

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL VALLEY REGION

TIME SCHEDULE ORDER R5-2019-0050

REQUIRING THE
CITY OF VACAVILLE
EASTERLY WASTEWATER TREATMENT PLANT
SOLANO COUNTY

TO COMPLY WITH REQUIREMENTS PRESCRIBED IN WASTE DISCHARGE REQUIREMENTS ORDER
R5-2019-0049
(NPDES PERMIT NO. CA0077691)

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

1. The City of Vacaville (Discharger) owns and operates the Easterly Wastewater Treatment Plant (Facility) in Solano County. The Facility discharges up to an average dry weather flow of 15 million gallons per day (MGD) of treated wastewater to Old Alamo Creek, a water of the United States and tributary of New Alamo Creek, Ulatis Creek, Cache Creek Slough, and the Sacramento-San Joaquin Delta (Delta) within the Cache Slough watershed.
2. On 25 April 2008, the Central Valley Water Board adopted Waste Discharge Requirements (WDR) Order R5-2008-0055 (NPDES No. CA0077691), which included final effluent limitations for chlorodibromomethane and dichlorobromomethane. Finding that the Discharger could not comply with the final effluent limitations for these parameters, the Central Valley Water Board granted the Discharger a compliance schedule in WDR Order R5-2008-0055 that required compliance with the final effluent limitations for chlorodibromomethane and dichlorobromomethane by 18 May 2010.
3. On 18 March 2010, the Central Valley Water Board adopted Order R5-2010-0027, amending the previously adopted Time Schedule Order (TSO) R5-2008-0056, to provide until 28 February 2015 to come into compliance with the final effluent limitations for chlorodibromomethane and dichlorobromomethane while the Discharger pursued a Basin Plan amendment to establish site-specific water quality objectives for chlorodibromomethane and dichlorobromomethane more applicable to the receiving water segments downstream of the discharge (i.e., New Alamo Creek and Ulatis Creek). The Central Valley Water Board adopted Order R5-2013-0903 on 13 December 2013, amending TSO R5-2008-0056-02 and granting the Discharger higher interim limits for chlorodibromomethane and dichlorobromomethane based on the Facility's performance.
4. On 6 June 2014, the Central Valley Water Board adopted WDR Order R5-2014-0072, which rescinded TSO R5-2008-0056-03 based on findings that discharges from the Facility no longer exhibited reasonable potential to cause or contribute to exceedances of the water quality objectives applicable to the receiving waters.
5. On 7 June 2019, the Central Valley Water Board adopted WDR Order R5-2019-0049, which imposed Final Effluent Limitations IV.A.1, effective 1 August 2019, which reads, in part, as follows:

Table 4. Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Priority Pollutants						
Chlorodibromomethane	µg/L	34	--	74	--	--
Dichlorobromomethane	µg/L	46	--	74	--	--

NEED FOR TIME SCHEDULE EXTENSION AND LEGAL BASIS

6. On 15 February 2019, the Discharger submitted an infeasibility analysis documenting the compliance strategy for meeting final effluent limits for chlorodibromomethane and dichlorobromomethane.
7. The Discharger is actively addressing the elevated concentrations of chlorodibromomethane and dichlorobromomethane. The Discharger completed and commissioned a tertiary filtration unit at the Facility in May 2015, which increases the removal of organic constituents that are precursors to the formation of disinfection byproducts. In addition to the sodium hypochlorite added in the chlorine contact chambers during the disinfection process, the Facility’s tertiary filtration unit requires the injection of sodium hypochlorite at the filter influent pumping station to reduce algae growth in the sand filters. Additionally, the Discharger has the ability to chlorinate the Facility’s raw sewage influent at the influent control structure, which flows to the Facility’s headworks, and at the return activated sludge (RAS) pumping location for filamentous bacteria control.
8. Based on Facility influent and effluent data collected by the Discharger, the chlorine disinfection process, in combination with extra chlorine treatment throughout the treatment process, is the primary source of chlorodibromomethane and dichlorobromomethane in the Facility’s effluent. The Discharger has begun to optimize existing operations and institute measures to improve overall plant performance and decrease chlorine demand to reduce the formation of disinfection byproducts. The Discharger has discontinued chlorination of raw sewage at the influent control structure and at the RAS pumping station, with no plans for future use. The Discharger has also started to decrease the amount of sodium hypochlorite injected into the filter influent pumping station; however, to determine if this is a viable solution for minimizing chlorodibromomethane and dichlorobromomethane concentrations in the effluent, the effect of reduced chlorination on filter efficiency needs to be evaluated under warmer temperatures that occur during the summer months.

