

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

CLEANUP AND ABATEMENT ORDER R5-2015-0703
FOR

CALIFORNIA DEPARTMENT OF CORRECTIONS AND REHABILITATION
FOR
OPERATION OF CLASS II SURFACE IMPOUNDMENTS
DEUEL VOCATIONAL INSTITUTION
SAN JOAQUIN COUNTY

This Order is issued to the California Department of Corrections and Rehabilitation (Discharger) based on provisions of California Water Code section 13304, which authorizes the California Regional Water Quality Control Board, Central Valley Region, (Central Valley Water Board or Board) to issue a Cleanup and Abatement Order (CAO or Order), and Water Code section 13267 Order, which authorizes the Board to require the submittal of technical reports.

The Assistant Executive Officer of the Central Valley Water Board finds, with respect to the Discharger's acts, or failure to act, the following:

1. The California Department of Corrections and Rehabilitation (Discharger) discharges brine waste from a reverse osmosis water treatment plant into four Class II Surface Impoundments at the Deuel Vocational Institution (DVI). The facility is located east of the City of Tracy in San Joaquin County in Section 20, T2S, R6E, MDB&M.
2. Waste Discharge Requirements (WDRs) Order R5-2007-0005, adopted by the Board on 25 January 2007, classifies the waste stream produced by the reverse osmosis plant as "designated waste" and prescribes requirements for the discharge of this waste to the Class II Surface Impoundments.

VIOLATIONS OF ORDER R5-2007-0005

3. This CAO addresses violations of the California Water Code and WDRs Order R5-2007-0005, as previously cited in the following documents: (1) 31 July 2014 Notice of Violation, (2) 4 September 2014 Notice of Violation and (3) 18 November 2014 Water Code section 13267 Order to Submit Technical Reports.

Failure to Submit Financial Assurance Report

4. Financial Assurance Requirement D.1 of Order R5-2007-0005 states, "*The Discharger shall, by 30 April of each year, submit for review and approval, plans with detailed cost estimates and a demonstration of assurances of financial responsibility for initiating and completing corrective action for all known or reasonably foreseeable releases from the waste management unit. The Discharger shall provide the assurances of financial responsibility to the Regional Board as required by Title 27 CCR, Division 2, Subdivision 1, Chapter 6.....*"

5. On 31 July 2014, Regional Board staff issued a Notice of Violation (NOV) to the Discharger for failure to submit the 2014 Financial Assurance Certification by 30 April 2014. The NOV required the Discharger to submit the past due Financial Assurance Certification by 30 September 2014. The Financial Assurance Certification was submitted on 3 September 2014.

Failure to Conduct Monitoring or Submit Monitoring Reports

6. Provision E.2 of Order R5-2007-0005 states, *"The Discharger shall comply with Monitoring and Reporting Program No. R5-2007-0005, which is attached to and made part of this Order... A violation of Monitoring and Reporting Program No. R5-2007-0005 is a violation of these waste discharge requirements."*
7. On 4 September 2014, Regional Board staff issued a Notice of Violation for failure to submit the Second Semi-Annual 2013 Monitoring Report and the First Semi-Annual 2014 Monitoring Report. The monitoring required by Order R5-2007-0005 is designed, among other things, to detect the earliest possible release from the surface impoundments to groundwater. Without monitoring data, Regional Board staff is unable to evaluate compliance with the WDRs and determine if the discharge to the surface impoundments has impacted water quality. During a 21 October 2014 meeting, the Discharger stated that a lapse in outside contracting was the reason for the delinquent financial assurance report and the non-submittal of the Second Semi-Annual 2013 and First Semi-Annual 2014 reports.
8. On 23 October 2014, the Discharger notified Regional Board staff that a contract for facility and water quality monitoring was awarded on 8 October 2014 and groundwater samples were collected on 23 October 2014. The Discharger submitted the Second Semi-Annual 2014 Monitoring Report on 18 March 2015, which was 47 days past due. The report re-confirmed that liquids are present in the pan lysimeter.

