section 13385(j)(3) exempts the discharge from MMPs, "*where the waste discharge is in compliance with either a cease and desist order issued pursuant to Section 13301 or a time schedule order issued pursuant to Section 13300 or 13308, if all the [specified] requirements are met...for the purposes of this subdivision, the time schedule may not exceed five years in length...*".
7. Per the requirements of CWC section 13385(j)(3), the Central Valley Water Board finds that:
 - a. This Order specifies the actions that the Discharger is required to take in order to correct the violations that would otherwise be subject to CWC section 13385(h) and (i).
 - b. To comply with final effluent limitations, the Discharger has determined that while additional chloramination has been successful at reducing DCBM and CDBM concentrations and chlorine disinfection has been optimized, an additional five years is necessary to 1) implement process control measures (incorporate process operation into the computer controls); 2) evaluate the filter loading rates, rebuild media to original specifications, clean backwash lagoon, evaluate total organic carbon removal efficiencies and turbidity as a measure of filter performance before and after improvements; 3) evaluate polymers used in the dissolved air floatation units for turbidity and total organic carbon removal efficiencies; 4)

evaluate further optimization of chlorine addition; and 5) continue tuning the chloramination treatment process through the control system project.

- c. This Order establishes a time schedule to bring the waste discharge into compliance with the effluent limitations that is as short as possible, taking into account the technological, operational, and economic factors that affect the design, development, and implementation of the control measures that are necessary to comply with the effluent limitations.
8. The final effluent limitations for DCBM and CDBM became applicable to the waste discharge on the effective date of WDR Order R5-2008-0154 (12 December 2008). TSO R5-2008-0155 provided protection from MMPs for violations of effluent limitations for DCBM and CDBM from 12 December 2008 until the adoption of this Order (26 July 2013).
9. By statute, a Time Schedule Order may provide protection from MMPs for no more than five years, except as provided in CWC section 13385(j)(3)(C)(ii).
10. Per the requirements of CWC Section 13385(j)(3)(C)(ii)(I) for the purpose of treatment facility upgrade, the time schedule shall not exceed 10 years. Per the requirements of 13385(j)(3)(C)(ii)(II) following a public hearing, and upon a showing that the Discharger is making diligent progress toward bringing the waste discharge into compliance with the effluent limitation, the Central Valley Water Board may extend the time schedule for an additional five years, if the Discharger demonstrates that the additional time is necessary to comply with the effluent limitation. In accordance with CWC Section 13385(j)(3)(C)(ii)(I) the total length of the compliance schedules is less than ten years. The Central Valley Water Board finds, as described in previous findings in this Order, that the Discharger has demonstrated due diligence and is making diligent progress to bring the waste discharge into compliance with final effluent limitations for DCBM and CDBM contained in WDR Order R5-2008-0154.
11. Compliance with this Order exempts the Discharger from MMPs for violations of the final effluent limitations for DCBM and CDBM from the date of this Order (26 July 2013) until **1 July 2018**.
12. If an interim effluent limit contained in this Order is exceeded, then the Discharger is subject to MMPs for that particular exceedance as it will no longer meet the exemption in CWC Section 13385(j)(3).
13. In accordance with CWC section 13385(j)(3), the total length of protection from MMPs for DCBM and CDBM does not exceed ten years from the date the effluent limits became applicable to the waste discharge.
14. This Order provides a time schedule for completing the actions necessary to ensure compliance with the final effluent limitations for DCBM and CDBM contained in WDR Order R5-2008-0154. Since the time schedule for completion of actions necessary to bring the waste discharge into compliance exceeds one year, this Order includes interim effluent limitations and interim requirements and dates for their achievement.
15. The compliance time schedules in this Order include interim effluent limitations for DCBM and CDBM. The interim effluent limitations consist of statistically calculated performance-based average monthly and maximum daily effluent limits derived using sample data provided by the Discharger. In developing the interim limitations, when there are ten sampling data points or more, sampling and laboratory variability is accounted for by establishing interim limits that are based on normally distributed data where 99.9% of the data points will lie within 3.3 standard deviations of the mean (*Basic Statistical Methods for Engineers and Scientists, Kennedy and*

Neville, Harper and Row). Therefore, the interim performance-based average monthly effluent limitations in this Order are established as the mean plus 3.3 standard deviations of the available data. The interim performance-based maximum daily effluent limitations were established in this Order using the procedures described in Table 5-3. *Multipliers for Calculating Maximum Daily Permit Limits From Average Monthly Permit Limits*, in USEPA's Technical Support Document For Water Quality-based Toxics Control, March 1991, (EPA/505/2-90-001) by multiplying the interim average monthly effluent limitations by the MDEL/AMEL multiplier. Derivation of the interim limitations are summarized below:

Constituent	Units	Maximum Effluent Concentration (MEC)	Mean	Standard Deviation	# of Samples	99 th Percentile	Average Monthly Effluent Limitation (AMEL)	Maximum Daily Effluent Limitation (MDEL)
Chlorodibromomethane	µg/L	28	5.3	6.6	55	27.2	28	76 ¹
Dichlorobromomethane	µg/L	14	5.9	3.2	55	16.4 ¹	17	33 ²

¹ MDEL for CDBM calculated using a multiplier of 2.71.
² MDEL for DCBM calculated using a multiplier of 1.91.

