

Central Valley Regional Water Quality Control Board

13 April 2017

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RESPONSE TO COMMENTS, TENTATIVE WASTE DISCHARGE REQUIREMENTS, DEUEL VOCATIONAL INSTITUTION CLASS II SURFACE IMPOUNDMENTS, CALIFORNIA DEPARTMENT OF CORRECTIONS AND REHABILITATION, SAN JOAQUIN COUNTY

On 13 March 2017, Central Valley Water Board staff received California Department of Corrections and Rehabilitation's (CDCR) comments on the tentative Waste Discharge Requirement (WDR) Order for the Deuel Vocational Institution Class II surface impoundments. The tentative WDRs are being considered for adoption by our Board at the 8/9 June 2017 public hearing.

Your comments are appreciated, and we have updated the tentative WDRs following review of your comments. We have also prepared the attached response to comments document for your review. Your comments and our response to comments will be uploaded to our web page within the next couple of days. The tentative WDRs has been added to the agenda for the 8/9 June 2017 Board Meeting on the uncontested calendar.

Please contact me at (916) 464-4630 or Marty.Hartzell@waterboards.ca.gov with questions.



Marty Hartzell, PG, CHG
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Title 27 Permitting and Mining Unit

Attachment- Response to Comments

cc: U.S. Environmental Protection Agency, Region 9, San Francisco
Office of Drinking Water, Department of Health Services, Sacramento
Department of Fish and Wildlife, Region 2, Rancho Cordova
Nadine Langley, Land Disposal Program, Division of Water Quality, SWRCB, Sacramento
Jennifer Farrell, Regional Manager, CDCR, Sacramento
Neal Williams, Project Manager, Dewberry, Denver CO
Andrew Deeringer, Office of Chief Counsel, SWRCB, Sacramento
Howard Hold, Central Valley Water Board, Rancho Cordova
San Joaquin County Planning Department, Stockton

TENTATIVE WASTE DISCHARGE REQUIREMENTS RESPONSE TO CDCR COMMENTS

CDCR COMMENT 1:

Item number 4 suggests the impoundments contain waste from the reverse osmosis and brine concentration process. The impoundments are designed only to accept waste from the brine concentration process.

Response: The finding has been revised to remove reference to the reverse osmosis process.

CDCR COMMENT 2:

For item number 6, please indicate the area for P-01 and P-02 is 1.71 acres each. This comment also applies to units P-03 and P-04.

Response: The finding has been revised to indicate 1.71 acres is for each Unit.

CDCR COMMENT 3:

The values in column 2, Wastewater Quality, in item number 12 is waste analysis collected from the proposed brine concentrate process replacement. It is not representative of the waste currently from the reverse osmosis or current brine concentrate system. For item number 26, the updated Geotechnical Investigation – Surface Impoundment Ponds, Deuel Vocational Institution, Tracy, California, September 27, 2016 provide the following observation in regards to groundwater elevations, “Observations during the explorations for this study indicated groundwater depths between about 5 and 10 feet below ground surface (bgs). We note that Fugro (2005) reported groundwater depths as high as about 3.5 feet bgs. Based on these results the mean groundwater depth is about elevation of 5.6 feet bgs, with a standard deviation of 2.6 feet.”

Response: Finding 12 has been changed to read as follows:

12. The Discharger provided data in the ROWD shown in the table below for samples of ~~the~~ hypersaline liquid collected from the discharge from ~~at the reverse osmosis and Vibratory Shear Enhanced Process (VSEP) pilot project which will be installed to replace the brine concentrator system (BCS). brine concentration process.~~ The table also includes the California primary maximum contaminant level (primary MCL), the lowest applicable water quality objective (WQO) for groundwater for protection of drinking water beneficial use for domestic and municipal supply wells, and the background groundwater quality pumped from the four onsite supply wells at the site.

In response to comments on Finding 26, Regional Water Board staff has reviewed the Discharger’s historical groundwater elevation data submitted as part of their monitoring and reporting program (MRP). Finding 26 has been revised to reflect groundwater elevation levels reported in the MRP. Based on the standard deviation and in the Discharger’s comment and the variation calculated at monitoring well MW-2 the highest anticipated groundwater elevation including the capillary fringe is the existing ground surface (zero feet below grade). Finding 26 has been revised as follows:

26. The first encountered groundwater reported between 2007 and 2016 ranges from about 2.04-2 feet to 7.47 feet below the native ground surface as reported in the Discharger's 2016 1st Semiannual Monitoring Report. Groundwater elevations ranged from about 9.340-5 feet MSL to 16.444 feet MSL in groundwater monitoring wells MW-2 and MW-3 respectively. The highest anticipated groundwater in MW-2 based on variability of the recorded measurements is estimated to be at the existing 3.4 feet below ground surface (bgs). To maintain a minimum of five feet of separation between the liner system and highest anticipated groundwater, the bottom of the ponds will be set at least five feet above the existing grade.

