

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

TIME SCHEDULE ORDER R5-2020-0904
REQUIRING

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

TO COMPLY WITH REQUIREMENTS PRESCRIBED IN ORDER R5-2016-0020-01
(NPDES PERMIT CA0077682)

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

1. On 21 April 2016 the Central Valley Water Board adopted Waste Discharge Requirements (WDR) Order R5-2016-0020-01, NPDES Permit No. CA0077682, prescribing WDRs for the Sacramento Regional County Sanitation District (hereinafter Discharger) at the Sacramento Regional Wastewater Treatment Plant (Facility), Sacramento County.
2. WDR Order R5-2016-0020-01 section IV.A.1.a. includes, in part, the following final effluent limitations applicable to discharges from the Facility through Discharge Point No. 001:

Table 1. Effluent Limitations – Discharge Point No. 001

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Chlorodibromomethane	µg/L	14	--	27
Dichlorobromomethane	µg/L	23	--	36
Ammonia Nitrogen, Total (as N)	mg/L (see table notes 1. and 2. below)	1.5	1.7	--
Ammonia Nitrogen, Total (as N)	mg/L (see table notes 1. and 3. below)	2.4	3.0	--
Nitrate Plus Nitrite, Total (as N)	mg/L	10	22	--

Table 1 Notes:

1. The final effluent limitations for ammonia nitrogen, total (as N) become effective 11 May 2021.
 2. Effluent limitations applicable from 1 April through 31 October.
 3. Effluent limitations applicable from 1 November through 31 March.
3. On 8 September 2020 the Discharger submitted a report entitled *Time Schedule Order Request for Sacramento Regional Wastewater Treatment Plant – Disinfection Byproducts, Ammonia, and Nitrate Plus Nitrite* to the Central Valley Water Board that contained the request and justification for compliance schedules for ammonia, chlorodibromomethane, dichlorobromomethane, and the average monthly effluent limitation for nitrate plus nitrite.

The Discharger expects the Facility to be able maintain compliance with the average weekly effluent limitation for nitrate plus nitrite. The Discharger has requested compliance schedules for ammonia, chlorodibromomethane, dichlorobromomethane, and nitrate plus nitrite for the duration of significant upgrades to the Facility as the treatment facilities are constructed and performance is optimized through start-up.

4. The Discharger owns and operates the Facility, which is currently undergoing tertiary upgrades and implementing biological nutrient removal processes to remove nitrate and ammonia from the effluent. The Facility has an average dry weather flow (ADWF) design capacity of 181 million gallons per day (MGD). The current treatment plant is staffed and operated 24 hours per day and consists of a septage receiving station, a fats/oils/grease receiving station and storage tanks, influent pumps, mechanical bar screens, aerated grit removal, grit classifiers that wash and dewater grit, covered primary sedimentation tanks, pure oxygen activated sludge aeration biological treatment in carbonaceous oxygen tanks, secondary clarification (sedimentation), disinfection using sodium hypochlorite solution, and dechlorination with sodium bisulfite solution. Supernatant effluent from the solids storage basins and biosolids recycling facility is treated in a Nitrifying Sidestream Treatment process to remove ammonia and produce nitrates for use as a natural odor control chemical in the influent sewers, influent channels and primary sedimentation tanks. Secondary treated effluent is discharged to the Sacramento River at Freeport using a diffuser or diverted to lined emergency storage basins as needed to meet effluent flow, dilution, thermal, and disinfection requirements. Headspace odors at the treatment plant are controlled through stripping towers and carbon treatment.
5. **Future Wastewater Treatment.** Staffing and operating hours of the future treatment plant will be unchanged, and the plant will maintain a 181 MGD ADWF design capacity. The following treatment processes will remain unchanged; influent pumps, the septage and fats/oils/grease receiving stations and storage tanks, mechanical bar screens, aerated grit removal, grit classifiers, and covered primary sedimentation tanks. Improvements in the treatment process include primary effluent peak-shaving facilities, and primary effluent pumping facilities. The existing pure oxygen biological treatment facilities will be replaced with biological nutrient removal (BNR) air activated treatment facilities capable of removing ammonia and nitrate nitrogen. The existing secondary clarifiers will continue to be used following BNR treatment but return activated sludge pumps will be increased in capacity. Coagulant feed is being constructed upstream of the secondary clarifiers to aid settling. In addition, Tertiary Treatment Facilities will be added including granular media filtration, and disinfection in contact basins using sodium hypochlorite solution. The Tertiary Treatment Facilities will produce a Title 22 equivalent effluent. Dechlorination will continue to be performed using sodium bisulfite. The Discharger is also increasing storage in lined emergency storage basin facilities. Tertiary treated effluent will be discharged to the Sacramento River at Freeport using a diffuser. Compliant or non-compliant effluent, primary influent or effluent, can be diverted to lined emergency storage basins as needed for any reason including process upsets, or diversions of excess flows, and returned for additional treatment to the influent of the treatment plant. Odors will be controlled using a new biological fixed media scrubber, existing biological scrubbing tower, and existing chemical oxidizing tower and carbon treatment towers.

