

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2014-XXXX

WASTE DISCHARGE REQUIREMENTS
FOR
AERA ENERGY LLC
NORTH BELTRIDGE SOLID WASTE DISPOSAL SITE
POST-CLOSURE MAINTENANCE
KERN COUNTY

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

1. AERA Energy LLC (hereinafter Discharger) owns and maintains the North Belridge Solid Waste Disposal Site (facility) about ten miles southwest of Lost Hills, in Section 2, T28S, R20E, MDB&M, as shown in Attachment A, which is incorporated herein and made part of this Order by reference. The facility is an industrial solid waste landfill regulated under authority given in the Water Code, section 13000 et seq., and California Code of Regulations, title 27, section 20005 et seq. (hereinafter Title 27).
2. The 31.7-acre facility contains one closed unlined 28-acre waste management unit (Unit) as shown in Attachment B, which is incorporated herein and made part of this Order by reference. The facility is comprised of Assessor's Parcel Number (APN) 085-110-10-01-9. The Unit started accepting waste in the 1960's and stopped accepting waste in October 2004.
3. On 15 April 2008, the Discharger submitted a revised final closure and post-closure maintenance plan (Final Closure Plan). In accordance with Section 20950(A)(1) of Title 27, a final closure plan constitutes an amendment to the Report of Waste Discharge. The information in the Final Closure Plan has been used in revising these waste discharge requirements (WDRs). The Final Closure Plan contains the applicable information required in Title 27.
4. On 11 December 1998, the Central Valley Water Board issued Order 98-227 in which the Unit was classified as a Class III unit for the discharge of nonhazardous industrial solid waste. This Order continues to classify the landfill unit as a Class III unit in accordance with Title 27.
5. This Order implements the applicable regulations for discharges of solid waste to land through Prohibitions, Specifications, Provisions, and monitoring and reporting requirements. Prohibitions, Specifications, and Provisions are listed in Sections A through F of these WDRs below, and in the Standard Provisions and Reporting Requirements (SPRRs) dated January 2012, which are attached hereto and made part of this Order by reference. Monitoring and reporting requirements are included in the

SPRRs and in Monitoring and Reporting Program (MRP) R5-2014-XXXX which is attached hereto and made part of this Order by reference. In general, requirements that are either in regulation or otherwise apply to all MSW landfills are considered to be "standard" and are therefore in the SPRRs. Any site-specific changes to a requirement in the SPRRs are included in the applicable section (A through F) of these WDRs.

6. Title 27 contains regulatory standards for discharges of solid waste promulgated by the State Water Board and the California Department of Resources Recovery and Recycling (CalRecycle). In certain instances, this Order cites CalRecycle regulatory sections. Title 27, section 20012 allows the Central Valley Water Board to cite CalRecycle regulations from Title 27 where necessary to protect water quality provided it does not duplicate or conflict with actions taken by the Local Enforcement Agency in charge of implementing CalRecycle's regulations.

SITE DESCRIPTION

7. The waste management facility is located on the southern edge of the North Belridge Oilfield in the southwestern portion of the San Joaquin Valley.
8. The closest Holocene fault is the San Andreas Fault located approximately 15 miles west of the facility. Recorded magnitudes of seismic events along this fault range between 4.0 and 8.25 on the Richter scale. The peak horizontal ground acceleration at the facility is estimated to be 0.25g.
9. Land uses within one mile of the facility include petroleum extraction and open land.
10. There are no domestic, industrial, or agricultural groundwater supply wells within one mile of the site. No surface springs or other sources of groundwater supply have been observed.
11. The geology of the southern San Joaquin Valley is characterized by structural deformation associated with the tectonics of the continental margin, including movement along the San Andreas Fault. The facility is located on the North Belridge Anticline and is underlain by Pleistocene age unconsolidated non-marine sediments of the Upper Tulare Formation.
12. The hydraulic conductivity of the native soils underlying the Unit, as measured in laboratory tests, ranges between 1.29×10^{-6} and 7.92×10^{-7} centimeters per second.
13. The facility receives an average of 5.4 inches of precipitation per year and the mean pan evaporation is 59.5 inches per year as measured at the California Department of Water Resources Lost Hills Station.
14. The 100-year, 24-hour precipitation event for the facility is estimated to be 2.4 inches, based on the *Kern County Hydrology Manual* dated 1992.