Lack of Capacity and Release from the Surface Impoundments

9. Discharge Specification B.10 of the WDRs states, *"Each surface impoundment and related containment structures shall be constructed and maintained to prevent inundation, erosion, slope failure, washout, and overtopping under 1,000 year, 24 hour precipitation conditions, and shall be designed to contain the 100-year annual wet season precipitation without using the required two feet of freeboard."*
10. Discharge Specification B.18 of the WDRs states, *"If leachate is detected in the vadose zone monitoring system of a surface impoundment (including a leak in the containment structure) the Discharger shall:*
 - a. *Immediately cease discharge of waste, excluding leachate to the surface impoundment, until the leaks can be found and repaired.*

- b. Verbally notify the Regional Board that the containment structures have failed within 72 hours.*
 - c. Submit written notification of the release to the Regional Board within seven days, the notification should include a time schedule to repair the containment structures.*
 - d. The discharge of waste to the surface impoundment shall not resume until the Regional Board has determined that repairs to the liners are complete and there is no further threat to water quality.*
11. On 18 September 2014, the Discharger verbally notified Regional Board staff that on 2 September 2014 liquid was detected in the pan lysimeter (vadose zone monitoring system) of Surface Impoundment No. 1 (SI No.1). Samples collected from the lysimeter identified the liquid as brine, which indicates a leak in the leachate collection and removal system. Therefore, in accordance with Discharge Specification B.18, the Discharger was required to notify the Board within 72 hours and cease the discharge into SI No. 1. However, the Discharger did not immediately cease the discharge and did not provide written notification of the release until 21 October 2014¹.
12. On 21 October 2014, Regional Board staff met with the Discharger to discuss monitoring and reporting violations at the facility. Regional Board staff informed the Discharger that discharges to the Surface Impoundment No. 1 must cease and that a water balance was required to show whether the Discharger could meet the two foot freeboard requirement with only three operating surface impoundments. Additionally, Regional Board staff requested weekly monitoring/progress reports documenting the volume of water in the ponds, the volume of water hauled off-site for disposal and the status of contract development associated with investigation and liner repair of Surface Impoundment No. 1.
13. On 31 October 2014, the Discharger began submitting weekly status reports as requested by Regional Board staff. The reports indicated that between 18 October and 31 October 2014, approximately 14,550 gallons of brine were discharged into Surface Impoundment No.1, in violation of the WDRs.
14. On 3 November 2014, the Discharger submitted weekly monitoring data that indicated liquid was present in the pan lysimeter of Surface Impoundment No. 3. The liquid was first identified on 18 October 2014. Liquid in the pan lysimeter indicates that waste is leaking from the class II Surface Impoundment. Therefore, in accordance with Discharge Specification B.18, the Discharger was required to notify the Board within 72 hours and cease the discharge into SI No. 3. However, the Discharger failed to notify Regional

¹ A subsequent review of operator logs finds that the Discharger noted that water was present in the pan lysimeter of SI No. 1 in January 2014. The Discharger did not provide notification and did not stop the discharge, in violation of the WDRs.

Board staff in the time frame required by the WDRs and failed to immediately cease the discharge into SI No. 3.

15. On 18 November 2014, the Assistant Executive Officer issued a California Water Code section 13267 Order, requiring the Discharger to submit the following technical reports:
 - a. *A report stating why CDCR failed to provide timely verbal and written notification of the release from surface impoundments SI No.1 and SI No. 3. The report shall include a copy of CDCR's revised notification policy to ensure timely notification of all violations to Regional Board staff in accordance with Order R5-2007-0005.*
 - b. *A plan and time schedule (not to exceed 14 days) for removing and disposing of residual waste (brine water and storm water) in both SI No.1 and SI No. 3, while maintaining the required two feet of freeboard in surface impoundments Nos. 2 and 4. The plan may include off-site disposal of waste at EBMUD or another appropriately permitted facility. Once the water is removed from SI No.1 and SI No. 3, any storm water shall be removed within 72 hours following a rain event.*
 - c. *A proposed timeline and schedule for determining the sources of the leak(s) and repairing the liners of SI No.1 and SI No. 3.*
 - d. *A water balance for the surface impoundments.*
 - e. *Weekly monitoring/progress reports documenting the volume of water in the ponds, pan lysimeters and the volume of water hauled offsite for disposal at EBMUD.*
16. On 5 December 2014, the Discharger notified Regional Board staff that all four surface impoundments had less than two feet of freeboard, in violation of the WDRs. Additionally, the Discharger stated that liquid was observed in all four pan lysimeters and that no more waste was being discharged to the four surface impoundments.
17. On 16 December 2014, Regional Board staff met with the Discharger. The Discharger provided design information which confirmed that the four surface impoundments share the same base liner system and that the access roads which separate the surface impoundments do not contain a liner and are not designed to prevent the lateral migration of liquid waste between the impoundments. Therefore, although the WDRs refer to four surface impoundments, there is actually only one impoundment. The location(s) of the failed liner may be in one or more of the four cells. Board staff reiterated that waste may not be discharged to any of the four cells until the liner is repaired.
18. On 26 December 2014, the Discharger's weekly monitoring report again identified the presence of liquid in each of the surface impoundment pan lysimeters.