6. **Ammonia.** The final effluent limitations for ammonia in Order R5-2016-0020-01 becomes effective 11 May 2021. A time schedule order is needed to allow additional time to complete construction of the BNR facilities due to previously reported construction delays as well as the need to account for previous and possible future uncontrollable weather events and start-up related factors.
7. **Chlorodibromomethane and Dichlorobromomethane.** The Discharger is currently able to comply with final effluent limitations for chlorodibromomethane and dichlorobromomethane in Order R5-2016-0020-01, but will be unable to comply with the final effluent limitations during the startup and optimization of the future Facility due to temporary anticipated longer chlorine contact time and to account for variability in both the quality and flow of the effluent during start-up. Expected noncompliance with the chlorodibromomethane and dichlorobromomethane effluent limitations is partially a result of treatment changes necessitated by the more stringent ammonia effluent limitations included in Order R5-2016-0020-01, which required nitrification facilities to be designed and constructed. The Facility currently operates in chloramination disinfection due to the presence of ammonia in the effluent. When the BNR is completed, the Facility will operate in free chlorine disinfection. Free chlorine disinfection allows additional Chlorodibromomethane and Dichlorobromomethane to form.
8. **Nitrate Plus Nitrite.** The Discharger is currently able to comply with final effluent limitations for nitrate plus nitrite in Order R5-2016-0020-01, but will be unable to comply with the final effluent limitations during the startup and optimization of the future Facility. Expected noncompliance with the nitrate plus nitrite effluent limitations is a result of treatment changes necessitated by the more stringent ammonia effluent limitations included in Order R5-2016-0020-01, which required nitrification facilities to be designed and constructed. The need for interim effluent limits to address nitrate plus nitrite until completion, start-up, and optimization of BNR facilities is a direct result of the implementation of facility upgrades to comply with final effluent limitations for ammonia. During the phased construction and start-up of the BNR facilities, partially nitrified effluent will increase nitrate plus nitrite concentrations from the current non-nitrifying conditions. Denitrification in the BNR facilities will control the final effluent nitrate concentrations. However, the phased start-up and optimization will result in periods when nitrate plus nitrite concentrations exceed the current effluent limitations while the biology/microorganisms are developed to remove nitrate/nitrite.

