

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION
ORDER NO. R5-2017-0112

ORDER AMENDING WATER CODE SECTION 13301
CEASE AND DESIST
ORDER NO. R5-2015-0093

FOR
VALLEY WATER MANAGEMENT COMPANY

RACE TRACK HILL FACILITY AND FEE 34 FACILITY
EDISON OIL FIELD
KERN COUNTY

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

1. On 30 July 2015, the Central Valley Water Board adopted Water Code Section 13301, Order No. R5-2015-0093, for Valley Water Management Company's Race Track Hill facility and Fee 34 facility in the Edison Oil Field.
2. Order No. R5-2015-0093 was issued to Valley Water Management Company to provide specific requirements and a timeline to come into compliance with waste discharge requirements issued by the Central Valley Water Board or cease the discharge of produced wastewater to surface impoundments or land at the Race Track Hill facility by 1 January 2018.
3. The Race Track Hill facility receives produced wastewater for disposal from numerous small operators in the Edison Oil Field. Seven operators have not been able to implement alternative disposal methods and are currently dependent on Valley Water Management Company accepting this produced wastewater. The following six operators have partnered together and are collectively known as "Edison Beneficial Reuse:"
 - a. Sequoia Exploration;
 - b. Atlantic Oil;
 - c. Bud's Oil;
 - d. Premier Oil;
 - e. Petro Resources Company; and
 - f. Sun Mountain Oil.

The seventh operator is Pyramid Oil Company and is not associated with Edison Beneficial Reuse. Edison Beneficial Reuse has requested that Valley Water Management Company seek a deadline extension for Order R5-2015-0093 to permit the continued discharge of produced wastewater to the Race Track Hill Facility until 1 July 2019.

4. Since early 2016, Edison Beneficial Reuse has been working to develop and implement alternative disposal methods for produced wastewater generated in the Edison Oil Field.
5. On 9 October 2017, representatives from Valley Water Management Company and Edison Beneficial Reuse met with Central Valley Water Board staff to discuss the status of two alternative disposal methods for produced wastewater:
 - a. Disposal Wells – In 2015, Verjill Oil Company submitted an Underground Injection Control (UIC) Application to the Division of Oil, Gas, and Geothermal Resources (DOGGR) for four UIC wells adjacent to the Fee 34 facility. In July 2017, DOGGR issued a preliminary UIC Project Approval Letter for the discharge of produced wastewater to the Vedder Formation. On 31 July 2017, Verjill Oil Company transferred ownership of the UIC wells to Atlantic Oil Company. Atlantic Oil Company is in the process of transferring ownership of the UIC wells to Edison Beneficial Reuse. Edison Beneficial Reuse indicated it needs more time to finish the transfer of ownership and to prepare the UIC wells for injection into the Vedder Formation.
 - b. Beneficial Reuse – Edison Beneficial Reuse has proposed a blended reuse project that would use treated produced wastewater from Valley Water Management Company's Fee 34 facility during nine months of the year. During the off-season, or as needed, produced wastewater would be transferred to the UIC wells for disposal. Members of Edison Beneficial Reuse are anticipating a substantial investment in permitting, antidegradation modeling, and construction costs.
6. On 9 October 2017, Edison Beneficial Reuse stated that neither of the alternative disposal methods (discussed in Finding 5) of this Order could be implemented before the deadline of 1 January 2018. Valley Water Management Company requested the deadline extension of 18 months, to 1 July 2019, to provide adequate time for members of Edison Beneficial Reuse to implement alternative disposal methods that will reduce and eventually eliminate the discharge of produced wastewater to the Race Track Hill facility. Without a deadline extension, the immediate shutdown of these facilities would jeopardize the existence of the six small businesses that employ approximately 20 people and generate nearly \$500,000 in royalties for lease owners.
7. When Order No. R5-2015-0093 was adopted, approximately 10,000 barrels of produced wastewater were discharged to the Race Track Hill facility per day. Since that time, many current and former Valley Water Management Company members have pursued alternative disposal options and no longer utilize the Fee 34 facility and Race Track Hill facility. Over the past year, produced wastewater flows have been averaging 1,400 to 1,800 barrels per day.
8. The discharge of produced wastewater to the Race Track Hill facility has occurred since 1958. The requested time extension to allow for a greatly reduced discharge volume of produced wastewater while Edison Beneficial Reuse implements alternative

disposal methods will have significantly less impact on groundwater than historic activities at that site. To ensure that the discharge of produced wastewater to the Race Track Hill facility remains significantly reduced, this Order includes a monthly average daily flow limit of 2,500 barrels. This flow limit considers historical flows to the Race Track Hill facility and a buffer for fluctuation that may occur during petroleum production over the next 18 months.

California Environment Quality Act

9. The action to amend Order No. R5-2015-0093 is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.) because it involves no significant changes to the facility and does not expand the existing use (Cal. Code Regs. tit. 14, § 15301). The amendment of Order No. R5-2015-0093 is an action by a regulatory agency to enforce provisions of the Water Code, Division 7, and is thus exempt from the provisions the California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.) in accordance with California Code of Regulations, title 14, section 15321(a)(2)).

Public Notice

10. The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to amend Order No. R5-2015-0093 for this discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
11. The Central Valley Water Board, in a public meeting, heard, and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that, pursuant to sections 13301 and 13267 of the California Water Code, Order No. R5-2015-0093 is amended as shown in Attachment A. Specific changes in Attachment A are underline for additions and strikeout for deletions.

