

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

TIME SCHEDULE ORDER R5-2015-0124
REQUIRING
THE CITY OF GALT
WASTEWATER TREATMENT PLANT AND RECLAMATION FACILITY
SACRAMENTO COUNTY

TO COMPLY WITH REQUIREMENTS PRESCRIBED IN ORDER R5-2015-0123
(NPDES PERMIT CA0081434)

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

1. On 23 September 2010, the Central Valley Water Board adopted Waste Discharge Requirements (WDR) Order R5-2010-0099 (2010 Permit), prescribing waste discharge requirements for the City of Galt (hereinafter Discharger), Wastewater Treatment Plant and Reclamation Facility (hereinafter Facility).
2. On 15 December 2010 the Central Valley Water Board adopted the amended Time Schedule Order (TSO) R5-2010-0100-01, which included, in part, compliance schedules for meeting final effluent limitations prescribed in the 2010 Permit for arsenic and nitrate plus nitrite that were to expire on 1 September 2015.
3. On 25 August 2014 the Discharger submitted a letter to the Central Valley Water Board requesting an extension of the compliance schedules for arsenic and nitrate plus nitrite prescribed in TSO R5-2010-0100-01. On 4 February 2015 the Central Valley Water Board adopted TSO R5-2015-0900 extending the compliance schedules for arsenic and nitrate plus nitrite until 1 September 2016 and 1 September 2018, respectively.
4. On 11 December 2015 the Central Valley Water Board renewed the 2010 Permit by adopting WDR Order R5-2015-0123 (2015 Permit). The 2015 Permit continued the effluent limits for arsenic and nitrate plus nitrite from the 2010 Permit and includes new effluent limits for total recoverable zinc. The 2015 Permit contains Final Effluent Limitations IV.A.1.a, Table 4, which reads, in part, as follows:

Table 4. Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Arsenic	µg/L	10	--	19	--	--
Nitrate plus Nitrite, Total (as N)	mg/L	10	19	--	--	--
Zinc, Total Recoverable	µg/L	35	--	51	--	--

5. On 5 March 2015 the Discharger submitted a report entitled *Infeasibility to Comply Report* to the Central Valley Water Board requesting a compliance schedule for zinc. The Discharger has requested a compliance schedule to conduct a Water Effects Ratio (WER) study in order to adjust the California Toxics Rule (CTR) zinc criteria to account for site-specific characteristics of the effluent and receiving water. The results are expected to demonstrate that the discharge does not have reasonable potential to cause or contribute to an in stream excursion above the CTR criteria for zinc, thus necessitating the amendment of the 2015 Permit in order to remove the effluent limitations for

zinc. The Discharger requested a compliance schedule expiring on 1 December 2020 in the event the WER study does not result in compliance, and alternative treatment options must be evaluated and implemented.

Need for Time Schedule Extension and Legal Basis

6. The Discharger owns and operates the Facility, which was upgraded in January 2011 to provide an ultraviolet (UV) disinfected and filtered effluent. The unit process for the Facility includes coarse bar screening, activated sludge extended aeration in two oxidation ditches, two secondary clarifiers, tertiary filtration, and UV disinfection. The Facility has an average dry weather flow (ADWF) design capacity of 3.0 million gallons per day (MGD) and currently treats an ADWF of approximately 2.2 MGD. Tertiary-treated effluent from the Facility is discharged to Skunk Creek, which is tributary to Laguna Creek, which is tributary to the Cosumnes River, all waters of the United States.
7. **Arsenic.** The Discharger has made diligent efforts to comply with the final effluent limitations for arsenic, but is still unable to comply with the final effluent limitations. Arsenic is naturally present in the City of Galt's groundwater based drinking water supply. The Discharger has historically employed multiple wells to supply drinking water to the residents and businesses of Galt and surrounding communities. In 2009, the Discharger employed well head filtration treatment at three of the Discharger's well sites to reduce arsenic concentrations in the drinking water supply. The wellhead filtration systems remove arsenic from the potable water via media filtration, which requires regular backwashing of the media to ensure optimal performance. Backwash from the well head filtration system is currently conveyed to the Facility through discharge to the sanitary sewer system. Upon arrival to the Facility, it was originally expected that the arsenic would be sufficiently removed with the installation of tertiary filtration. However, anaerobic conditions in the collection system cause the arsenic to resolubilize during transport, and the tertiary filtration cannot remove dissolved arsenic effectively.

