

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

TENTATIVE TIME SCHEDULE ORDER R5-2021-XXXX

REQUIRING
CITY OF SHASTA LAKE
WASTEWATER TREATMENT FACILITY
SHASTA COUNTY

TO COMPLY WITH WASTE DISCHARGE REQUIREMENTS PRESCRIBED IN
ORDER R5-2020-0058
(NPDES PERMIT CA0079511)

FINDINGS

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

1. The City of Shasta Lake (Discharger), owns and operates the City of Shasta Lake Wastewater Treatment Facility (Facility). The Facility discharges up to an average dry weather flow of 1.3 million gallons per day (mgd) of domestic sewage to Churn Creek, a water of the United States.
2. On 28 March 2014, the Central Valley Water Board adopted Waste Discharge Requirements (WDRs) Order R5-2014-0052, NPDES Permit CA0079511, which included, in part, final effluent limitations for ammonia, copper, nitrate plus nitrite, pH, and zinc. The Discharger could not immediately comply with these final effluent limitations, therefore, on 28 March 2014 the Central Valley Water Board adopted Time Schedule Order (TSO) R5-2014-0053 with a compliance schedule and interim effluent limitations for ammonia, copper, nitrate plus nitrite, pH, and zinc.
3. To come into compliance with final effluent limitations contained in WDRs Order R5-2014-0052, the Discharger decided to pursue Facility upgrades including a new screened raw sewage pump station, aeration basins replacing an oxidation ditch, additional clarifier, cloth filters replacing traveling bridge filters, ultraviolet (UV) disinfection replacing chlorine disinfection, additional equalization volume and a new sludge drying bed.
4. In 2018, when upgrades to the Facility were partially complete and the UV disinfection system and cloth filters were installed and operational, Order R5-2018-0089 modified WDRs Order R5-2014-0052 to include the UV disinfection system and cloth filters as part of the treatment process description as well as UV operating specifications and monitoring. Modified WDRs Order R5-2014-0052 was assigned a new order number, WDRs Order R5-2014-0052-01.
5. On 8 March 2019, the Discharger submitted a request and justification for an additional 5-year compliance schedule to allow for construction completion, startup, and plant optimization. Therefore, TSO R5-2014-0053 was amended by Order R5-2019-0900 to extend the compliance schedule for an additional 5 years pursuant

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to California Water Code section 13385, subdivision (j)(3)(C)(ii)(II). Modified TSO R5-2014-0053 was assigned a new order number, TSO R5-2014-0053-01.

6. On 13 August 2020, after all Facility upgrades had been completed, the Central Valley Water Board modified permit conditions contained in WDRs Order R5-2014-0052-01 pursuant to 40 Code of Federal Regulations section 122.62(a)(1). The completed Facility upgrades constituted both a material and substantial alteration to the Facility. These material and substantial alterations to the Facility occurred and were completed after issuance of WDRs Order R5-2014-0052-01 and therefore justified modifying WDRs Order R5-2014-0052-01 to include different permit conditions. Modified WDRs Order R5-2014-0052-01 was assigned a new order number, WDRs Order R5-2014-0052-02.
7. On 10 December 2020, the Central Valley Water Board adopted WDRs Order R5-2020-0058, NPDES Permit CA0079511, which included, in part, final effluent limitations for ammonia, nitrate plus nitrite, pH, and zinc.
8. WDR Order R5-2020-0058 section IV.A.1.a. includes, in part, Final Effluent Limitations IV.A.1 at Discharge Point 001 as follows:

Table 4. Effluent Limitations

Parameter	Units	Average Monthly Effluent Limitations	Average Weekly Effluent Limitations	Maximum Daily Effluent Limitations
Ammonia Nitrogen, Total (as N)	mg/L	0.73	1.58	--
Nitrate Plus Nitrite (as N)	mg/L	10	18	--
Zinc	µg/L	30	--	40

b. pH:

- i. 6.5 Standard Units (SU) as an instantaneous minimum.
- ii. 8.5 SU as an instantaneous maximum.

NEED FOR TIME SCHEDULE AND LEGAL BASIS

9. In November 2019, the Discharger reported significant increases in zinc effluent concentrations. As of the date of this Order, the zinc effluent concentrations have remained elevated, resulting in the Discharger being unable to consistently comply with final effluent limitations for zinc.

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10. For compliance with the final effluent limitations for zinc, the Discharger has requested time to develop and implement pollution prevention practices, confirm the source(s) of zinc, and evaluate alternative treatment options.
11. In addition, because upgrades to the Facility have just been completed and Facility performance is uncertain, it is unknown if the Discharger will be able to consistently comply with the ammonia, nitrate plus nitrite, and pH effluent limitations in WDRs Order R5-2020-0058 and may need to implement additional actions to reach compliance. Therefore, this Order contains a time schedule for compliance with final effluent limitations, sets interim limitations for certain constituents, and is intended to provide protection from mandatory minimum penalties (MMP's) for zinc, ammonia, nitrate plus nitrite, and pH.

MANDATORY MINIMUM PENALTIES

12. California Water Code (CWC) section 13385, subdivisions (h) and (i), requires the Central Valley Water Board to impose MMP's upon dischargers that violate certain effluent limitations. CWC section 13385(j)(3) exempts discharges from these 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...
13. 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 proposed that an additional 3 years is necessary to allow for the development of a pollution prevention plan for zinc and for optimization of the new wastewater treatment units at the Facility.
 - c. The final effluent limitations for ammonia, nitrate plus nitrite, pH, and zinc are new, more stringent, or modified regulatory requirements that became applicable to the waste discharge after the effective date of WDRs Order R5-2020-0058 and after 1 July 2000. Additional new or modified control measures are necessary in order to comply with the final effluent limitations for ammonia, nitrate plus nitrite, pH, and zinc. The new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days.