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

ORDER NO. R5-2017-0112
AMENDING WATER CODE SECTION 13301
CEASE AND DESIST ORDER NO. R5-2015-0093
VALLEY WATER MANAGEMENT COMPANY
RACE TRACK HILL FACILITY AND FEE 34 FACILITY
EDISON OIL FIELD, KERN COUNTY

or will be provided upon request.

This Order is effective as of the date of adoption.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that the foregoing is a full true, and correct copy of an Order adopted by the California Regional Water Quality Control Board on 7 December 2017

Original Signed By

PAMELA C. CREEDON, Executive Officer

Order Attachment

- A. Water Code Section 13301 Order No. R5-2015-0093, As Amended By Order No. R5-2017-0112

ATTACHMENT A

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

WATER CODE SECTION 13301
CEASE AND DESIST
ORDER NO. R5-2015-0093

AS AMENDED BY ORDER NO. R5-2017-0112

FOR
VALLEY WATER MANAGEMENT COMPANY
RACE TRACK HILL FACILITY AND
FEE 34 FACILITY, EDISON OIL FIELD
KERN COUNTY

~~WATER CODE SECTION 13301 ORDER~~
~~TO COMPLY WITH RESOLUTION 58-349 AND~~
~~ORDERS 92-110 AND 92-11037~~

The California Regional Water Quality Control Board, Central Valley Region (hereafter referred to as "Central Valley Water Board" or "Board") finds that:

1. Valley Water Management Company (hereinafter referred to as Valley Water), owns and operates two oil well production wastewater disposal facilities under the names of "Fee 34 Facility" and "Race Track Hill Facility" in the Edison area of Kern County. Each facility has been issued an individual order for operation. However, since the two facilities are parts of a single wastewater processing and disposal operation, they are jointly addressed in this order as a single wastewater processing facility.

FEE 34 FACILITY

2. The Fee 34 Facility (also known as the C-Plant Facility) is on 3.4 acres (Assessor's Parcel Number 388-050-254) in the SW $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Section 34, T29S, R29E, MDB&M. The Fee 34 Facility is approximately one mile northeast of the community of Edison in the Edison Oil Field (see Attachment A, which is attached hereto and made part of this Order). Discovered in 1928, the Edison Oil Field as of 2008 had a cumulative production of over 150 million barrels of oil, over 5.5 million barrels in reserve, 932 producing wells, and was ranked 38th among California's largest and most productive oil fields by total ultimate recovery.¹ In the year 2013, the Edison Oil Field produced 790,130 barrels of oil and 12,107,770 barrels of water.²
3. The Fee 34 Facility contains six surface impoundments (Attachment B). Wastewater is transported to the facility by pipeline from various small, independent oil company leases

¹ "2009 Report of the State Oil & Gas Supervisor," Department of Oil, Gas, and Geothermal Resources (DOGGR), California Department of Conservation, 2009, accessible at ftp://ftp.consrv.ca.gov/pub/oil/annual_reports/2009/PR06_Annual_2009.pdf at p. 65.

² "2013 Report of the State Oil & Gas Supervisor," Department of Oil, Gas, and Geothermal Resources (DOGGR), California Department of Conservation, 2013, accessible at ftp://ftp.consrv.ca.gov/pub/oil/annual_reports/2013/PR03_PreAnnual_2013.pdf at p. 9.

throughout the Edison Oil Field. Crude oil skimmed from the produced waters flows into two netted, unlined oil recovery impoundments until shipped offsite. The wastewater flows through three gunite-lined impoundments equipped with skimmers and is then pumped via pipeline to Valley Water's Race Track Hill Facility for disposal. There is one unlined contingency impoundment for temporary storage of excess wastewater in the instance of power failure or other emergency event. Dimensions of the impoundments range from approximately 30 feet (ft.) x 50 ft. to 120 ft. x 180 ft., and are approximately 10 ft. to 15 ft. deep. An aerial photograph of the Fee 34 Facility is attached hereto as Attachment B and made part of this Order.

4. The Fee 34 Facility is regulated by Central Valley Water Board Order Nos. 92-110 and 92-11037. Order 92-110 sets forth general WDRs for the discharge of oil field produced wastewaters from Edison Oil Field operations, including the Fee 34 Facility. Order 92-11037 is the Notice of Applicability of the general WDRs to the Fee 34 Facility, and includes a chemical analysis of the wastewater with the following characteristics: 7,900 micromhos per centimeter ($\mu\text{mhos/cm}$) electrical conductivity (EC), 4,450 milligrams/liter (mg/l) chloride, and 15.6 mg/l boron.
5. The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition* (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin.
6. Surface drainage is toward the East Side Canal in the Arvin-Wheeler Ridge Hydrologic Area (557.30) of the Tulare Lake Basin. Surface waters in the Arvin-Wheeler Ridge Hydrologic Area are designated as Valley Floor Waters. The designated beneficial uses of Valley Floor Waters, as specified in the Basin Plan, are agricultural supply; industrial service and process supply; water contact and non-contact water recreation; warm fresh water habitat; wildlife habitat; preservation of rare, threatened, and endangered species; and groundwater recharge.
7. The Fee 34 Facility is in the Kern County Basin Hydrologic Unit, Detailed Analysis Unit (DAU) 258. The designated beneficial uses of the groundwater, as specified in the Basin Plan for DAU 258, are municipal and domestic water supply, agricultural supply, industrial service, and process supply.
8. Information obtained from the California Department of Water Resources identified 36 groundwater supply wells within about one-mile of the Fee 34 Facility. The groundwater is primarily used for agricultural supply. Driller's reports for 19 of the wells identify six domestic supply wells, twelve agricultural supply wells, and one industrial supply well.