Mandatory Minimum Penalties

9. California Water Code sections 13385(h) and (i) require the Central Valley Water Board to impose mandatory minimum penalties (MMPs) upon dischargers that violate certain effluent limitations. California Water Code section 13385(j)(3) exempts the discharge from mandatory minimum penalties *“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 California Water Code 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 California Water Code sections 13385(h) and (i).
- b. **Ammonia.** For ammonia the Discharger has stated that one additional year from the effective date of the final ammonia effluent limitations (11 May 2021) is necessary to complete necessary upgrades to the Facility to comply with final effluent limitations for ammonia. The planned upgrades to the Facility are designed to significantly reduce ammonia by nitrification, and to reduce much of the nitrate by denitrification through the BNR facilities. The Discharger has evaluated, designed, and is constructing the BNR facilities to reduce ammonia in the Facility's effluent. The first BNR phase was biologically seeded in September 2020, and additional phases are expected to be constructed and started up in either 2021 or 2022, depending on weather-related flow conditions and construction variables.
- c. **Chlorodibromomethane and Dichlorobromomethane.** The Discharger has stated that two and a half years is necessary to perform multiple tasks necessary to comply with final effluent limitations for chlorodibromomethane and dichlorobromomethane. First, the Discharger will prepare a Pollution Prevention Plan (PPP) pursuant to Water Code section 13263.3. Second, during the construction and commission of the BNR facility, the existing Carbonaceous Oxidation Tanks (CO Tanks), which are currently part of the high purity oxygen secondary treatment process, will be decommissioned and repurposed as a means to achieve a reduction of chlorodibromomethane and dichlorobromomethane concentrations in the final Facility effluent. The existing CO Tanks will be converted to equalization basins, resulting in lower chlorine contact times during low flow periods, and thereby reducing the chlorodibromomethane and dichlorobromomethane concentrations in the Facility's effluent. Finally, the planned final tertiary treatment facilities will move the point of dechlorination to a location upstream of the existing outfall pipeline, reducing both chlorine contact time and chlorodibromomethane and dichlorobromomethane formation potential.
- d. **Nitrate plus nitrite.** For nitrate plus nitrite, the Discharger has stated that up to one and a half years is necessary to perform necessary upgrades to the Facility to comply with final effluent limitations for nitrate plus nitrite. The planned upgrades to the Facility were designed to significantly reduce ammonia by nitrification, and to reduce much of the nitrate by denitrification through the BNR facilities. The first BNR phase was biologically seeded in September 2020, and additional phases will be constructed and started up in either 2021 or 2022, depending on weather-related flow conditions and construction variables.
- e. The final effluent limitations for ammonia are new, more stringent, or modified regulatory requirements that became applicable to the waste discharge after the effective date of Order R5-2016-0020-01 and after 1 July 2000. The final effluent limitations for chlorodibromomethane, dichlorobromomethane, and nitrate plus nitrite are new, more stringent, or modified regulatory requirements that became applicable to the waste discharge after the effective date of Order R5-2010-0114-04, carried forward to Order R5-2016-0020-01, and after 1 July 2000. Although the Facility was initially able to

comply with the new limitations for chlorodibromomethane, dichlorobromomethane, and nitrate plus nitrite, during the startup of the new treatment facilities that are required to be constructed by Orders R5-2010-0114-04 and R5-2016-0020-01, the Facility will be unable to continue to comply. New or modified control measures are necessary in order to comply with the final effluent limitations for ammonia, chlorodibromomethane, dichlorobromomethane, and nitrate plus nitrite. The new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days.

- f. 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.
11. By statute, a Cease and Desist Order or Time Schedule Order may provide protection from MMPs for no more than five years.
- a. **Ammonia.** Compliance with this Order exempts the Discharger from mandatory minimum penalties for violations of the final effluent limitations for ammonia found in WDR Order R5-2016-0020-01 from 11 May 2021 until 1 June 2022. The Discharger has not previously been protected from mandatory minimum penalties for violations of the ammonia effluent limitations.
 - b. **Chlorodibromomethane and Dichlorobromomethane.** Compliance with this Order exempts the Discharger from mandatory minimum penalties for violations of the final effluent limitations for chlorodibromomethane and dichlorobromomethane found in WDR Order R5-2016-0020-01 from 17 November 2020 (the date of this Order) until 1 November 2023. The Discharger has not previously been protected from mandatory minimum penalties for violations of the chlorodibromomethane and dichlorobromomethane effluent limitations.
 - c. **Nitrate plus nitrite.** Compliance with this Order exempts the Discharger from mandatory minimum penalties for violations of the final average monthly effluent limitations for nitrate plus nitrite found in WDR Order R5-2016-0020-01 from 17 November 2020 (the date of this Order) until 1 June 2022. The Discharger has not previously been protected from mandatory minimum penalties for violations of the nitrate plus nitrite average monthly effluent limitations.
12. In accordance with CWC section 13385(j)(3)(C), the total length of protection from mandatory minimum penalties for the final effluent limitations for ammonia, chlorodibromomethane, dichlorobromomethane, and nitrate plus nitrite does not exceed five years.
13. This Order provides a time schedule for completing the actions necessary to ensure compliance with the final effluent limitations for ammonia, chlorodibromomethane, dichlorobromomethane, and nitrate plus nitrite contained in WDR Order R5-2016-0020-01. Since the time schedule for completion of actions necessary to bring the waste discharge into compliance exceeds one year for chlorodibromomethane, dichlorobromomethane, and