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- d. 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.
14. By statute, a Cease and Desist Order or Time Schedule Order may provide protection from MMP's for up to five years. However Water Code Section 13385, subdivision (j)(3)(C)(ii)(II), authorizes the Central Valley Water Board to grant an additional five years if the 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.
15. Compliance with this Order exempts the Discharger from mandatory minimum penalties for violations of the final effluent limitations for ammonia, nitrate plus nitrite, pH, and zinc from the adoption date of this Order until 1 May 2024.
16. In accordance with CWC section 13385(j)(3), the total length of protection from mandatory minimum penalties for the final effluent limitations for ammonia, nitrite plus nitrate, pH, and zinc does not exceed ten years.
17. This Order provides a time schedule for completing the actions necessary to ensure compliance with the final effluent limitations for ammonia, nitrite plus nitrate, pH, and zinc contained in WDRs Order R5-2020-0058. 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.
18. This Order includes new performance-based interim effluent limitations for ammonia, nitrite plus nitrate, pH, and zinc. 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% of the data points will lie within 3.3 standard deviations (SD) of the mean (Basic Statistical Methods for Engineers and Scientists, Kennedy and Neville, Harper and Row, 3rd Edition, January 1986). When at least 80 percent of the data points are reported as non-detect (ND) values, or if there are less than 10 data points available, the interim AMEL is based on 3.11 times the maximum observed effluent concentration (MEC) when once per month sampling is required. Additionally, if either of these procedures result in an interim AMEL less than the MEC, the MEC is sometimes established as the interim AMEL. The interim MDEL is calculated by applying statistical methods presented in the Technical Support Document for Water Quality based Toxics Control (March 1991; EPA/505/2-90-001) to determine the maximum expected effluent concentration at a 99% confidence level and 99% probability basis.

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In calculating interim effluent limitations for ammonia, nitrate plus nitrite, pH, and zinc, effluent data between February 2018 and February 2021 was used. The following table summarizes the calculation of the interim effluent limitations for ammonia, nitrate plus nitrite, pH, and zinc:

Table 1. Interim Effluent Limitations

Parameter	Units	Interim AMEL	Interim AWEL	Interim MDEL	Instantaneous Minimum	Instantaneous Maximum
Ammonia	mg/L	0.9	3.3	--	--	--
Nitrate Plus Nitrite	mg/L	13	33	--	--	--
pH	Standard Units	--	--	--	6.0	9.0
Zinc	µg/L	149	--	264	--	--

19. 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 greater than 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 can be achieved.

20. 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 monthly effluent limitation subjects the Discharger to only one MMP for that monthly averaging period. In addition, a violation of an interim maximum daily effluent limit or average weekly effluent limit subjects the Discharger to one MMP for the day in which the sample was collected.

OTHER REGULATORY REQUIREMENTS

21. CWC section 13300 states, in part:

“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.”

22. 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.”

23. The Discharger owns and operates the City of Shasta Lake Wastewater Treatment Facility. The technical and monitoring reports required by this Order are necessary to determine compliance with the requirements in this Order, WDRs Order R5-2020-0058, and subsequent WDRs.

24. 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.).

25. On **XX Month 20XX**, 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.

BOARD ACTION

IT IS HEREBY ORDERED THAT, pursuant to CWC section 13300 and 13267, TSO R5-2014-0053-01 is rescinded, except for enforcement purposes, and in order to ensure compliance with the requirements of WDRs Order R5-2020-0058:

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1. The Discharger shall comply with the following time schedule:

Task	Compliance Date
Submit Progress Reports. The progress reports shall detail the steps taken to comply with this Order, including documentation, showing completion of tasks, construction progress, evaluation of the effectiveness of the implemented measures, and assessment of whether additional measures are necessary to meet the compliance dates.	31 January, annually
Pollution Prevention Plan. Submit and implement a pollution prevention plan for zinc that meets the requirements specified in California Water Code section 13263.3.	1 April 2022
Work Plan and Schedule. If implementation of PPP does not result in compliance, then submit work plan and schedule to explore alternative means for compliance with final effluent limitations for zinc.	1 October 2022
Comply with final effluent limitations for ammonia, nitrate plus nitrite, pH, and zinc.	1 May 2024

2. Discharge from Discharge Point 001 shall not exceed the following interim effluent limitations. The following interim effluent limitations for ammonia, nitrate plus nitrite, pH, and zinc shall be effective upon adoption of this Order and shall apply in lieu of the corresponding final effluent limitations in WDRs Order R5-2020-0058. The Discharger shall comply with the following interim effluent limitations through 1 May 2024, or when the Discharger is able to come into compliance with the final effluent limitations, whichever is sooner.

Interim Effluent Limitations

Parameter	Units	Interim AMEL	Interim AWEL	Interim MDEL	Instantaneous Minimum	Instantaneous Maximum
Ammonia	mg/L	0.9	3.3	--	--	--
Nitrate Plus Nitrite	mg/L	13	33	--	--	--
pH	Standard Units	--	--	--	6.0	9.0
Zinc	µg/L	149	--	264	--	--

3. Any person signing a document submitted under this TSO shall make the following certification:

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“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 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 WDR Order 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

Date