RACE TRACK HILL FACILITY

9. The Race Track Hill Facility is located on 338.4 acres in the western half of Section 24, T29S, R29E, MDB&M. The Facility is about fifteen miles east of Bakersfield in Kern County on Assessor's Parcel Number 387-060-031 (see Attachment C).
10. The Race Track Hill Facility contains 27 unlined surface impoundments and approximately 94 acres of land, a portion of which is used for surface sprinkler disposal. Wastewater discharge

began 56 ½ years ago, in approximately December of 1958. Wastewater is transported to the Facility by pipeline from Valley Water's Fee 34 Facility, which is about four miles to the southwest in the Edison Oil Field. The wastewater is discharged to the impoundments for percolation and evaporation. Excess wastewater that does not percolate or evaporate is sprayed onto portions of the 94 acres for disposal.

11. The Race Track Hill Facility is in an area of rolling topography and a portion of the site drains toward Cottonwood Creek, about one-half mile northeast of the Facility. Cottonwood Creek is tributary to the Kern River. The designated beneficial uses of the Kern River below the southern California Edison Kern River Powerhouse Number One, as specified in the Basin Plan, are municipal and domestic supply, agricultural supply, industrial service and process supply, hydropower generation, water contact and non-contact recreation, warm fresh water habitat, wildlife habitat, preservation of rare, threatened and endangered species, and groundwater recharge.
12. The Race Track Hill Facility is in the Kern County Basin Hydrologic Unit, DAU 257. The designated beneficial uses of the groundwater for DAU 257, as specified in the Basin Plan, are municipal and domestic water supply, agricultural supply, industrial service and process supply, and water contact recreation.
13. The Race Track Hill Facility is underlain by unconsolidated sediments of the Kern River-Chanac Series. The consolidated sediments of the Santa Margarita Formation underlie the Kern River-Chanac Series. The top of the Santa Margarita Formation and the overlying sediments dip to the southwest at an angle of approximately five degrees.
14. The Race Track Hill Facility's WDRs, Resolution No. 58-349, was adopted by the Central Valley Water Board on September 18, 1958, and set forth requirements for the discharge of oil field produced wastewater at the Facility.
15. The WDRs allow the discharge of oil field produced wastewater to the ground surface, into natural drainage channels, and into surface impoundments in Section 24, T298, R29E, MDB&M. The WDRs also allow the discharge of oil field produced wastewater to the ground surface, into natural drainage channels, or into unlined surface impoundments other than those constructed in Section 24, provided the wastewater conforms to the following criteria:
 - a. Total dissolved solids shall not exceed 1,000 parts per million.
 - b. Chlorides shall not exceed 150 parts per million.
 - c. Boron shall not exceed 1.0 part per million.
16. The WDRs predate the Basin Plan and do not contain the limitations on the discharge of oil field produced wastewater to surface impoundments within Section 24 that are contained in the Basin Plan.
17. Although Resolution 58-349 found "no freshwater producing wells in this vicinity" in 1958, more recent information obtained from the California Department of Water Resources identified six groundwater supply wells within one-mile of the Facility. Groundwater from these wells may

have been used for domestic water supply, agriculture supply, and industrial service supply. The current status of these wells is not clear and some may have been destroyed.

WASTE DISPOSAL OPERATIONS AND COMPLIANCE

18. Discharge of Waste to Land: This information is based upon the 27 November 2012 and 18 September 2013 Central Valley Water Board inspections of the Fee 34 Facility and Race Track Hill Facility, and based upon Valley Water's wastewater analysis lab report dated 23 July 2013 for the Fee 34 Facility regarding concentrations of EC in $\mu\text{mhos/cm}$, chloride in mg/l , and boron in mg/l . The Basin Plan and Order 92-110 for Edison Oil Field Operators, and Resolution 58-349 set forth the following waste constituent limitations for the discharge of oil field wastewater:

	<u>Units:</u>	<u>Basin Plan & Order 92-110 Limitation Value:</u>	<u>Res. 58-349 Limitation Value:</u>
<u>Specific EC:</u>	$\mu\text{mhos/cm}$	1,000	None
<u>Total Dissolved Solids:</u>	mg/l (ppm)	NA	1,000 (outside Section 24)
<u>Chloride:</u>	mg/l	200	150 (outside Section 24)
<u>Boron:</u>	mg/l	1	1 (outside Section 24)

The Basin Plan allows discharges of oil field wastewater that exceed the above maximum salinity limits to unlined sumps, stream channels, or surface waters if the Discharger successfully demonstrates to the Central Valley Water Board in a public hearing that the proposed discharge will not substantially affect water quality nor cause a violation of water quality objectives.

The 23 July 2013 wastewater analytical results at Fee 34 Facility were measured at the following values and are compared to 1992 levels and the Basin Plan limits:

	<u>Units:</u>	<u>1992 Value</u>	<u>2013 Value:</u>	<u>Basin Plan Limits:</u>
<u>Specific EC:</u>	$\mu\text{mhos/cm}$	7,900	5,700	1,000
<u>Chloride:</u>	mg/l	4,450	1,800	200
<u>Boron:</u>	mg/l	15.6	14	1

19. The Fee 34 Facility and Race Track Hill Facility were also inspected on 27 March 2015. Violations of the WDRs for both facilities were noted during the inspections. At the Fee 34 Facility, wastewater with EC, chloride, and boron values greater than the Basin Plan limits was being discharged to the ponds in violation of Discharge Specification B.1 of the WDRs. Also, the ponds at the Fee 34 Facility had insufficient freeboard in violation of Discharge Specification B.6 of the WDRs and were not adequately netted or covered to preclude access by wildlife to wastewater with oil coatings in violation of Discharge Specification B.4 of the WDRs. The inspection report noted that the Race Track Hill Facility had insufficient freeboard on two ponds and insufficient netting on three ponds.