CDCR COMMENT 4:

For item number 32, a monitoring well installation plan for two additional wells for impoundments P-03 and P-04 are proposed as shown on Attachment D. The work plan will be submitted based on dates suggested in Comment 16 below.

Response: The WDRs in Finding 32 does not approve the proposed locations for the two monitoring wells. The WDRs in the Provisions H.13.B requires the Discharger to submit a groundwater monitoring plan and rationale that supports the proposed locations in accordance with Title 27 regulations.

CDCR COMMENT 5:

For item number 33, a pan lysimeter under the LCRS sumps for each new impoundment is proposed.

Response: Comment noted. The Discharger in response to Provisions H.13.C intends to submit an unsaturated zone monitoring plan that shall use a pan lysimeter under each LCRS sump.

CDCR COMMENT 6:

For item number 40, the geonet drainage layer is 300 mil versus 200 mil.

Response: The finding has been changed to reflect 300 mil thickness of the drainage layer.

CDCR COMMENT 7:

Item number 41 states the LCRS is designed with the capacity for at least twice the maximum anticipated daily volume of leachate. Is this maximum daily volume defined as the action leakage rate?

Response: The daily maximum would be twice the maximum anticipated leakage through the primary geomembrane liner into the LCRS. Since the action leakage rate controls the maximum allowable leakage rate into the LCRS before the Discharger must make repairs to the primary geomembrane liner one could consider the anticipated daily volume as the action leakage rate.

CDCR COMMENT 8:

For item number 50, it is unclear if 3,000 gpad is proposed for the entire site or for each individual surface impoundment.

Response: The units of measure for the action leakage rate is gallons per acre per day (gpad). Based on the acreage of a pond, the daily leakage in gallons per day (gpd) is calculated for each pond (see Finding 51 and response to comment for CDCR comment 9). Therefore, a 1.7 acre pond with an ALR of 2,000 gpad has an allowable leakage of 3,400 gpd before the pond must be removed from service and the primary liner repaired.

CDCR COMMENT 9:

Please update item number 50.e certifying that an ALR of 4,182 gpad would pass through the LCRS as defined in the revised memorandum dated January 30, 2017, Incomplete Report of Waste Discharge, Deuel Vocational Institution Class II Surface Impoundments, CA Department of Corrections and Rehabilitation, San Joaquin County, page 4 of the Calculation of Action Leakage Rate Through the Leakage Collection and Recovery System Underlying a Geomembrane Liner (Rev 2).

Response: Finding 50.e has been revised from 7,500 gpad to 4,182 gpad.

CDCR COMMENT 10:

Please update the cost estimate for the corrective action in item number 55 to be \$2.6 million in 2016 dollars as revised in the memorandum dated January 30, 2017, Incomplete Report of Waste Discharge, Deuel Vocational Institution Class II Surface Impoundments, CA Department of Corrections and Rehabilitation, San Joaquin County.

Response: The finding has been revised accordingly.

CDCR COMMENT 11:

On page 16, under Part C – Facility Specifications, Class II Surface Impoundments, Item Number 2, it states the Discharger shall maintain at least 2.4 feet of freeboard at all times. In item number 49 this number is 2.36. Please provide a consistent value.

Response: Finding 49 has been changed to 2.4 feet.

CDCR COMMENT 12:

On page 18, under Part D – Design and Construction Specifications, Class II Surface Impoundments, Item Number 11.b please update 200-mil geonet drainage layer to 300-mil geonet drainage layer and a minimum transmissivity of 0.011 ft²/sec as defined in defined in the revised memorandum dated January 30, 2017, Incomplete Report of Waste Discharge, Deuel Vocational Institution Class II Surface Impoundments, CA Department of Corrections and Rehabilitation, San Joaquin County, page 3 of the Calculation of Action Leakage Rate Through the Leakage Collection and Recovery System Underlying a Geomembrane Liner (Rev 2).

Response: The specification for the drainage layer has been changed to 300-mil thickness with a minimum transmissivity of 0.011 ft²/sec.