16. The Central Valley Water Board finds that the Discharger can maintain compliance with the interim effluent limitations included in this Order. Interim effluent limitations are established when compliance with the final effluent limitations cannot be achieved by the existing Facility. Discharge of constituents in concentrations in excess of the final effluent limitations, but in compliance with the interim effluent limitations, can degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. The interim effluent limitations, however, establish an enforceable ceiling concentration until compliance with the final effluent limitation can be achieved.

Other Regulatory Requirements

17. CWC section 13300 states: *“Whenever a regional board finds that a discharge of waste is taking place or threatening to take place that violates or will violate requirements prescribed by the regional board, or the state board, or that the waste collection, treatment, or disposal facilities of a discharger are approaching capacity, the board may require the discharger to submit for approval of the board, with such modifications as it may deem necessary, a detailed time schedule of specific actions the discharger shall take in order to correct or prevent a violation of requirements.”*
18. CWC section 13267 states in part: *In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.*

19. The Discharger owns and operates the treatment facility which is subject to this Order. The technical and monitoring reports required by this Order are necessary to determine compliance with this Order.
20. Issuance of this Order is exempt from the provisions of the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) (“CEQA”) pursuant to CWC section 13389, since the adoption or modification of a NPDES permit for an existing source is statutorily exempt and this Order only serves to implement a NPDES permit. (*Pacific Water Conditioning Ass’n, Inc. v. City Council of City of Riverside (1977) 73 Cal.App.3d 546, 555-556.*).
21. On 26 July 2013, in Rancho Cordova, California, after due notice to the Discharger and all other affected persons, the Central Valley Water Board conducted a public hearing at which evidence was received to consider this Cease and Desist Order under CWC section 13301 to establish a time schedule to achieve compliance with waste discharge requirements.

IT IS HEREBY ORDERED THAT:

1. Time Schedule Order R5-2008-0155 is rescinded upon the effective date of this Order except for enforcement purposes.
2. Pursuant to CWC Section 13300 and 13267, the Discharger shall comply with the following time schedule to ensure compliance with the final effluent limitations for DCBM and CDBM, described in Finding 2, above:

Item	Task	Date Due
i.	Annual Progress Reports. The progress reports for DCBM and CDBM shall detail what steps have been implemented towards achieving compliance with waste discharge requirements, including studies, construction progress, evaluation of measures implemented, and recommendations for additional measures as necessary to achieve full compliance by the final date.	1 June, annually
ii.	Submit a report demonstrating that a Request for Proposal for computer control programmer has been issued	1 September 2013
iii.	Evaluate efficacy of expanded mixing zone and dilution credit and site-specific objectives for DBCM and BDCM. Submit a report that includes: 1) an evaluation of an expanded mixing zone, dilution credit, and site-specific objectives for DBCM and BDCM, 2) a discussion of the preferred compliance alternative(s), 3) feasibility of compliance alternative(s) and funding sources, and 4) schedule for implementing the alternative(s).	1 April 2014
iv.	Conduct identified evaluations, pilot studies, modeling, clean backwash lagoon, identify control system programmer. Submit a report that includes: 1) a summary of evaluations conducted, 2) pilot studies implemented, 3) modeling results, 4) results of backwash lagoon cleaning, and 5) selected computer control programmer.	1 May 2014
v.	Design and construct infrastructure and programming improvements identified by evaluations, studies and modeling. Submit the following documents: 1) 90% design report, 2) 100% design report, 3) signed CEQA/NEPA notice of determination (as applicable), 4) notice of completion for infrastructure and programming improvement project(s), 5) “as-built” drawings, and 6) City of Stockton City Council approval of implementation project(s).	1 April 2016

Item	Task	Date Due
vi.	Startup and testing of upgrades, consistent compliance with DBCM and BDCM standard. Submit a report that includes an evaluation of compliance with DBCM and BDCM final limits before and after implementing improvements.	28 February 2017
vii.	Full compliance with effluent limitations for DBCM and BDCM. Submit report demonstrating compliance with the final limits.	1 July 2018

3. The following interim effluent limitations shall be effective immediately. The interim effluent limitations for DCBM and CDBM shall be effective until **1 July 2018**, or when the Discharger is able to come into compliance, whichever is sooner.

Parameter	Units	Average Monthly Effluent Limitation (AMEL)	Maximum Daily Effluent Limitation (MDEL)
Chlorodibromomethane	µg/L	28	76
Dichlorobromomethane	µg/L	17	33

4. Any person signing a document submitted under this Order shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my knowledge and on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order or with the WDRs may result in the assessment of Administrative Civil Liability of up to \$10,000 per violation, per day, depending on the violation, pursuant to the CWC, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with CWC section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

http://www.waterboards.ca.gov/public_notices/petitions/water_quality

or will be provided upon request.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **26 July 2013**.

ORIGINAL SIGNED BY

 PAMELA C CREEDON, Executive Officer