

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2023-0049

AMENDING
ORDER R5-2021-0019-01
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PERMIT CA0077682

SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT SACRAMENTO
REGIONAL WASTEWATER TREATMENT PLANT SACRAMENTO COUNTY

FINDINGS

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

1. On 22 April 2021, the Central Valley Water Board adopted Waste Discharge Requirements Order R5-2021-0019, prescribing waste discharge requirements for the Sacramento Regional Wastewater Treatment Plant. For the purposes of this Order, the Sacramento Regional County Sanitation District is hereafter referred to as “Discharger” and the Sacramento Regional Wastewater Treatment Plant is hereafter referred to as “Facility.”
2. Waste Discharge Requirements Order R5-2021-0019-01 (NPDES Permit No. CA0077682) authorizes the discharge of up to 181 million gallons per day of treated municipal wastewater to the Sacramento River, a water of the United States and within the legal boundary of the Sacramento-San Joaquin Delta.
3. The Facility’s treatment system consists of influent pumps, a septage receiving station, anaerobically digested material reception and storage facility, mechanical bar screening, aerated grit handling, grit classifiers that wash and dewater grit, covered primary sedimentation tanks, primary effluent pumping station and peak-shaving storage facilities, biological-nutrient removal (BNR) air activated sludge treatment, nitrifying sequencing batch reactor for treating high ammonia concentration waste streams from solids storage basins and biosolids reclamation facility, secondary sedimentation, secondary effluent screen, filter influent pumping station, granular media filtration, disinfection with chlorine liquid in a covered disinfection contact basin, and dechlorination with sodium bisulfite. The Discharger recently completed the Tertiary Treatment Facilities (TTF) project, which uses tertiary filtration and disinfection to treat secondary effluent from the BNR facilities. Wastewater is discharged to the Sacramento River at Freeport, a water of the United States.
4. The Central Valley Water Board originally issued the Discharger final effluent limitations for dichlorobromomethane (DCBM) and chlorodibromomethane (CDBM) in Order R5-2016-0020, calculated with dilution credits for a human health mixing zone before completion of the BNR facilities. The Discharger expected construction and

operation of the BNR facilities to increase disinfection by-product (DBP) concentrations due to the removal of chloramines. Therefore, the Discharger requested time to come into compliance with the final effluent limitations for DCBM and CDBM.

5. The Discharger was issued a Time Schedule Order R5-2020-0904 (TSO) that provides protection from mandatory minimum penalties for violations of the final effluent limitations for DCBM and CDBM and includes interim effluent limitations. The TSO also includes a compliance schedule of actions that required the Discharger to evaluate the feasibility of DBP control and optimization. The TSO requires compliance with final effluent limitations for DCBM and CDBM by 1 November 2023.
6. The Discharger has maintained compliance with evaluation and reporting milestones in TSO R5-2020-0904. Since the commissioning of the BNR facilities in early 2021, the Discharger has monitored DBP concentrations, investigated compliance options, conducted a volatilization study, and evaluated flow equalization options. However, the information gathered by these studies and investigations have not demonstrated sufficient reduction in DBP effluent concentrations. In those studies, the Discharger did identify additional assimilative capacity upstream in the Sacramento River based on consideration of recent observed effluent flows.
7. The Discharger submitted a letter dated 5 May 2023 requesting recalculated effluent limits for DCBM and CDBM based on new information gathered after completion of the BNR facilities, and in accordance with mixing zone dilution credit calculation procedures in the State Implementation Policy (SIP). The new effluent limitation calculation information for chlorodibromomethane and dichlorobromomethane considers effluent quality data after completion of the ammonia removal facilities and dilution based on arithmetic mean effluent flow, and the harmonic mean flow in the Sacramento River. The requested changes comply with the Anti-degradation Policy and Antidegradation requirements.
8. Order R5-2021-0019-01 may be reopened and modified in accordance with 40 CFR § 122.62(a)(2).
9. Issuance of this Order is exempt from the provisions of the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) ("CEQA") pursuant to Water Code 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. Discharger Council of Discharger of Riverside* (1977) 73 Cal.App.3d 546, 555-556.). Issuance of this Order is also exempt from the provisions of CEQA in accordance with California Code of Regulations (CCR), title 14, section 15301.
10. The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to amend Waste Discharge Requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations.