20. On 24 May 1996, Valley Waste Disposal Company, the predecessor of Valley Water, submitted the report *Drilling and Data Acquisition Report, Race Track Hill District, Edison Oil Field, Kern County, California*. The report was submitted pursuant to Discharge Specification B.2.c. of Order 92-110. The report and transmittal letter stated that the Fee 34 Facility "... does not pose a threat to ground water quality and that no further action should be required for continued operation of the site." The transmittal letter also requested a hearing if necessary to demonstrate that the facility does not pose a threat to groundwater quality. There is no record of a response nor an evaluation of the report in the site files, and a hearing before the Central Valley Water Board was not held. Current Central Valley Water Board staff reviewed the report and transmittal letter and found it inadequate to demonstrate that there have been no impacts, or that there is no threat, to groundwater.
21. On 9 October 2013, the Central Valley Water Board issued a Notice of Violation (NOV) to Valley Water (see Attachment D, which is attached hereto and made part of this Order) for violations of the Discharge Specifications of Order 92-110 at the Fee 34 Facility. The NOV allegations included discharging wastewater in excess of the numerical limitations specified in Discharge Specification B.1 (see Finding No. 18), which is causing, or is threatening to cause a condition of pollution,³ contamination or nuisance,⁴ and failure to maintain the minimum freeboard of two feet in two of the impoundments as specified in Discharge Specification B.6, which is causing, or is threatening to cause, a condition of pollution, contamination, or nuisance caused by overtopping the impoundments. Valley Water submitted a response to the NOV on 8 November 2013 addressing each allegation.
22. Section 13301 of the Water Code provides in relevant part that:
- When a regional board finds that a discharge of waste is taking place, or threatening to take place, in violation of requirements of discharge prohibitions prescribed by the regional board or the state board, the board may issue an order to cease and desist and direct that those persons not complying with the requirements or discharge prohibitions (a) comply forthwith, (b) comply in accordance with a time schedule set by the board, or (c) in the event of a threatened violation, take appropriate remedial or preventive action
Cease and desist orders may be issued direct by a board, after notice and hearing.
23. The discharge of waste with high salinity and boron concentrations and other oil field wastewater constituents to the ground, surface water, and/or groundwater creates, or threatens to create, a condition of pollution in surface and groundwater, and may result in the degradation of water quality.
24. Land around the Fee 34 Facility is being used for agricultural production, primarily citrus and grapes. Land around the Race Track Hill Facility is also used for agricultural production

³ "Pollution' is defined by Water Code section 13050, subdivision (l)(1) as, an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects either of the following: (A) The waters for beneficial uses; (B) Facilities which serve these beneficial uses." Water Code §13050(l).

⁴ "Nuisance' means anything which meets all of the following requirements: (1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. (2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. (3) Occurs during, or as a result of, the treatment or disposal of wastes." Water Code §13050(m).

including open stock grazing, a five-acre vineyard located approximately 3,000 feet southwest of the facility, and other crops grown in the area beginning about one mile south of the facility.

25. Many of the crops are irrigated with groundwater from local supply wells. Irrigation water with a chloride concentration above 350 mg/l can cause severe crop problems. Boron toxicity can impair crops sensitive to boron at concentrations less than 1 mg/l in irrigation water.⁵
26. Underlying groundwater may be degraded if mixed with oil field wastewater. Elevated EC, chloride, and boron levels could impair groundwater for municipal and domestic supply and agricultural supply uses.
27. Due to the topographic relief at the Race Track Hill Facility and the relatively close proximity (one-half mile) to Cottonwood Creek, a major storm has the potential to flush a portion of the accumulated salts discharged to the spray field the past 50-60 years into Cottonwood Creek, which could then be transported to the Kern River 2.5 miles downstream. This has the potential to result in a temporary salt and boron loading of water in the Kern River, and to increase salt and boron loading to groundwaters at the terminus of Kern River flow where groundwater is recharged. Operation of the spray field would require a permit under the National Pollution Discharge Elimination System, but the disposal operation currently would not meet the requirements for discharge to a surface water.

HYDROGEOLOGICAL INVESTIGATION

28. On 1 July 2014, the Central Valley Water Board issued an Order pursuant to Section 13267 of the California Water Code to Valley Water requiring preparation and submission of work plans for hydrogeologic site characterizations for each facility and technical reports presenting their findings. The Discharger petitioned this Order to the State Water Resources Control Board.
29. Valley Water agreed to assess the impacts of wastewater discharges at the Racetrack and Fee 34 facilities. To date, the approach has been to conduct the work in phases with preparation of a work plan containing a specific scope of work, implementation of the work, followed by reporting. Based on the results of each phase, additional work is proposed.
30. As of 1 May 2015, two phases of field work have been completed, including:
 - Soil borings at both Facilities;
 - Soil sampling and analysis;
 - Shallow and deep monitoring well installations at both facilities;
 - Groundwater sampling and analysis; and
 - Leak-testing the lined ponds at the Fee 34 Facility.

⁵ Ayers, R. S., and D. W. Westcott. "FAO 1985. Water Quality for Agriculture." *Irrigation and Drainage Paper* 29.