15. The waste management facility is not within a 100-year flood plain based on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map, Community-Panel Number 060075-0675-B.
16. A storm water retention basin is located in the northeast portion of the facility as shown on Attachment B.

WASTE AND UNIT CLASSIFICATION

17. The Discharger previously disposed of nonhazardous solid wastes, consisting of scrap wood, scrap building materials, office refuse, lawn trimmings and asbestos.
18. Less than one percent of the waste discharged to the Unit consists of friable asbestos from insulation removal and maintenance of vehicles and oilfield equipment. Friable asbestos was discharged to a 0.3-acre designated area within the Unit. A variance from managing the friable asbestos as a hazardous waste was approved by the California Department of Toxic Substance Control (DTSC) for a period of one year, effective 1 May 1987. The variance was extended indefinitely on 9 May 1988.
19. The site characteristics where the Unit is located (see Finding No. 12) meet the siting criteria for a new Class III landfill contained in §20260(a) and (b)(1) of Title 27, including the soil characteristics, annual precipitation, distance to groundwater, background water quality, and anticipated use of groundwater. As such, the site is suitable for the discharge and containment of wastes as described in Finding Nos. 17 and 18, without the construction of additional waste containment features in accordance with §20260(b)(2) of Title 27 and State Water Resources Control Board Resolution No. 93-62.

SURFACE WATER AND GROUNDWATER CONDITIONS

20. 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.
21. Surface water drainage from the site is to the east in the Antelope Plain Hydrologic Area (558.60) of the Tulare Lake Basin. Surface waters in the Antelope Plain Hydrologic Area are designated as Valley Floor Waters in the Basin Plan.
22. 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, preservation of rare, threatened and endangered species, and groundwater recharge.
23. The facility is in the Kern County Basin Hydrologic Unit, Detailed Analysis Unit (DAU) 259. The designated beneficial uses of the groundwater, as specified in the Basin Plan for

DAU 259, are municipal and domestic water supply, agricultural supply, and industrial service supply.

24. The first fluid encountered beneath the facility is oil and tar at approximately 250 feet below ground surface.
25. Analysis of groundwater samples from the nearest wells (over one mile to the east) show total dissolved solids (TDS) concentrations of about 3,300 milligrams per liter (mg/l), electrical conductivity of about 4,000 micromhos per centimeter, chloride concentrations of about 750 mg/l, sulfate concentrations of about 1,000 mg/l and boron concentrations over 1 mg/l. According to the California Division of Oil, Gas, and Geothermal Resources, groundwater that occurs in the Tulare Formation in the North Belridge area has concentrations of TDS over 20,000 mg/l.

GROUNDWATER AND UNSATURATED ZONE MONITORING

26. Title 27 ordinarily requires Dischargers to institute a detection monitoring program for each waste management unit. However, the Central Valley Water Board finds that it is reasonable to waive compliance with Title 27 detection monitoring requirements at the Unit because the first fluid encountered beneath the Unit consists of oil and tar, there is no groundwater in the first 250 feet of sediments beneath the Unit, and groundwater in the vicinity of the facility has high EC, high concentrations of TDS, and high concentrations of naturally occurring inorganic constituents.
27. Four gas monitoring probes were installed along the perimeter of the facility in 1986.