19. In early January 2015, the Discharger began searching for a disposal option for the brine in the surface impoundments, and contacted East Bay Municipal Utilities District (EBMUD). EBMUD required a waste characterization to determine whether it could accept the waste; however, the Discharger did not complete the waste characterization until February 2015.
20. On 30 January 2015, the Discharger notified Regional Board staff that approximately fifty 21,000 gallon holding tanks were being delivered to the facility to temporarily store brine from the surface impoundments, so that the liners could be inspected and repaired. The stored brine would be hauled to EBMUD for disposal. The Discharger requested that the time schedule required by the 13267 Order to repair the surface impoundment liners be removed once the impoundments are empty.
21. On 11 February 2015, the Discharger began hauling brine from the surface impoundments to EBMUD for disposal. The initial hauling rate was 20,000 gallons per day (gpd), and as of 13 February, the rate was increased to 30,000 gpd.
22. The reverse osmosis water treatment plant has not been operating since October 2014². Based on a weekly report submitted by the Discharger on 27 February 2015, the Discharger anticipates that the water treatment plant will resume operation in March 2015. Brine from the water treatment plant will be temporarily stored in two 21,000 gallon tanks and hauled to EBMUD for disposal. The Discharger must continue hauling its brine to EBMUD (or other permitted facility) until the surface impoundment is repaired.
23. On 20 February 2015, the Discharger notified Regional Board staff that an assessment of the reverse osmosis facility and brine concentrator was being conducted to determine if it is feasible to install a crystallizer, which would eliminate the need to discharge brine to the surface impoundment. The Discharger did not provide a date by which the evaluation would be completed. This Order allows the Discharger the option to either repair the surface impoundments or clean close them in accordance with Section 21400 of Title 27.
24. On 24 February 2015, the Discharger submitted the water balance required by the Water Code 13267 Order. The water balance assumed a flow rate of 6 gallons per minute (gpm) because the operational records show that this has been the historical flow from the plant. However, Order R5-2007-0005 establishes a flow limit of 4 gpm. The water balance does not account for the buildup of solids (salt) in the surface impoundment. The water balance shows that the surface impoundment's interior roads may become partially submerged and access to the monitoring system (leachate collection and removal system and pan lysimeters) restricted. This Order requires the Discharger to revise the water balance based on the permitted flow of 4 gpm, and take

² The lack of operation is addressed in a companion Cleanup and Abatement Order.

into account the historical buildup of solids in the pond and the need to access the monitoring system built into the interior roads.

25. If groundwater monitoring data submitted by the Discharger identifies that a release of "designated waste" from the surface impoundments has impacted groundwater, the Discharger shall be required to remediate the release and associated groundwater impacts.

REGULATORY CONSIDERATIONS

26. Groundwater monitoring reports have not been submitted for over a year, and based on the detection of liquid present in the pan lysimeters of the surface impoundment, there is a possible release of brine waste from the surface impoundment to groundwater that threatens to create a condition of pollution. As a result of the events and activities described in this Order, the Regional Board finds that the Discharger has caused or permitted, or threatens to cause or permit, waste to be discharged in such a manner that it threatens to cause, or has caused, a threat to public health and/or created a condition of pollution or nuisance. These actions subject the Discharger to this Order under Section 13304 of the California Water Code.
27. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition* (Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Board. These requirements implement the Basin Plan.
28. Surface water drainage is toward the San Joaquin River in the Sacramento San Joaquin Delta Hydrologic Area (544.00). The beneficial uses of the Sacramento San Joaquin Delta are municipal and domestic supply; agricultural supply; industrial supply, water contact recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; migration of aquatic organisms; spawning reproduction and/or early development; wildlife habitat; and navigation.
29. The beneficial uses of the underlying groundwater are municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
30. Water Code section 13304(a) states, in relevant part: *Any person who has discharged or discharges waste into the waters of this state in violation of any waste discharge requirement or other order or prohibition issued by a regional board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the regional board, clean up the waste or abate the effects*

of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts.