BOARD ACTION
IT IS HEREBY ORDERED THAT:

Effective immediately, Waste Discharge Requirements Order R5-2021-0019-01 (NPDES CA0077682) is amended solely as shown in items 1 through 18, below.

1. The Order number is changed from R5-2021-0019-01 to R5-2021-0019-02 throughout the Order.

2. **Cover Page.** Modify the last paragraph to the text shown below:

I, Patrick Pulupa, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 22 April 2021, amended by Order R5-2022-0064 on 14 October 2022 and Order R5-2023-0049 on 12 October 2023.

3. Section IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS. Modify Table 4 in section IV.A.1.a as shown below for Chlorodibromomethane and Dichlorobromomethane only.

Parameters	Units	Average Monthly	Average Weekly	Maximum Daily
Chlorodibromomethane	µg/L	34	--	64
Dichlorobromomethane	µg/L	47	--	77

4. Section VI. PROVISIONS. Remove Section VI.C.1.i.

5. Attachment F – Fact Sheet, Section I. PERMIT INFORMATION. Modify Section D as shown below:

D. The Discharger filed a report of waste discharge (ROWD) and submitted an application for reissuance of its waste discharge requirements (WDR's) and NPDES permit on 2 July 2020. The application was deemed complete on 3 December 2020.

1. On 14 October 2022, this Order was amended by Order R5-2022-0064 to include Recycling Specifications for the production of disinfected tertiary recycled water and to update the operational specifications for turbidity.

2. On 12 October 2023, this Order was amended by Order R5-2023-0049 to include new effluent limitation calculation information for chlorodibromomethane and dichlorobromomethane that considers effluent quality data after completion of the ammonia removal facilities and dilution based on arithmetic mean effluent flow, as specified by the SIP, and the

harmonic mean flow in the Sacramento River.

6. Attachment F – Fact Sheet, RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS. Modify Section IV.C.2.c.vi, second paragraph, as shown below and add footnote number two:

In determining the available receiving water dilution for compliance with human health carcinogen criteria, the SIP, section 1.4.2.1 requires that the harmonic mean of the receiving water flow be compared against the arithmetic mean of the effluent flow of the observed discharge period. Based on Sacramento River flow data at Freeport from 1 October 1969 to 20 April 2020, the harmonic mean river flow is 15,403 cfs. The 5-year arithmetic mean effluent flow for the Facility was 117 MGD (181 cfs) based on effluent data compiled between 1 February 2013 and 31 January 2023. A dilution ratio of 85:1 is available for compliance with human health carcinogen criteria. This Order allows a dilution factor for human health carcinogen criteria of 85 and the mixing zone extends 3 miles downstream of the discharge. A mixing zone for human health carcinogen criteria has been allowed in this Order for development of the WQBEL's for bis(2-ethylhexyl)phthalate, chlorodibromomethane, and dichlorobromomethane.

Footnote number two: Memorandum from Larry Walker Associates and Robertson-Bryan, Recalculation of Sacramento Regional Wastewater Treatment Plant's Disinfection Byproduct Effluent Limitation in Consideration of Available Dilution, dated 4 May 2023

7. Attachment F – Fact Sheet, RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS. Modify Section IV.C.2.c.ix(b), second paragraph, as shown below:

Maximum human health dilution credits established in Order R5-2016-0020-01 were calculated based on the Facility permitted ADWF and were carried forward in this Order. An amendment to this Order establishes revised maximum human health dilution credits based on the arithmetic mean effluent flow (between 1 February 2013 and 31 January 2023), as specified by the SIP. The amended human health dilution factor is 85 (85:1 upstream to effluent flow). The allowed dilution credits result in an average monthly effluent limit (AMEL) of 34 µg/L and a maximum daily effluent limitation (MDEL) of 64 µg/L for chlorodibromomethane, and an AMEL of 47 µg/L and an MDEL of 77 µg/L for dichlorobromomethane. Based on expected Facility performance for the upgraded Facility, the mixing zones for chlorodibromomethane and dichlorobromomethane are considered as small as practicable and fully comply with the SIP and Basin Plan.