LANDFILL CLOSURE

28. Title 27, section 21090 provides the minimum prescriptive final cover components for landfills consisting of, in descending order, the following layers:
- a. One-foot soil erosion resistant/vegetative layer.
 - b. Geomembrane layer (this layer is required for composite-lined landfills for equivalency to bottom liner).
 - c. One-foot soil low-flow hydraulic conductivity layer, less than 1×10^{-6} cm/s or equal to the hydraulic conductivity of any bottom liner system.
 - d. Two-foot soil foundation layer.
29. Title 27 allows engineered alternative final covers provided the alternative design will provide a correspondingly low flow-through rate throughout the post-closure maintenance period.
30. On 8 May 2008, the *Final Closure and Post-Closure Maintenance Plan*, dated 8 April 2008, was approved for the Unit. The plan proposed an evapotranspirative engineered alternative final cover design system that consisted of a three-foot thick vegetated soil layer.

31. The Discharger demonstrated that an evapotranspirative cover utilizing soil from a nearby borrow source would be an appropriate engineered alternative to the prescriptive design.
32. During 2010, the Discharger constructed the final cover in accordance with the *Final Closure and Post-Closure Maintenance Plan* and the WDRs.

LANDFILL POST-CLOSURE MAINTENANCE

33. The *Final Closure and Post-Closure Maintenance Plan* includes inspection, maintenance, and monitoring of the landfill during the post-closure maintenance period, and includes a post-closure maintenance cost estimate for the entire facility. Inspection and maintenance will include the condition of the final cover, drainage features, and site security. The plan will be implemented for a minimum period of 30 years or until the waste no longer poses a threat to environmental quality, whichever is greater.
34. Once every five years during the post-closure maintenance period, iso-settlement maps will be prepared to determine the amount of differential settlement occurring over the previous five years, pursuant to Title 27, section 21090(e)(2).
35. The completed final cover will be monitored for performance and for damage or defects by visual inspection and a pan lysimeter installed beneath the cover pursuant to section 21090(a)(4)(A) of Title 27. Defects will be repaired and tested for adequacy based on the closure Construction Quality Assurance Plan.

FINANCIAL ASSURANCES

36. Title 27, sections 21840 and 22211 requires a cost estimate for landfill post-closure maintenance. The amount of the cost estimate for post-closure maintenance in 2012 dollars is \$223,097. This Order requires that the Discharger maintain financial assurance with CalRecycle in at least the amount of the post-closure maintenance cost estimate adjusted annually for inflation.

CEQA AND OTHER CONSIDERATIONS

37. The action to revise waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resource Code section 21000, et seq., and the CEQA guidelines, in accordance with California Code of Regulations, title 14, section 15301.
38. This order implements:
 - a. *The Water Quality Control Plan for the Tulare Lake Basin, Second Edition*;
 - b. The prescriptive standards and performance goals of California Code of Regulations, Title 27, section 20005 et seq., effective 18 July 1997, and subsequent revisions;

39. Based on the threat and complexity of the discharge, the facility is determined to be classified 3B as defined below:
- a. Category 3 threat to water quality, defined as, "Those discharges of waste that could degrade water quality without violating water quality objectives, or could cause a minor impairment of designated beneficial uses as compared with Category 1 and Category 2."
 - b. Category B complexity, defined as, "Any discharger not included in Category A that has physical, chemical, or biological treatment systems (except for septic systems with subsurface disposal), or any Class 2 or Class 3 waste management units."
40. Water Code section 13267(b) provides that: "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 proposed to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who had discharged, discharges, or is suspected of having discharged or discharging, or who proposed to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports."
41. The technical reports required by this Order and the attached Monitoring and Reporting Program No. R5-2014-XXXX are necessary to assure compliance with these waste discharge requirements. The Discharger owns and maintains the facility that discharged the waste subject to this Order.