31. Water Code section 13267(b) states, in relevant 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 ... 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.*
32. The technical reports required by this Order are necessary to ensure compliance with this Order, Title 27 of the California Code of Regulations, WDR Order R5- 2007-0005, and to ensure the protection of groundwater. The Discharger owns and operates the facility that discharges waste subject to this CAO and WDRs Order R5 2007-0005. Requiring the production of past due monitoring reports specified in MRP R5-2007-0005 in addition to reports requiring documentation of proper waste removal/disposal, a revised water balance, and a long term compliance plan related to the surface impoundment are necessary for the Regional Board to evaluate the extent of water quality impacts from the surface impoundment and to assess compliance with WDRs Order R5-2007-0005. The burden, including costs, of producing the technical reports is outweighed by the need of the reports in ensuring compliance with the WDRs Order R5-2007- 0005 and ensuring that the quality of groundwater is not compromised by any integrity issues from the surface impoundments.
33. This Order conforms to, and implements policies and requirements of, the Porter-Cologne Water Quality Control Act (Division 7, commencing with Water Code section 13000) including: (1) Water Code sections 13267 and 13304; (2) applicable state and federal regulations; (3) all applicable provisions of Statewide Water Quality Control Plans adopted by the State Water Resources Control Board (State Board) and the *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins*, Fourth Edition, revised October 2011, (hereafter "Basin Plan") adopted by the Regional Board; (4) State Board policies and regulations, including State Board Resolution No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California), and Resolution No. 92-49 (Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under Water Code section 13304) ("Resolution 92-49"); CCR Title 23, Section 3890 et. seq., and (5) relevant standards, criteria, and advisories adopted by other state and federal agencies.
34. On 14 February 2014, the Executive Officer designated Andrew Altevogt, Assistant Executive Officer, as the Lead Prosecution Officer for all enforcement matters originating

in the Central Valley Region. The 14 February 2014 Delegation of Authority also authorizes Andrew Altevogt to issue Cleanup and Abatement Orders.

35. The issuance of this Order is an enforcement action taken by a regulatory agency and is exempt from the provisions of the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) pursuant to California Code of Regulations, title 14, section 15321(a)(2).

IT IS HEREBY ORDERED, pursuant to Water Code sections 13304 and 13267 of the California Water Code, the California Department of Corrections and Rehabilitation shall cleanup and abate the water quality impacts caused by the reverse osmosis water treatment plant at the Deuel Vocation Institution, or take the necessary remedial action in the case of threatened water quality impacts, in accordance with the scope and schedule set forth below.

This Order requires submittal of technical reports. These technical reports shall contain the information and decisions required by the following paragraphs. If a report is submitted without the required information or decision, then the Discharger is in violation of this Order and subject to additional enforcement action.

All technical reports required by this Order must be converted to a searchable pdf file and emailed to centralvalleysacramento@waterboards.ca.gov. The following information shall be included in the body of the email: Attention Brendan Kenny, Compliance Section, Waste Discharge to Land Unit. In addition, include the Discharger name, facility name, county, and CIWQS place ID (642462) in the body of the email.

1. The Discharger shall **immediately** cease all discharges to the surface impoundments. All brine generated must be containerized and hauled to EBMUD (or other permitted facility approved by Water Board staff) for disposal.
2. The Discharger shall **immediately** comply with all aspects of WDRs Order and Monitoring and Reporting Program R5-2007-0005, including the submittal of complete technical and monitoring reports.
3. **Beginning with the month of April 2015**, the Discharger shall submit *Monthly Progress Reports* describing:
 - the work completed to-date to comply with each of the requirements in this Order;
 - total waste hauled that month to EBMUD or other permitted facility for disposal, including all hauling receipts for that month;
 - the status of all contracts needed to maintain compliance with this CAO. The status update shall certify that each contract is in place, provide its date of expiration, and

provide the Discharger's schedule for ensuring that the contract is renewed prior to expiration.