MANDATORY MINIMUM PENALTIES

9. California Water Code (CWC) sections 13385(h) and (i) require the Central Valley Water Board to impose mandatory minimum penalties (MMP’s) upon dischargers that violate certain effluent limitations. CWC section 13385(j)(3) exempts the discharge from MMP’s, “*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...*”.
10. 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. The effluent limitations are new, more stringent, or modified regulatory requirements that have become applicable to the waste discharge after the effective date of the waste discharge requirements and after 1 July 2000, new or modified control measures are necessary in order to

comply with the effluent limitations, and the new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days.

- c. To comply with final chlorodibromomethane and dichlorobromomethane effluent limitations, the Discharger has determined that additional time is necessary to develop and implement the projects discussed in Findings 7 and 8. Therefore, the Discharger will have MMP protection from **1 August 2019** until **31 July 2024**.
 - d. This Order establishes a time schedule to bring the waste discharge into compliance with the effluent limitations in as short a time 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.
11. TSO's generally may only provide protection from MMP's for up to five (5) years. However, Water Code section 13385, subdivision (j)(3)(C)(ii)(II), authorizes the Central Valley Water Board to grant an additional five (5) years if the Central Valley Water Board finds, following a public hearing, that a Discharger is making diligent progress towards bringing the waste discharge into compliance and that the additional time is necessary to comply with the effluent limitations.
 12. Compliance with this TSO provides protection for the Discharger from MMP's. WDR Order R5-2008-0055 imposed final effluent limits for chlorodibromomethane and dichlorobromomethane that went into effect on 18 May 2010. TSO R5-2008-0056-01 provided the Discharger with MMP protection for chlorodibromomethane and dichlorobromomethane violations from 18 March 2010 through 28 February 2015. TSO R5-2008-0056-03 was rescinded by WDR's Order R5-2014-0072, which found discharges from the Facility no longer exhibited reasonable potential to cause or contribute an exceedance of the applicable water quality objectives. Final average monthly and daily maximum effluent limitations (AMEL's and MDEL's) are established in WDR Order R5-2019-0049 for chlorodibromomethane and dichlorobromomethane in accordance with 40 C.F.R. section 122.45(d) and this Order provides the Discharger with MMP protection for chlorodibromomethane and dichlorobromomethane from **1 August 2019** (the date of this Order) until **31 July 2024**. The total time of MMP protection for chlorodibromomethane and dichlorobromomethane is 5 years. This time schedule is as short as possible and does not exceed a cumulative total of ten (10) years in length from the date applicable final effluent limitations became effective.
 13. By statute, a TSO may provide protection from MMP's for no more than five (5) years, except as provided in CWC section 13385(j)(3)(C)(ii).
 14. Compliance with this Order exempts the Discharger from MMP's for violations of the final effluent limitations for chlorodibromomethane and dichlorobromomethane from **1 August 2019** through **31 July 2024**.
 15. In accordance with CWC section 13385(j)(3)(C), the total length of protection from MMP's for the final effluent limitations for chlorodibromomethane and dichlorobromomethane does not exceed ten (10) years.
 16. This Order provides a time schedule for completing the actions necessary to ensure compliance with the final effluent limitations for chlorodibromomethane and dichlorobromomethane contained in WDR Order R5-2019-0049. Since the time schedule for completion of actions necessary to bring the waste discharge into compliance exceeds one (1) year, this Order includes interim effluent limitations and interim requirements and dates for their achievement.