To reduce the use of water supply wells with higher arsenic concentrations, the Discharger brought a new well (the Monterey Bay Well) online in 2010 and constructed a deeper well at the existing Golden Heights site in 2012. The Golden Heights Water Treatment Plant is now fully operational with the deeper Golden Heights Well as the primary source of water for the City, supplemented by the Monterey Bay Well. The arsenic concentrations in the deepened Golden Heights Well and the new Monterey Bay Well are such that arsenic treatment is no longer needed at these sites.

The Carillion and Industrial Park well sites still require the use of well head filtration treatment. The Discharger has determined that installing a new deep well at the Industrial Park site, similar to the new Golden Heights well, may significantly reduce the reliance on the shallower Carillion and Industrial Park wells, resulting in reduced wellhead treatment, and ultimately, arsenic compliance for the Facility. Installation of the new, deep well would also have benefits for the Discharger's water supply reliability. However, if the new deep well has elevated arsenic concentrations that would continue to necessitate wellhead treatment, the Discharger will need to evaluate alternative compliance projects. An alternative the Discharger is considering is to install backwash thickening systems at the Carillion and industrial Park well sites to dewater the backwash of the wellhead filtration system. This will allow for hauling of the arsenic-laden solids contained in the backwash directly to the Facility and eliminate the need to discharge the solids to the sanitary sewer system. The Discharger has requested an extension of the compliance schedule implemented in TSO R5-2010-0100-01 in order to evaluate and implement the above alternatives for long-term permit compliance.

8. **Nitrate plus nitrite.** The Discharger has made diligent efforts to comply with final effluent limitations for nitrate plus nitrite, but is still unable to comply with the final effluent limitations. In July 2013 the Discharger completed the *City of Galt Wastewater Treatment Plant Facilities Master Plan (FMP)*, which included an evaluation of potential near-term improvements to the Facility for capacity, reliability, and regulatory compliance. As part of the FMP, modeling studies were completed to identify how continuous monitoring of oxygen levels and addition of oxygen would facilitate nitrification and de-nitrification within the Facility's oxidation ditches. These monitoring facilities and a third oxidation ditch/clarifier treatment train are currently under construction, along with modifications of the aeration equipment in the Facility's two existing oxidation ditches.

The Discharger has required the contractor who was chosen to complete the upgrades to the Facility's oxidation ditches to comply with an aggressive construction schedule in order to meet the compliance date for nitrate plus nitrite. The Discharger has requested an extension of the compliance schedule in TSO R5-2010-0100-01 to allow more flexibility to complete the construction project at the lowest possible cost. Allowing the contractor an additional dry season to complete the upgrades to the Facility would let the Discharger properly address any unforeseen conditions or changes that may occur during the construction process and would save the Discharger from added expense on overall construction costs.

Mandatory Minimum Penalties

9. Water Code sections 13385, subdivisions (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 Water Code section 13385, subdivision (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 Water Code sections 13385(h) and (i).
 - b. To comply with final effluent limitations for arsenic, the Discharger has determined that an extension of the compliance schedule implemented in TSO R5-2010-0100-01 is necessary in order to: (1) install a new, deep water supply well; (2) further investigate the feasibility of alternatives associated with the transportation of wellhead filter backwash to the Facility; (3) submit a request to the Central Valley Water Board to modify the Discharger's waste discharge requirements to allow introduction of wellhead filter backwash at the Facility (if necessary); and (4) construct necessary thickening tanks and supporting facilities at wellhead sites (if necessary).
 - c. The upgrades to the Facility's oxidation ditches are expected to optimize the nitrification and de-nitrification process within the Facility's treatment train. The Discharger has demonstrated that the extension of the compliance schedule for nitrate plus nitrite implemented in TSO R5-2010-0100-01 is necessary in order to account for unforeseen construction issues and feasibly construct the project at the lowest possible cost.