CDCR COMMENT 13:

On page 19, under Part D – Design and Construction Specifications, Class II Surface Impoundments, Item Number 12 please update the highest anticipated groundwater value based on the final number defined in item number 26 (page 6). We recommend a value of 3 feet bgs based on the updated Geotechnical Investigation – Surface Impoundment Ponds, Deuel Vocational Institution, Tracy, California, September 27, 2016.

Response: Please see response to CDCR comment 3. Specification D.12 has been changed to reflect Finding 26 as follows:

12. Highest anticipated groundwater is estimated to be ~~at 3.4 feet below~~ ground surface (see Finding 26 bgs). To maintain a minimum of five feet of separation between the liner system and groundwater, the bottom of the ponds will be set at least five feet above the existing grade.

CDCR COMMENT 14:

On page 23, under Part H – Provisions, Item Number 11 please clarify that the deed is only necessary upon final closure of the surface impoundment and not necessary for clean closure and then rehabilitation of the current built impoundments.

Response: The property notification to potential future buyers is required at final closure of the facility. The provisions has been revised to clarify that the property notification applicator to final closure of the facility.

CDCR COMMENT 15:

On page 24, under Part H – Provisions, Item Number 13 the compliance date for Groundwater Monitoring Plan (B.1) and Unsaturated Zone Monitoring Plan (C.1) date falls before the public hearing date of June 8/9, 2017. It is recommended these dates be pushed back to July 1, 2017 so as to include any comments brought forth in the public hearing. In addition the installation of the groundwater monitoring system should be pushed back to September 1, 2017 to account for the one-month extension.

Response: The compliance dates have been pushed back two months to 1 August 2017 and 1 October 2017 to allow the Discharger sufficient time to comply.

CDCR COMMENT 16:

On page 25, under Part H – Provisions, Item Number 13 requires an Unsaturated Zone Monitoring Plan (C.1) be submitted for surface impoundments P-01 through P-04. It is understood that the current impoundments P-1 through P-4 have an established Water Quality Protection Standard (WQPS) as required and documented in the previous issued Monitoring and Reporting Program No. R5-2007-0005. Can the previous WQPS be used and amended as part of this requirement? In addition, is the Unsaturated Zone Monitoring Plan not already defined in the attached Monitoring and Reporting Program R5-2017-XXXX which is based on an

approved April 2007 Sample Collection and Analysis Plan?

Response: The new surface impoundments P-01 through P-04 will use pan lysimeters (see CDCR Comment 5) for unsaturated zone monitoring below each surface impoundment LCRS sump. The Discharger will need to characterize the unsaturated zone soil pore liquid to determine background concentrations. It has not been established what the characteristics will be of the soil that will be used to construct the surface impoundment base (soil used to achieve groundwater separation). The Discharger will have to characterize the soil pore liquid that may be found in the pan lysimeter to determine if the source of liquids found is naturally occurring liquids or leachate in order to determine if a release to the unsaturated zone has occurred. The WQPS shall be based on the water quality characteristics of naturally occurring soil pore liquids in the unsaturated zone prior to placement of waste in the surface impoundments. The Discharger must submit a proposal to amend its existing WQPS any time a new monitoring point (groundwater, unsaturated zone, surface water) is added to its water quality monitoring program. Furthermore, the sampling and analysis plan should be revised to reflect the new unsaturated zone monitoring system that is being proposed (i.e., how the Discharger proposes to take samples from the pan lysimeters and have the samples analyzed). This may require minor modifications to the sampling and analysis plan depending on how the pan lysimeters are constructed and how samples will be retrieved from them.

Additional Changes:

The Discharger submitted evidence of CEQA compliance for the enlargement of its Class II surface impoundments. Finding 56 has been changed as follows to incorporate new information into the WDRs regarding CEQA compliance:

CEQA AND OTHER CONSIDERATIONS

56. On 7 April 2017, the California Department of Corrections and Rehabilitation as lead agency certified an addendum to its 2005 Initial Study/Mitigated Negative Declaration (IS/MND) for the Reverse Osmosis Water Treatment Facility project~~the final negative declaration for the facility~~. The addendum was intended to evaluate and confirm CEQA compliance for proposed changes at the facility including enlargement of its Class II surface impoundments. A Notice of Determination was filed on 10 April 2017 in accordance with the California Environmental Quality Act (Public Resources Code Section 21000 et seq.) and CEQA guidelines (Title 14, section 15000 et seq.). The Central Valley Water Board considered the addendum to the 2005 IS/MND ~~negative declaration~~ and incorporated mitigation measures from the negative declaration and addendum into these waste discharge requirements designed to prevent potentially significant impacts to design facilities and to water quality.