The Monthly Progress Reports shall be submitted by the **10th day of the month** following the end of the reporting period (e.g. the April report is due by 10 May 2015), and shall continue to be submitted until this CAO is rescinded.

4. If any groundwater monitoring report shows that the discharge of "designated waste" to the surface impoundment has impacted groundwater, then within **30 days** of submittal of the report, the Discharger shall submit a corrective action plan that complies with the WDRs and Title 27, which includes actions beyond ceasing the discharge to the impoundments.
5. By **1 June 2015**, the Discharger shall submit a *Waste Removal Report* documenting that all waste (liquid and solids) have been removed from the surface impoundments. The report shall contain records confirming (a) that the solids have been adequately characterized prior to disposal and (b) that the material has been disposed of at permitted facilities (e.g. disposal receipts).
6. By **30 June 2015**, the Discharger shall submit a *Revised Water Balance* that uses the permitted flow rate of 4 gpm, and takes into account the historical buildup of solids in the pond and the need to access the monitoring system built into the interior roads.
7. By **30 September 2015**, the Discharger shall submit a *Long Term Compliance Plan* describing whether (a) the surface impoundment will be repaired and used for waste disposal in the future, (b) waste will continue to be hauled off, (c) the reverse osmosis plant will be modified such that liquid waste will be no longer be discharged to the surface impoundment, or (d) some combination of the above. The Discharger shall also submit a copy of the Corrective Action Plan required by Citation NO. 01-10-15C-002 issued by the State Water Resources Control Board Division of Drinking Water to the Discharger.
8. Based on the Discharger's chosen compliance option, by **30 November 2015**, the Discharger shall submit a *Long Term Compliance Implementation Report* which contains one of the following:
 - a. A schedule and workplan for locating and repairing the leaks in the primary and secondary liners of the surface impoundments. The schedule shall include a copy of the contract that has been awarded to the contractor(s) performing the work. The workplan shall include a leak location test of the lining system (primary and secondary liners) to identify the location of the failed liner sections. The workplan shall also include a copy of the construction quality assurance (CQA) plan that will be implemented for the project and which complies with section 20323 and 20324 of Title 27. Additionally, the workplan shall identify the company that has been contracted to

perform an electronic leak test to verify the integrity of the class II surface impoundments once the repairs are completed. Finally, if the Discharger determines it will need to operate the reverse osmosis plant such that waste is produced at a rate greater than the permitted 4 gpm, then the report shall also include a Report of Waste Discharge and a request for revised WDRs.

- b. A schedule and plan for installing a crystallizer or other device necessary to eliminate the discharge of brine from the reverse osmosis plant and brine concentrator. Additionally the report shall include a plan and proposed timeline for clean closing the evaporation basins in accordance with Title 27, Section 21400 and Discharge Specification B.22 of Order R5-2007-0005.

As required by the California Business and Professions Code sections 6735, 7835, and 7835.1, all reports shall be prepared by, or under the supervision of, a California Registered Engineer or Professional Geologist and signed by the registered professional.

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."


If the Discharger is unable to perform any activity or submit any document in compliance with the schedule set forth herein, or in compliance with any work schedule submitted pursuant to this Order and approved by the Assistant Executive Officer, the Discharger may request, in writing, an extension of the time specified. The extension request shall include justification for the delay. Any extension request shall be submitted as soon as a delay is recognized and prior to the compliance date. An extension may be granted by revision of this Order or by a letter from the Assistant Executive Officer.

If the Discharger fails to comply with the provisions of this Order, the Assistant Executive Officer may refer this matter to the Attorney General for judicial enforcement or may issue a complaint for administrative civil liability. Failure to comply with this CAO may result in the assessment of administrative civil liability up to \$5,000 per violation per day, pursuant to the Water Code section 13350 and up to \$1,000 per day pursuant to Water Code section 13268. 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.

This Order is effective upon the date of signature.



Andrew Altevogt, Assistant Executive Officer

30 March 2015

(Date)

BK/HH/WSW: 30March15