8. Attachment F – Fact Sheet, RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS. Modify Section IV.C.3.d.iii(c) as shown below:

(c) **WQBEL's.** The receiving water contains assimilative capacity for chlorodibromomethane; therefore, as discussed further in section IV.C.2.c of this Fact Sheet, a dilution credit of 85:1 is allowed in the development of the WQBEL's

for chlorodibromomethane. Based on the allowable dilution credit, this Order contains an AMEL of 34 µg/L and MDEL of 64 µg/L for chlorodibromomethane.

9. Attachment F – Fact Sheet, RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS. Modify Section IV.C.3.d.iii(d) as shown below:

(d) **Plant Performance and Attainability.** Analysis of the effluent data 10 January 2017 to 4 January 2023 shows that the MEC of 7.9 µg/L (average monthly) and 11 µg/L (maximum) are less than the applicable WQBEL's. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible. Prior to evaluation of mixing zone dilution and collection of additional Facility ammonia removal and disinfection data, the Discharger could not demonstrate compliance with final WQBEL's. TSO R5-2020-0904, issued by the Executive Officer on 4 December 2020, provided a compliance schedule to achieve compliance with final effluent limitations for chlorodibromomethane by 1 November 2023. The Discharger demonstrated using Facility data following completion of ammonia removal facilities, that based on use of the SIP specified effluent flows, compliance with final effluent limitations is feasible (LWA and RBI, 2023).

10. Attachment F – Fact Sheet, RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS. Modify Section IV.C.3.d.vi(c) as shown below:

(c) **WQBEL's.** The receiving water contains assimilative capacity for dichlorobromomethane; therefore, as discussed further in section IV.C.2.c of this Fact Sheet, a dilution credit of 85:1 is allowed in the development of the WQBEL's for dichlorobromomethane. Based on the allowable dilution credit, this Order contains an AMEL of 47 µg/L and MDEL of 77 µg/L for dichlorobromomethane

11. Attachment F – Fact Sheet, RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS. Modify Section IV.C.3.d.vi(d) as shown below:

(d) **Plant Performance and Attainability.** Analysis of the effluent data 10 January 2017 to 4 January 2023 shows that the MEC of 32 µg/L (monthly average) and 45 µg/L (maximum) are less than the applicable WQBEL's. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible. Prior to evaluation of mixing zone dilution and collection of additional Facility ammonia removal and disinfection data, the Discharger could not demonstrate compliance with final WQBEL's. TSO R5-2020-0904, issued by the Executive Officer on 4 December 2020, provided a compliance schedule to achieve compliance with final effluent limitations for dichlorobromomethane by 1 November 2023. The Discharger demonstrated using Facility data following completion of ammonia removal facilities, that based on use of the SIP specified effluent flows, compliance with final effluent limitations is feasible (LWA and RBI, 2023).

12. Attachment F – Fact Sheet, RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS. Modify Table F-17 in Section IV.C.4, as shown below for Chlorodibromomethane and Dichlorobromomethane only.

**Summary of Water Quality-Based Effluent Limitations
 Discharge Point 001**

Table F-17. Summary of Water Quality-Based Effluent Limitations

Parameter	Units	Average Monthly Effluent Limitations	Average Weekly Effluent Limitations	Maximum Daily Effluent Limitations
Chlorodibromomethane	µg/L	34	--	64
Dichlorobromomethane	µg/L	47	--	77

13. Attachment F – Fact Sheet, RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS. Modify Section IV.D.3.b.ii as shown below:
 - ii. **Chlorodibromomethane.** Updated chlorodibromomethane data and consideration of arithmetic mean effluent flows in dilution calculations, as specified by the SIP, demonstrate that more assimilative capacity is available within the Sacramento River. Therefore, this Order includes less-stringent effluent limitations for chlorodibromomethane based on the updated data and assimilative capacity. Although the effluent limitations for chlorodibromomethane are technically less stringent, there is no increase in the percent of available assimilative capacity being used.