31. As of 1 May 2015, the results of the Phase 1 field work and parts of the Phase 2 field work have been formally reported. The conclusions include:

- There are wastewater constituents in the soils at the Race Track Hill Facility;
- Groundwater occurs at depths ranging from 48 to 80 feet below ground surface at the Race Track Hill Facility;
- There is groundwater mounding beneath the Race Track Hill Facility;
- Groundwater beneath the Racetrack Hill Facility flows to the southwest;
- Groundwater beneath the Racetrack Hill Facility has been impacted by the wastewater disposed to the ponds. The EC of the groundwater and the concentrations of boron and chloride are similar to oil field wastewater at the Race Track Hill Facility; and
- The seepage rates of the North Pond and the South Pond at the Fee 34 Facility are 4.4 millimeters per day and 1.8 millimeters per day, respectively. Those rates translate to approximately 500 gallons per day from the North Pond and approximately 200 gallons per day from the South Pond.

32. The investigations conducted by Valley Water have determined the discharge of wastewater in excess of Basin Plan limitations and water quality objectives has caused a condition of pollution to groundwater at the Racetrack Hill Facility. Additional assessment is needed to determine the nature and extent of the wastewater constituents in groundwater.

33. The apparent direction of groundwater flow beneath the Racetrack Hill Facility is towards residential water supply wells immediately to the southwest and towards Edison and Bakersfield, five to ten miles to the southwest.

34. Based on a review of the site conditions, wastewater quality and volumes, and the results of the field investigations, spraying wastewater onto the ground surface and into natural drainages exacerbates the pollution of the underlying groundwater and creates a potential for waste constituents to drain into Cottonwood Creek and the Kern River.

REGULATORY CONSIDERATIONS

35. If the Fee 34 Facility has resulted in impacts to beneficial uses of the underlying groundwater, this Order requires the Discharger to submit a Report of Waste Discharge to obtain new WDRs for the operation of the Fee 34 Facility by 1 September 2016. This Order also requires that the Discharger submit a Report of Waste Discharge for the Race Track Hill Facility by 1 September 2016. It is anticipated that General Waste Discharge Requirements for the operation of oil field wastewater ponds would be proposed for consideration by the Central Valley Water Board in the spring or summer of 2016. If the discharges from the Fee 34 Facility or Race Track Hill Facility are eligible for coverage under the anticipated General Order, and if this General Order

is in effect by 1 September 2016, the Discharger may choose coverage under the General Order rather than the submittal of individual reports of waste discharge for the two facilities.

36. As of 9 October 2017, many current and former Valley Water Management Company members at the Edison Oil Field have pursued alternative disposal options for produced wastewater and no longer utilize the Fee 34 Facility and Race Track Hill Facility. Valley Water and six remaining Edison Oil Field operators ("Edison Beneficial Reuse") identified two alternative disposal methods for produced wastewater at the Race Track Hill Facility: disposal wells – which require transfer from an unrelated third party to the Edison Oil Field operators and approval of that transfer from the Division of Oil, Gas, and Geothermal Resources – and beneficial reuse – which requires substantial investment by Edison Beneficial Reuse for permitting, antidegradation modeling, and construction costs.

36. 37. The deadlines set forth herein are reasonable given the need to investigate the potential threat to groundwater and surface water quality.

38. On 16 October 2017, Edison Beneficial Reuse sent a letter, via electronic mail, to the Central Valley Water Board that states neither of the alternative disposal methods discussed in Finding 36 of this Order could be implemented before 1 January 2018.

37. 39. In accordance with Water Code section 13267(b) these findings provide Valley Water with a written explanation with regard to the need for remedial action and reports, and identify the evidence that supports the requirement to implement investigative activities, to implement cease and desist activities if needed, and to submit the reports. Valley Water owns and operates the Fee 34 Facility and Race Track Hill Facility which are subject to this Cease and Desist Order. The technical and monitoring reports required by this Order are necessary to determine compliance with this Cease and Desist Order. The actions and reports required by this Order are needed to provide information to provide information to the Central Valley Water Board regarding (a) the nature and extent of the discharge, (b) the nature and extent of pollution in waters of the State and/or U.S. created by the discharge, (c) the threat to public health posed by the discharge; and (d) appropriate cease and desist measures. Based on the nature and possible consequences of the discharges, including the contamination of surface water or groundwater, or impacts to groundwater recharge areas, the burden of the required tasks, including the costs, bears a reasonable relationship to the need for the tasks and reports, and the benefits to be obtained from the tasks and information.

38. 40. Issuance of this Cease and Desist Order is being taken for the protection of the environment and as such is exempt from provisions of the California Environmental Quality Act (CEQA) (Public Resources Code section 21000 et seq.) in accordance with California Code of Regulations, title 14, sections 15061(b)(3), 15306, 15307, 15308, and 15321. This Cease and Desist Order generally requires Valley Water to submit plans for approval prior to implementation of cleanup activities at the Fee 34 Facility and Race Track Hill Facility. Mere submission of plans is exempt from CEQA as submission will not cause a direct or indirect physical change in the environment and/or is an activity that cannot possibly have a significant effect on the environment. CEQA review at this time would be premature and speculative, as there is simply not enough information concerning Valley Water's proposed remedial activities and possible associated environmental impacts.

~~39.~~ 41. If the Regional Board determines that implementation of any plan required by this Cease and Desist Order will have a significant effect on the environment, the Regional Board will conduct the necessary and appropriate environmental review prior to the Assistant Executive Officer's approval of the applicable plan. The Discharger will bear the costs, including the Regional Board's costs, of determining whether implementation of any plan required by this Cease and Desist Order will have a significant effect on the environment and, if so, in preparing, handling and providing any documents necessary for environmental review. If necessary, the Discharger and a consultant acceptable to the Regional Board shall enter into a memorandum of understanding with the Regional Board regarding such costs prior to undertaking any environmental review.