nitrate plus nitrite, this Order includes interim effluent limitations and interim requirements and dates for their achievement for these parameters.

14. This Order includes performance-based interim effluent limitations for ammonia, chlorodibromomethane, dichlorobromomethane, and nitrate plus nitrite. Interim effluent limitations for ammonia from Order R5-2016-0020-01 were incorporated into this Order based on the Discharger's current ability to comply with the existing interim effluent limitations. Interim effluent limitations for ammonia in Order R5-2016-0020-01 were retained from Order R5-2010-0114-04.

The interim average monthly effluent limits (AMELs) for chlorodibromomethane and dichlorobromomethane were based on projected temporary Facility performance. In order to estimate Facility performance before tertiary facilities are complete, the Discharger identified the Vacaville Easterly Wastewater Treatment Facility (Vacaville Easterly) as a facility with similar treatment and chlorination disinfection. The Vacaville Easterly facility has longer typical chlorination contact times than expected for full-scale Facility performance but is considered representative of Facility effluent quality until completion of the tertiary treatment facilities. Performance-based interim AMELs for chlorodibromomethane and dichlorobromomethane in this Order were calculated using the Vacaville Easterly effluent dataset from 2014 to 2020 by determining the daily compliance thresholds equivalent to the 99th percentiles. The compliance thresholds of 96 µg/L for chlorodibromomethane and 94 µg/L for dichlorobromomethane were calculated from the best-fit regression line using a regression on order statistics. The interim maximum daily effluent limitations (MDELs) were calculated using the MDEL/AMEL multiplier per Table 2 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California.

The Discharger's Project Management Office prepared effluent quality projections for nitrate plus nitrite as an evaluation of the BNR phased implementation. During the interim period of transition for this Order, the average monthly concentration is expected to remain below the interim AMEL for nitrate plus nitrite. However, the daily variability is such that the current final average weekly effluent limitation for nitrate plus nitrite in Order R5-2016-0020-01 is attainable and does not require a time schedule for compliance and an interim effluent limitation.

15. 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. The interim effluent limitations, however, establish an enforceable ceiling concentration until compliance with the final effluent limitation can be achieved.
16. 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 13385(j)(3). It is the intent of the Board that a violation of an interim monthly effluent limitation subjects the Discharger to only one MMP for that monthly averaging period. In

addition, 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

17. California Water Code 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. Water Code 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 wastewater treatment facility which is subject to this Order. The technical and monitoring reports required by this Order are necessary to determine compliance with the WDRs and 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 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. City Council of City of Riverside* (1977) 73 Cal.App.3d 546, 555-556.).
21. This Order is issued under authority delegated to the Executive Officer in accordance with Central Valley Water Board Resolution No. R5-2018-0057, and Water Code section 13223.
22. On 9 October 2020, Central Valley Water Board staff issued a notice of public hearing and provided a 30-day comment period for consideration of adopting a TSO under section 13300 of the Water Code to establish a time schedule for achieving compliance with waste discharge requirements. The notice stated that any member of the public may request an oral hearing before the Executive Officer, and if no hearing is requested, the Executive Officer’s review of the administrative record, including any written comments received shall constitute the public hearing. No adverse public comments were received during the 30-day public comment period as required pursuant to Water Code section 13167.5.