- d. The Discharger has demonstrated that a compliance schedule for zinc is needed in order to conduct a WER study for zinc, which is expected to result in a modification of the CTR criteria and allow compliance with the CTR. The Discharger proposes to submit a WER Work Plan by June 2016, detailing the procedure to be followed for conducting the WER study.
 - e. 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. The final effluent limitations for arsenic, and nitrate plus nitrite became applicable to the waste discharge on the effective date of WDR Order R5-2010-0099 (12 November 2010). TSO R5-2010-0100-01 provided protection from MMPs for violations of effluent limitations for arsenic, and nitrate plus nitrite from 15 December 2010 until the adoption of TSO R5-2015-0900 (4 February 2015.) TSO R5-2015-0900 provided protection from MMPs for violations of effluent limitations for arsenic, and nitrate plus nitrite until the adoption of this Order (11 December 2015.)
 12. The final effluent limitations for zinc are new effluent limitations that became applicable to the waste discharge on the effective date of WDR Order R5-2015-0123 (1 February 2015).
 13. By statute, a Time Schedule Order may provide protection from MMPs for no more than five years, except as provided in Water Code section 13385, subdivision (j)(3)(C)(ii)(II).
 14. Per the requirements of Water Code Section 13385(j)(3)(C)(ii)(II), the time schedule shall not exceed five years. In addition, 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 up to an additional five years, if the Discharger demonstrates that the additional time is necessary to comply with the effluent limitation. In accordance with Water Code section 13385, subdivision (j)(3)(C)(ii)(II), the extension of the time schedules do not exceed five years. The Central Valley Water Board finds, as described in previous findings in this Order, that the Discharger is making diligent progress to bring the waste discharge into compliance with final effluent limitations for arsenic, nitrate plus nitrite, and zinc contained in WDR Order R5-2015-0123, and has demonstrated that the additional time is necessary.
 15. Compliance with this Order exempts the Discharger from MMP's for violations of the final effluent limitations for arsenic, nitrate plus nitrite, and zinc contained in WDR Order R5-2015-0123 from the date of this Order (11 December 2015) until 1 September 2018 for arsenic, until 1 September 2016 for nitrate plus nitrite, and until 1 December 2020 for zinc.
 16. In accordance with Water Code section 13385, subdivision (j)(3)(C), the total length of protection from mandatory minimum penalties for the final effluent limitations for arsenic, nitrate plus nitrite, 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 arsenic, and nitrate plus nitrite, and zinc contained in WDR Order R5-2015-0123. 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. The compliance time schedules in this Order include performance-based interim effluent limitations for arsenic, nitrate plus nitrite, and zinc. The calculated interim effluent limitations are based on the current treatment plant performance. In developing effluent limitations, the USEPA has developed a statistical approach in which the estimated maximum effluent concentration is calculated as the upper bound of the log normal distribution of effluent concentrations at a high confidence level. Table 3-1 *Reasonable Potential Multiplying Factors: 99% Confidence Level and 99% Probability Basis*, in USEPA's Technical Support Document For Water Quality-based Toxics Control, March 1991, (EPA/505/2-90-001) (TSD). The interim performance based average monthly effluent limitations (AMELs) in this Order are established as the estimated maximum effluent concentration determined through the above mentioned method. The interim performance-based maximum daily effluent limitation (MDEL) in this Order for zinc was established using the procedures described in Table 5-3. *Multipliers for Calculating Maximum Daily Permit Limits From Average Monthly Permit Limits*, in USEPA's TSD by multiplying the interim AMELs by the MDEL/AMEL multipliers. In calculating interim effluent limitations for arsenic and nitrate plus nitrite effluent data from December 2011 through June 2014 was used. Interim effluent limits for zinc were calculated using data collected between December 2011 and November 2014 due to the availability of data at the time of the calculation of interim effluent limitations for zinc. Derivation of the interim effluent limitations is summarized below.