As a result of the events and activities described in this Order, the Central Valley Water Board finds that a discharge of waste in violation of the Basin Plan has polluted groundwater. This Order requires Valley Water to take appropriate remedial action and to comply in accordance with the time schedule set forth below.

~~40.~~ 42. This Cease and Desist Order is based upon: 1) Chapter 5, Enforcement and Implementation commencing with section 13300, of the Porter-Cologne Water Quality Control Act (Water Code Division 7, commencing with section 13000); 2) Water Code section 13267, Investigations; inspections, Chapter 4, Regional Water Quality Control; 3) all applicable provisions of the Basin Plan including beneficial uses, water quality objectives, and implementation plans; 4) California State Water Resources Control Board (State Water Board) Resolution No. 68-16 (*Statement of Policy with Respect to Maintaining High Quality of Waters in California*); 5) State Water Board Resolution No. 92-49 (*Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code section 13304*); and 6) all other applicable legal authority.

~~41.~~ 43. Water Code section 13267 subdivision (b)(1) 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.

~~42.~~ 44. On 30/31 July 2015, in Rancho Cordova, California, after due notice to the Discharger and all other affected persons, the Central Valley Water Board conducted a public hearing at which evidence was received to consider an Order under Water Code section 13301 to establish a time schedule to achieve compliance with the Basin Plan or cease discharge.

45. On 9 October 2017, Valley Water Management Company requested the deadline to achieve compliance with the Basin Plan or to cease discharge be extended to 1 July 2019, to provide adequate time for Edison Beneficial Reuse to implement alternative disposal methods.

discussed in Finding 36 that will reduce and eventually eliminate the discharge of produced wastewater to the Race Track Hill facility.

46. On 7 December 2017, in Rancho Cordova, California, after due notice to the Discharger and all other affected persons, the Central Valley Water Board conducted a hearing at which evidence was receive to consider amending Order No. R5-2015-0093 under Water Code section 13301 to establish a time schedule to achieve compliance with the Basin Plan or to cease discharge.

IT IS HEREBY ORDERED THAT, pursuant to Water Code sections 13301 and 13267, Valley Water Management Company shall implement the following measures necessary to comply with the requirements of the *Water Quality Control Plan for the Tulare Lake Basin* and Orders issued by the Board.

Fee 34 Facility

1. **By 1 October 2015**, Valley Water Management Company shall submit a **Phase 3 Investigation Work Plan for the Fee 34 Facility**. This work plan shall describe a time schedule under which Valley Water Management Company will conduct the following activities, including the time frame for completing each activity:
 - a. Conduct a hydrogeological site characterization to determine nature and extent of the release of waste constituents to the unsaturated zone and the groundwater underlying the Fee 34 Facility;
 - b. Prepare and submit a Water Quality Protection Standard Report proposing statistical data analysis methods to calculate concentration limits for each Constituent of Concern specified in Monitoring and Reporting Program R5-2015-0093;
 - c. Identify and sample water supply wells located within one-mile of the Fee 34 Facility and analyze the samples for waste constituents of concern; and
 - d. Analyze groundwater, surface water, and soil samples at a California certified laboratory in accordance with the SAP submitted as part of the Phase I Work Plan (see Finding No. 28) and approved by the Assistant Executive Officer (or his/her delegate).Valley Water Management Company shall implement the *Phase 3 Investigation Work Plan for the Fee 34 Facility* immediately upon the Assistant Executive Officer's approval of the workplan. All timelines indicated in the workplan, as approved, are fully enforceable under this Order.
2. If the investigation conducted pursuant to the *Phase 3 Investigation Work Plan for the Fee 34 Facility* indicates that a release of waste constituents has impacted the unsaturated zone or the groundwater underlying the Fee 34 Facility such that the beneficial uses of the underlying groundwater or surface waters are threatened, then Valley Water Management Company shall submit a **Phase 4 Remediation Work Plan for the Fee 34 Facility**. This work plan shall describe a time schedule under which Valley Water Management Company will conduct the following activities, including the time frame for completing each activity:

- a. Conduct a hydrogeological site characterization to determine the nature and extent of any release of waste constituents consistent with the evaluation monitoring program requirements contained in California Code of Regulations, Title 27, section 20005 et seq. (Title 27);
- b. Following the characterization of the nature and extent of the release, a groundwater, surface water, and/or soil remediation program consistent with the corrective action program requirements contained in Title 27 (this will entail the preparation of an engineering feasibility study followed by a proposed corrective action program); and
- c. Based on the information acquired during the hydrogeological site characterization, submit a revised report of waste discharge that will ensure that discharges at the Fee 34 Facility will be in compliance with the *Water Quality Control Plan for the Tulare Lake Basin*.

Valley Water Management Company shall implement the *Phase 4 Remediation Work Plan for the Fee 34 Facility* immediately upon the Assistant Executive Officer's approval of the workplan. All timelines indicated in the workplan, as approved, are fully enforceable under this Order. In no event shall the report of waste discharge required under 2.c., above be submitted after **1 September 2016**.