PROCEDURAL REQUIREMENTS

42. All local agencies with jurisdiction to regulate land use, solid waste disposal, air pollution, and to protect public health have approved the use of this site for the discharges of waste to land stated herein.
43. The Central Valley Water Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
44. The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to California Water Code sections 13263 and 13267, that Order 98-227 is rescinded except for purposes of enforcement, and that AERA Energy LLC, its agents, successors, and assigns, in order to meet the provisions of

Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

A. PROHIBITIONS

1. The discharge of any additional waste at this facility is prohibited.
2. The Discharger shall comply with all applicable Standard Prohibitions listed in Section C of the SPRRs dated January 2012.

B. DISCHARGE SPECIFICATIONS

1. The Discharger shall comply with all applicable Standard Discharge Specifications listed in Section D of the SPRRs dated January 2012.

C. FACILITY SPECIFICATIONS

1. The Discharger shall comply with all applicable Standard Facility Specifications listed in Section E of the SPRRs dated January 2012.

D. FINANCIAL ASSURANCE SPECIFICATIONS

1. The Discharger shall obtain and maintain assurances of financial responsibility with CalRecycle for post-closure maintenance for the landfill in at least the amounts described in Finding No. 36, adjusted for inflation annually. A report regarding financial assurances for post-closure maintenance shall be submitted to the Central Valley Water Board by **1 June of each year**. This may be the same report that is submitted to CalRecycle for this purpose. If CalRecycle determines that either the amount of coverage or the mechanism is inadequate, then within 90 days of notification, the Discharger shall submit an acceptable mechanism to CalRecycle and the Central Valley Water Board for at least the amount of the approved cost estimate.
2. The Discharger shall obtain and maintain assurances of financial responsibility with CalRecycle for initiating and completing non-water release corrective action in accordance with Section 22100 of Title 27. A report regarding financial assurances for corrective action shall be submitted to the Central Valley Water Board by 1 June of each year. This may be the same report that is submitted to CalRecycle for this purpose. If CalRecycle determines that either the amount of coverage or the mechanism is inadequate, then within 90 days of notification, the Discharger shall submit an acceptable mechanism to CalRecycle and the Central Valley Water Board for at least the amount of the approved cost estimate.
3. The Discharger shall comply with all applicable Standard Financial Assurance Specifications listed in Section H of the SPRRs dated January 2012.

E. MONITORING SPECIFICATIONS

1. The Discharger shall comply with all applicable Standard Monitoring Specifications and Response to a Release specifications listed in Sections I and J of the SPRRs dated January 2012.
2. The Discharger shall comply with MRP R5-2014-XXXX.

F. PROVISIONS

1. The Discharger shall maintain a copy of this Order at the offices of AERA Energy LLC, including the MRP R5-2014-XXXX and the SPRRs dated January 2012, and make it available at all times to facility maintenance personnel, who shall be familiar with its contents, and to regulatory agency personnel.
2. The Discharger shall comply with all applicable provisions of Title 27 that are not specifically referred to in this Order.
3. The Discharger shall comply with the applicable portions of the Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Subtitle D and/or Title 27, dated January 2012.
4. If there is any conflicting or contradictory language between the WDRs, the MRP, or the SPRRs, then language in the WDRs shall supersede either the MRP or the SPRRs, and language in the MRP shall supersede the SPRRs.
5. All reports required by this Order shall be submitted pursuant to Water Code section 13267.
6. The Discharger shall complete the tasks contained in these waste discharge requirements in accordance with the following time schedule:

Task

Compliance Date

A. Financial Assurance Review

- | | | |
|----|--|-------------------------|
| 1. | Annual Review of Financial Assurance for closure and post-closure maintenance (see Financial Assurance Specification D.1). | 1 June each year |
| 2. | Annual Review of Financial Assurance for Non-water release corrective action | 1 June each year |

(see Financial Assurance Specification D.2).

7. The Discharger shall comply with all General Provisions listed in Section K of the SPRRs dated January 2012.

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to \$10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

http://www.waterboards.ca.gov/public_notices/petitions/water_quality

or will be provided upon request.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that 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 XX February 2014.

PAMELA C. CREEDON, Executive Officer