Constituent	Units	Maximum Effluent Concentration (MEC)	Mean	Standard Deviation	# of Samples	TSD Multiplier	Average Monthly Effluent Limitation (AMEL)	Average Weekly Effluent Limitation (AWEL)	Maximum Daily Effluent Limitation (MDEL)
Arsenic, Total Recoverable	µg/L	24	13.6	4.57	134	1.18	28	--	54 ¹
Nitrate plus nitrite, Total (as N)	mg/L	28	11.6	8.75	117	1.46	41	80 ²	--
Zinc, Total Recoverable	µg/L	53	36.4	10.5	12	1.69	90	--	168 ³

1. MDEL for Total Recoverable Arsenic calculated using a multiplier of 1.91 as found in Table 2 of the SIP.
 2. AWEL for Nitrate plus Nitrite calculated using a multiplier of 1.94 as found in Table 2 of the SIP.
 3. MDEL for Total Recoverable Zinc calculated using a multiplier of 1.87 as found in Table 2 of the SIP.

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 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.

20. 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 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 daily maximum effluent limit subjects the Discharger to one MMP for the day in which the sample was collected.

Other Regulatory Requirements

21. 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.”*
22. 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.*
23. 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.
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.) Issuance of this Order is also exempt from CEQA pursuant to California Code of Regulations, title 14, section 15321, subdivision (a)(2).
25. The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to extend the compliance schedules for arsenic and nitrate plus nitrite contained in Time Schedule Order R5-2015-0900, and to establish a compliance schedule for zinc for this discharge and has provided them with an opportunity to submit their written views and recommendations. 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. Time Schedule Order R5-2015-0900 is rescinded upon the effective date of this Order except for enforcement purposes.
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.b, above, for arsenic:

Task	Compliance Date
Pollution Prevention Plan. Submit and implement an updated, or new as appropriate, Pollution Prevention Plan (PPP) pursuant to CWC section 13263.3.	Submitted
Annual Progress Reports. The Discharger shall submit annual progress reports that detail the steps that 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 November, annually
Report of Waste Discharge (ROWD). Submit ROWD to request modification of permit to allow discharge of arsenic solids at the Facility.	Submitted
New Deep Well Construction Completion. Include with the Annual Progress Report verification of completion of construction of the new deep well.	31 December 2016
Submit Determination of the Need for Additional Efforts. Submit a report detailing the current status of compliance with arsenic effluent limitations. If it is determined that additional strategies are necessary, this report should include a detailed description of the additional tasks and associated timeline needed to achieve ultimate compliance.	1 November 2017
Final Compliance. Comply with the Final Effluent Limitations for arsenic.	1 September 2018

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.c, above, for nitrate plus nitrite.

Task	Compliance Date
Pollution Prevention Plan. Submit and implement an updated, or new as appropriate, Pollution Prevention Plan (PPP) pursuant to CWC section 13263.3.	Submitted
Construction Status Report. The Discharger shall submit a construction status report that details the construction status for the project described in Finding 8 to achieve compliance with the final effluent limits for nitrate plus nitrite.	1 April 2016
Final Compliance. Comply with the Final Effluent Limitations for nitrate plus nitrite.	1 September 2016

4. 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 zinc.

Task	Compliance Date
Pollution Prevention Plan. Submit and implement an updated, or new as appropriate, Pollution Prevention Plan (PPP) pursuant to CWC section 13263.3.	June 2017
Submit WER Work Plan. The Discharger shall submit a WER Work Plan detailing the procedure to be followed in conducting the WER Study.	June 2016
Submit Final WER Report. The Discharger shall submit the Final WER Study Report and reasonable potential analysis for zinc. If the RPA indicates the discharge continues to exhibit reasonable potential, the Discharger shall also submit a workplan and schedule to comply with the zinc effluent limitations.	December 2017
Final Compliance. Comply with the Final Effluent Limitations for zinc.	1 December 2020

5. The following interim effluent limitations shall be effective immediately. The interim effluent limitations for arsenic shall be effective until **1 September 2018**, the interim effluent limitations for nitrate plus nitrite shall be effective until **1 September 2016**, and the interim effluent limitations for zinc shall be effective until **1 December 2020**.

Parameter	Units	Interim Average Monthly Effluent Limit	Interim Average Weekly Effluent Limit	Interim Maximum Daily Effluent Limit
Arsenic, Total Recoverable	µg/L	28	--	54
Nitrate plus nitrite, Total (as N)	mg/L	41	80	--
Zinc, Total Recoverable	µg/L	90	--	168

6. 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."

7. In accordance with 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. 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 **11 December 2015**.

ORIGINAL SIGNED BY

PAMELA C. CREEDON, Executive Officer