Race Track Hill Facility

3. **By 1 October 2015**, Valley Water Management Company shall submit a **Phase 3 Investigation Work Plan for the Race Track Hill Facility**. This work plan shall describe a time schedule under which Valley Water Management Company will conduct the following activities, including the time frame for completing each activity:
 - a. Continue a hydrogeological site characterization to determine the nature and extent of the release of waste constituents consistent with the evaluation monitoring program requirements contained in Title 27;
 - b. Prepare and submit a Water Quality Protection Standard Report proposing statistical data analysis methods to calculate concentration limits for each Constituent of Concern specified in Monitoring and Reporting Program R5-2015-0093.
 - c. Identify and sample water supply wells located within one-mile of the Race Track Hill Facility and analyze the samples for waste constituents of concern;
 - d. Provide an assessment of the potential water quality impacts to groundwater and surface water from operation of the sprayfields. This assessment shall look at the buildup of salts on the soil surface and in the soil column, shall evaluate the capacity of the soils beneath the sprayfield and the plants grown in the sprayfield to attenuate the salt, and shall evaluate the extent to which stormwater runoff from the sprayfields may mobilize salts and transport them to surface waters; and
 - e. Analyze groundwater, surface water, and soil samples at a California certified laboratory in accordance with the SAP submitted as part of the Phase I Work Plan (see Finding No. 28) and approved by the Assistant Executive Officer (or his/her delegate).

Valley Water Management Company shall implement the *Phase 3 Investigation Work Plan for the Race Track Hill Facility* immediately upon the Assistant Executive Officer's approval of the workplan. All timelines indicated in the workplan, as approved, are fully enforceable under this Order.

4. **By 1 October 2015**, Valley Water Management Company shall submit a ***Race Track Hill Water Balance Report*** that contains a water balance for the Race Track Hill facility. The *Race Track Hill Water Balance Report* must provide calculations showing:
 - a. The storage capacity and surface areas of the surface impoundments and sprayfield, including the topography of the sprayfields;
 - b. The volume of water applied each month to the surface impoundments;
 - c. The calculated leakage to the subsurface per month from the surface impoundments;
 - d. The monthly evaporation loss from the surface impoundments;
 - e. The monthly rainfall falling at the facility;
 - f. The monthly volume of water applied to the sprayfields;
 - g. The monthly volume of water returned to the ponds from collection of stormwater runoff from the sprayfield areas; and
 - h. The monthly evapotranspiration from the sprayfields.

The *Race Track Hill Water Balance Report* should include actual or estimated monthly volumes of water discharged to the Rack Track Hill facility for the period from 1 January 2010 through 31 December 2014, the average annual discharge for each of these years, as well as the average monthly discharges for each month in a typical calendar year.

5. **By 1 April 2016**, Valley Water Management Company shall submit a ***Surface Water Quality Protection Report***. This report shall:
 - a. Describe the current runoff control features and BMPs for the sprayfields at the Rack Track Hill facility,
 - b. Explain how operation and maintenance of the sprayfields runoff control features and BMPs will ensure that there is no discharge of stormwater from the sprayfields to surface waters.
 - c. If current runoff control features and BMPs for the sprayfields at the Rack Track Hill facility shows that there is insufficient capacity to capture and store the stormwater runoff from the sprayfields, then the *Surface Water Quality Protection Report* shall describe a time schedule under which Valley Water Management Company will add runoff controls and/or BMPs to ensure full capture of all stormwater runoff from the sprayfields and impoundments at the Race Track Hill facility by 1 October 2016.

By 1 October 2016, Valley Water Management Company shall fully implement all runoff control features and BMPs described or proposed in the in the *Surface Water Quality Protection Report*.

6. **By 1 September 2016**, Valley Water Management Company shall:
- a. Submit a complete **Report of Waste Discharge**⁶ based on the information acquired during the hydrogeological site characterization that will ensure that future discharges at the Race Track Hill Facility will be in compliance with the *Water Quality Control Plan for the Tulare Lake Basin*. The Report of Waste Discharge may propose a reasonable time schedule to come into compliance with applicable requirements of the *Water Quality Control Plan for the Tulare Lake Basin*. Delays in acquiring authorization from the Division of Oil, Gas & Geothermal Resources to conduct underground injection activities shall not be used as an excuse to delay this submittal.
 - b. Submit a **Closure Plan and Closure Time Schedule** for the wind-down and closure of any portions of the Race Track Hill Facility that Valley Water Management Company determines are no longer to be used. The Closure Plan and Time Schedule shall specify the dates by which Valley Water Management Company will remove the residual liquid waste and close the ponds in accordance with applicable regulatory requirements.
 - c. Submit a **Race Track Hill Remediation Workplan** based on the *Phase 3 Investigation Work Plan for the Race Track Hill Facility* that shall either
 - i. Describe a time schedule under which Valley Water Management Company will conduct groundwater, surface water, and/or soil remediation consistent with the corrective action program requirements of Title 27. This will entail the preparation of an engineering feasibility study followed by a proposed corrective action program; or
 - ii. Specify a suite of groundwater, surface water, and/or soil management practices that Valley Water Management Company will implement to minimize or prevent any additional water quality degradation that may occur due to current and historic waste management practices at the Race Track Hill Facility. Concurrently, Valley Water Management Company would propose studies and/or technical reports in support of an amendment that would incorporate site specific objectives, groundwater management zones, or other alternate compliance strategies for the Race Track Hill Facility into *Water Quality Control Plan for the Tulare Lake Basin* (such proposals would need to be coordinated with the CV-SALTS stakeholder initiative). However, if such proposals cannot ensure the protection of beneficial uses in the vicinity of the Race Track Hill Facility or are otherwise infeasible, the Central Valley Water Board or its delegee may reject the proposal and require Valley Water Management Company to comply with the remediation requirements of 6.c.i, above.
7. **On 1 July 2019** ~~1 January 2018~~, Valley Water is prohibited from discharging to surface impoundments or land at the Race Track Hill facility unless those discharges are in full compliance with waste discharge requirements issued by the Central Valley Water Board.

⁶ If the discharges at the facility may be regulated under a General Order, Valley Water Management Company may elect to submit a Notice of Intent to obtain coverage under that General Order in lieu of submitting an individual Report of Waste Discharge.