14. Attachment F – Fact Sheet, RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS. Modify Section IV.D.3.b.iii as shown below:
 - iii. **Dichlorobromomethane.** Updated dichlorobromomethane data and consideration of arithmetic mean effluent flows in dilution calculations, as specified by the SIP, demonstrate that more assimilative capacity is available within the Sacramento River. Therefore, this Order includes less-stringent effluent limitations for dichlorobromomethane based on the updated data and assimilative capacity. Although the effluent limitations for dichlorobromomethane are technically less stringent, there is no increase in the percent of available assimilative capacity being used.

15. Attachment F – Fact Sheet, RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS. Modify Section IV.D.4, second paragraph, as shown below:

This Order relaxes the effluent limitations for chlorodibromomethane and dichlorobromomethane based on the allowance of mixing zones in accordance with the Basin Plan, the SIP, U.S. EPA’s Water Quality Standards Handbook, 2nd Edition (updated July 2007), and the TSD. As discussed in section IV.C.2.c of this Fact Sheet, the mixing zones comply with all applicable requirements and will not be adverse to the purpose of the state and federal antidegradation policies. This Order includes less-stringent effluent limitations for chlorodibromomethane and dichlorobromomethane based on effluent quality data after completion of the ammonia removal

facilities and dilution based on arithmetic mean effluent flow, and the harmonic mean flow in the Sacramento River. Although the effluent limitations for chlorodibromomethane and dichlorobromomethane are technically less stringent, there is no increase in the percent of available assimilative capacity being used. According to U.S. EPA’s memorandum on Tier 2 Antidegradation Reviews and Significance Thresholds, any individual decision to lower water quality for nonbioaccumulative chemicals that is limited to 10 percent of the available assimilative capacity represents minimal risk to the receiving water and is fully consistent with the objectives and goals of the Clean Water Act. The Central Valley Water Board finds that any lowering of water quality outside the mixing zones for chlorodibromomethane and dichlorobromomethane will be de minimis and for this reason does not require a complete antidegradation analysis. Further, any change to water quality will not unreasonably affect present and anticipated beneficial uses, including municipal and domestic water supply, will not result in water quality less than prescribed in State Water Board policies or the Basin Plan, and is consistent with maximum benefit to the people of the state. The measures implemented to comply with this Order result in the implementation of BPTC. Thus, the relaxation of the effluent limitations for chlorodibromomethane and dichlorobromomethane is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Antidegradation Policy.

16. Attachment F – Fact Sheet, RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS. Modify Table F-18 in Section IV.D.5, as shown below for Chlorodibromomethane and Dichlorobromomethane only.

**Summary of Final Effluent Limitations
 Discharge Point 001
 Table F-18. Summary of Final Effluent Limitations**

Parameter	Units	Effluent Limitations	Basis¹
Chlorodibromomethane	µg/L	AMEL 34 MDEL 64	CTR
Dichlorobromomethane	µg/L	AMEL 47 MDEL 77	CTR

17. Attachment F – Fact Sheet, RATIONALE FOR PROVISIONS. Remove Section VI.B.1.g.

18. Attachment H – CALCULATION OF WQBEL’S. Modify Table, as shown below for Chlorodibromomethane and Dichlorobromomethane only.

**ATTACHMENT H – CALCULATION OF WQBEL’S
 HUMAN HEALTH WQBEL’S CALCULATIONS**

Parameter	Units	Criteria	Mean Background Concentration	Effluent CV (see table note 1 below)	Dilution Factor	MDEL/AMEL Multiplier	AMEL Multiplier	AMEL	MDEL	AWEL
Chlorodibromomethane	µg/L	0.41	0.020	0.53	85	1.9	1.49	34	64	--
Dichlorobromomethane	µg/L	0.56	0.010	0.37	85	1.6	1.33	47	77	--

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, § 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date that this Order becomes final, except that if the thirtieth day following the date that this Order becomes final falls on a Saturday, Sunday, or state holiday (including mandatory furlough days), the petition must be received by the State Water Board by 5:00 p.m. on the next business day.

[Links to the laws and regulations applicable to filing petitions](#)

(http://www.waterboards.ca.gov/public_notices/petitions/water_quality) may be found on the Internet 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 12 October 2023.

PATRICK PULUPA, Executive Officer