IT IS HEREBY ORDERED THAT:

1. Pursuant to California Water Code Sections 13300 and 13267, the Discharger shall comply with the following time schedule to submit reports and ensure completion of the compliance project described in Finding 10.b, above for ammonia:

Task	Compliance Date
Submit Annual Progress Report documenting the steps taken to comply with this Order, describing the completion of tasks, progress of construction, evaluation of the effectiveness of the implemented measures, and an assessment of whether additional measures are necessary to meet the final compliance date.	9 July 2021
Submit Final Report demonstrating compliance with the Final Effluent Limitations for ammonia,	1 June 2022

2. Pursuant to California Water Code Sections 13300 and 13267, the Discharger shall comply with the following time schedule to submit reports and ensure completion of the compliance project described in Finding 10.c, above for chlorodibromomethane and dichlorobromomethane:

Task	Compliance Date
Submit and implement a PPP for chlorodibromomethane and dichlorobromomethane that meets the requirements specified in California Water Code Section 13263.	9 July 2021
Submit evaluation of CO Tank conversion need, feasibility and efficacy	1 March 2022
Submit documentation that construction and start-up of tertiary treatment facilities has been completed	1 June 2023
If deemed necessary by CO Tank conversion evaluation, submit documentation that equalization basins (CO Tank conversion project) have been completed	1 November 2023
Submit Annual Progress Reports documenting the steps taken to comply with this Order, describing the completion of tasks, progress of construction, evaluation of the effectiveness of the implemented measures, and an assessment of whether additional measures are necessary to meet the final compliance date.	9 July 2021, 9 July 2022, and 9 July 2023
Submit Final Report demonstrating compliance with the Final Effluent Limitations for chlorodibromomethane and dichlorobromomethane	1 November 2023

3. Pursuant to California Water Code Sections 13300 and 13267, the Discharger shall comply with the following time schedule to submit reports and ensure completion of the compliance project described in Finding 10.d, above for nitrate plus nitrite:

Task	Compliance Date
Submit and implement a PPP for nitrate plus nitrite that meets the requirements specified in California Water Code Section 13263.	9 July 2021
Submit Annual Progress Reports documenting the steps taken to comply with this Order, describing the completion of tasks, progress of construction, evaluation of the effectiveness of the implemented measures, and an assessment of whether additional measures are necessary to meet the final compliance date.	9 July 2021
Submit documentation that construction and start-up of BNR Facilities has been completed	1 June 2022
Submit Final Report demonstrating compliance with the Final Effluent Limitations for nitrate plus nitrite	1 June 2022

4. Discharge from Discharge Point No. 001 shall not exceed the following interim effluent limitations. These interim effluent limitations for chlorodibromomethane, dichlorobromomethane, and nitrate plus nitrite are effective upon adoption of this Order. The interim effluent limitations for ammonia below shall become effective on 11 May 2021. The Discharger shall comply with the following interim effluent limitations through the dates indicated.

Parameter	Units	Interim Average Monthly Effluent Limit	Interim Average Weekly Effluent Limit	Interim Maximum Daily Effluent Limit	Effluent Limits Applicable Through
Ammonia Nitrogen, Total (as N)	mg/L	39	43	47	31 May 2022
Ammonia Nitrogen, Total (as N)	lbs/day	49,400	52,920	67,929	31 May 2022
Chlorodibromomethane	µg/L	96	--	190	31 October 2023
Dichlorobromomethane	µg/L	94	--	210	31 October 2023
Nitrate Plus Nitrite, Total (as N)	mg/L	18.5	--	--	31 May 2022

5. 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.”

6. 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 technical reports specified herein that contain work plans for, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger 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 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 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. Links to the laws and regulations applicable to filing petitions may be found on the [Water Quality Petitions Page](http://www.waterboards.ca.gov/public_notices/petitions/water_quality) (http://www.waterboards.ca.gov/public_notices/petitions/water_quality) or will be provided upon request.

This Order is effective upon the date of signature.

PATRICK PULUPA, Executive Officer
December 4, 2020

Date