Waste discharge requirements issued by the Central Valley Water Board may include an enforceable time schedule, should additional time be necessary to complete actions pursuant to section 6.c.ii, above.

8. The monthly average daily discharge of produced wastewater to the Race Track Hill Facility shall not exceed 2,500 barrels. This shall be calculated by summing the daily flows for the month and dividing by the number of days in the calendar month.

Annual Reporting

Beginning **1 November 2015**, or a date approved by the Assistant Executive Officer (or his/her delegate), and quarterly thereafter until all activities described in this Order are complete, Valley Water Management Company shall submit technical reports that provide information to document the activities completed to date. Corrective actions shall be proposed and included in these technical reports when Work Plan activities fail to satisfy any interim or final success criteria

Other Requirements

8. **Electronic and Paper Media Reporting Requirements.** Valley Water shall submit both electronic and paper copies of all reports required under this Cease and Desist Order including work plans, technical reports, and monitoring reports. Larger documents shall be divided into separate files at logical places in the report to keep file sizes under 150 megabytes. Valley Water shall continue to provide a paper transmittal letter, a paper copy of all figures larger than 8.5 inches by 14 inches (legal size), and an electronic copy (on Compact Disc [CD] or other appropriate media) of all reports to the Central Valley Water Board. All paper correspondence and documents submitted to the Central Valley Water Board shall include the following identification numbers in the header or subject line: Fee 34 Facility Geotracker Site ID: T10000005197; and Race Track Hill Facility Geotracker Site ID: T10000005199. Valley Water shall comply with the following reporting requirements for all reports and plans (and amendments thereto) required by this Order:
 - a. Reports and Plans Required by this Order. Valley Water shall submit one paper and one electronic, searchable Portable Document Format (PDF) copy of all technical reports, monitoring reports, progress reports, and plans required by this Order. The PDF copy of all the reports shall also be uploaded into the Geotracker database, as required by Reporting Requirement 2.(b)(iv) below.
 - b. Electronic Data Submittals to the Central Valley Water Board in compliance with the Cease and Desist Order are required to be submitted electronically via the Internet into the Geotracker database (Fee 34 Facility Geotracker Site ID: T10000005197; and Race Track Hill Facility Geotracker Site ID: T10000005199). The electronic data shall be uploaded on or prior to the regulatory due dates set forth in the Cease and Desist Order or addenda thereto. To comply with these requirements, Valley Water shall upload to the Geotracker database the following minimum information:
 - 1) Laboratory Analytical Data: Analytical data (including geochemical data) for all waste, soil, and water samples shall be submitted in Electronic Deliverable

Format (EDF), which facilitates the transfer of data from the laboratory to the end user. Waste, soil, and water include analytical results of samples collected from the following locations and devices: surface samples, equipment, monitoring wells, boreholes, gas and vapor wells or other collection devices, surface water, groundwater, piezometers, and stockpiles.

- 2) Locational Data: All permanent monitoring locations (monitoring wells, sediment sampling locations, surface water sampling locations, etc.) shall be surveyed with latitude and longitude coordinates in a decimal degree format based on the North American Datum 1983 ellipsoid, and accurate to within one meter (3 feet) and elevation data accurate to 0.01 feet.
 - 3) Site Maps: Site maps which display discharge locations, streets bordering the Facilities, and sampling locations for all waste, soil, and water samples. A site map is a stand-alone document that may be submitted in various electronic formats. Site maps must also be uploaded to show the maximum extent of any soil impact and water pollution. An update to the site maps may be uploaded at any time.
 - 4) Electronic Report: A complete copy (in character searchable PDF) of all work plans, work plan modifications, assessment, cleanup, and monitoring reports including the signed transmittal letters, professional certifications, and all data presented in the reports.
9. **Duty to Use Qualified Professionals.** 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. Each technical report submitted by Valley Water shall contain the professional's signature and/or stamp of the seal.
10. **Signatory Requirements.** All reports required under this Cease and Desist Order shall be signed and certified by Valley Water or by a duly authorized representative and submitted to the Central Valley Water Board. A person is a duly authorized representative only if: 1) The authorization is made in writing by Valley Water; and 2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity. (A duly authorized representative may be either a named individual or any individual occupying a named position.)
11. With each report required by this Cease and Desist Order, Valley Water shall provide under penalty of perjury under the laws of California a "Certification" statement to the Central Valley Water Board. The "Certification" shall include the following signed statement:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are

significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Pursuant to Water Code section 13350, any person who violates a cease and desist order may be liable administratively or civilly in an amount up to fifteen thousand dollars (\$15,000) for each day in which the cease and desist order is violated.

12. All monitoring and technical reports required under this Cease and Desist Order shall be submitted to:

California Regional Water Quality Control Board
Central Valley Region
1685 E Street, Suite 200
Fresno, CA 93706
Attn: Ron Holcomb
Geotracker Site ID No.: T10000005197 or T10000005199

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 or may issue a complaint for administrative civil liability.

Failure to comply with this Order, Order 92-110, Order 92-11037, or Resolution 58-349 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, et seq. 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.

ATTACHMENT A
WATER CODE SECTION 13301
CEASE AND DESIST ORDER NO. R5-2015-0093
AS AMENDED BY ORDER NO. R5-2017-0112
VALLEY WATER MANAGEMENT COMPANY
FEE 34 FACILITY AND RACE TRACK HILL FACILITY
KERN COUNTY

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 30 July 2015.

Ordered by: _____

PAMELA C. CREEDON, Executive Officer

(Date)