17. This Order includes interim limitations for chlorodibromomethane and dichlorobromomethane. The new performance-based interim effluent limitations for chlorodibromomethane and dichlorobromomethane consist of an AMEL and MDEL derived using sample data provided by the Discharger from October 2015 through September 2018. In developing the performance-based interim AMEL, where there are 10 data points or more and only once per month sampling is required, sampling and laboratory variability is accounted for by establishing interim effluent limitations that are based on normally distributed data where 99.9 percent of the data points lie within 3.3 standard deviations of the mean (*Basin Statistical Methods for Engineers and Scientists, Kennedy and Neville, Harper and Row, 3rd Edition, January 1986*). The interim MDEL was calculated by multiplying the calculated AMEL with a multiplier from Table 2 (which is the MDEL multiplier for each parameter divided by the AMEL multiplier) of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The coefficient of variation was calculated using effluent chlorodibromomethane and dichlorobromomethane data collected by the Discharger from October 2015 through September 2018.
18. 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 significantly degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. However, the interim effluent limitations establish an enforceable ceiling concentration until compliance with the final effluent limitation is achieved.
19. If an interim effluent limit contained in this Order is exceeded, then the Discharger is subject to MMP's for that particular exceedance as it will no longer meet the exemption in CWC 13385(j)(3). It is the intent of the Central Valley Water Board that a violation of an interim daily maximum effluent limit subjects the Discharger to one MMP for the day in which the sample was collected.

OTHER REGULATORY REQUIREMENTS

20. 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.*"
21. CWC section 13267(b)(1) states: "*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.*"
22. The Discharger owns and operates the treatment facility that is subject to this Order. The technical and monitoring reports required by this Order are necessary to determine compliance with WDR Order R5-2019-0049 and with this Order.

23. Issuance of this Order is exempt from the provisions of the CEQA (Pub. Resources Code, § 21000 et seq.) 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.)
24. The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent with the compliance schedules for chlorodibromomethane and dichlorobromomethane contained in TSO R5-2019-0050 for this discharge and has provided them with an opportunity to submit their written views and recommendations.

IT IS HEREBY ORDERED THAT:

1. Pursuant to CWC sections 13300 and 13267, the Discharger shall comply with the following time schedule to ensure compliance with the final effluent limitations for chlorodibromomethane and dichlorobromomethane in WDR Order R5-2019-0049.

Task	Compliance Date
i. Work Plan and Schedule. Submit work plan and schedule to comply with final effluent limitations for chlorodibromomethane and dichlorobromomethane.	1 December 2019
ii. Pollution Prevention Plan. Submit and implement a pollution prevention plan for chlorodibromomethane and dichlorobromomethane that meets the requirements specified in California Water Code section 13263.3.	1 February 2020
iii. Chlorine Optimization Report. Optimize chlorination use associated with maintenance of the Facility's tertiary filtration system. ¹	1 July 2020
iv. Source and Impact Identification Report. Identify other potential chlorination sources and their impact on chlorodibromomethane and dichlorobromomethane formation. ¹	1 July 2021
v. Tertiary Filtration Maintenance Evaluation. Evaluate feasibility of other maintenance strategies for the tertiary filters (e.g., other disinfection compounds). ¹	1 July 2022
vi. Annual Progress Reports. Submit annual progress reports documenting the steps taken to comply with this Order, describing the completion of tasks, progress of any construction, evaluation of the effectiveness of the implemented measures, and an assessment of whether additional measures are necessary to meet the final compliance date.	1 February 2021 1 February 2022 1 February 2023 1 February 2024
vii. Final Compliance Report. Comply with the final effluent limitations for chlorodibromomethane and dichlorobromomethane.	31 July 2024

¹ The Discharger shall submit to the Central Valley Water Board, on or before the compliance due date, a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board by letter when it returns to compliance with the compliance time schedule.

2. This Order includes interim effluent limitations for:
- a. **Chlorodibromomethane and Dichlorobromomethane.** The discharge at Discharge Point 001 shall not exceed the interim effluent limitations described below. The interim effluent limitations for

chlorodibromomethane and dichlorobromomethane are effective from **1 August 2019** through **31 July 2024**, or when the Discharger is able to come into compliance, whichever is sooner.

<i>Parameter</i>	<i>Units</i>	<i>Average Monthly Effluent Limit</i>	<i>Maximum Daily Effluent Limit</i>
<i>Chlorodibromomethane</i>	<i>µg/L</i>	<i>46</i>	<i>100</i>
<i>Dichlorobromomethane</i>	<i>µg/L</i>	<i>80</i>	<i>130</i>

3. 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."

4. In accordance with California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All civil engineering, geologic, or geophysical plans, calculations, specifications, and related reports submitted with technical reports specified herein shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated and shall contain the professional's signature and/or stamp of the seal.

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 WDR's 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 Water Code, 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 Water Code 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, PATRICK PULUPA, 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 **7 June 2019 and effective on 1 August 2019**.



PATRICK PULUPA, Executive Officer