

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

TIME SCHEDULE ORDER R5-2013-0104

REQUIRING KINDER MORGAN ENERGY PARTNERS, L.P.,
THROUGH ITS OPERATING PARTNERSHIP SFPP, L.P.
FOX ROAD PETROLEUM RELEASE SITE GROUNDWATER REMEDIATION SYSTEM
SOLANO COUNTY
TO COMPLY WITH REQUIREMENTS PRESCRIBED IN ORDER R5-2013-0103
(NPDES PERMIT NO. CA0084760)

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

1. On 26 July 2013, the Central Valley Water Board adopted Waste Discharge Requirements (WDR) Order R5-2013-0103, prescribing waste discharge requirements for the Kinder Morgan Energy Partners, L.P., Through Its Operating Partnership SFPP, L.P. (hereafter Discharger) Fox Road Petroleum Release Site Groundwater Remediation System (hereafter Facility), in Solano County.
2. WDR Order R5-2013-0103 contains final effluent limitations for nitrate (total as nitrogen), tertiary butyl alcohol, total recoverable iron, and total recoverable manganese¹. Final Effluent Limitations Section IV.A.1., reads in part as follows:

Table 6. Effluent Limitations

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Nitrate, Total (as N)	mg/L	10	--	--	--
Tertiary Butyl Alcohol	µg/L	--	20	--	--

*“d. **Total Recoverable Iron.** For a calendar year, the annual average total recoverable iron concentration in the effluent shall not exceed **300 µg/L.**”*

*“e. **Total Recoverable Manganese.** For a calendar year, the annual average total recoverable manganese concentration in the effluent shall not exceed **50 µg/L.**”*

3. The effluent limitations specified in WDR Order R5-2013-0103 for iron and manganese are based on the Secondary Maximum Contaminant Level – Consumer Acceptance Level, and the effluent limitation for nitrate is based on the Primary California Maximum Contaminant Level, numeric receiving water standards incorporated by reference in the Basin Plan. The effluent limitations for tertiary butyl alcohol are technology-based effluent limitations. The effluent limitations for iron, manganese, nitrate, and tertiary butyl alcohol were initially established in previous WDR Order R5-2008-0008, which became applicable to the waste discharge on the effective date of WDR Order R5-2008-0008 (25 January 2008). The Discharger was unable to immediately comply with these effluent limits, therefore, the Central Valley Water Board adopted Time Schedule Order (TSO) R5-2008-0009 that provided time schedules for compliance with the effluent limitations for nitrate, manganese, and tertiary butyl alcohol. TSO R5-2008-0009 was later amended on 2 May 2011 to include a compliance schedule for iron.

¹ Although not always specifically stated, all references in this Order to nitrate are in terms nitrate, total (as nitrogen), and all references to iron and manganese are in terms of total recoverable metals.

Need for Time Schedule Extension and Legal Basis

4. The Discharger owns and operates a groundwater extraction treatment system (GWETS) to treat groundwater contaminated with petroleum hydrocarbons. The groundwater treatment system consists of four extraction trenches and 13 extraction wells. The groundwater treatment system currently extracts affected groundwater from two extraction trenches (T-2 and T-4) and two groundwater extraction wells (EX-09B and EX-10B). The treatment system consists of an influent holding tank, bag filters, an air stripper and seven granular activated carbon (GAC) vessels to remove the petroleum fuel constituents. A venturi was installed between the GAC vessels in series to increase the concentration of dissolved oxygen.
5. On 22 March 2013, the Discharger submitted an infeasibility analysis and request for additional time to comply with the final effluent limitations for nitrate, tertiary butyl alcohol, iron and manganese. Since TSO R5-2008-0009 was adopted, the Discharger has made diligent efforts to reduce concentrations of nitrate, tertiary butyl alcohol, iron and manganese. These efforts include:
 - Resumed groundwater extraction in October 2011 with focus in the downgradient portion of the site, which decreased the concentration of iron, manganese and petroleum hydrocarbons in the GWETS influent and effluent;
 - Increased the quantity of GAC vessels from five to seven during the third quarter of 2012, which assists in the removal of petroleum hydrocarbon and the associated fuel oxygenates. Additionally, the increased GAC vessels increases the filtration media for the removal of iron and manganese;
 - Installed a venturi between the first two GAC vessels during the fourth quarter of 2012. The added venturi increases the dissolved oxygen concentration in the process water and assists in iron and manganese removal; and
 - Conducted influent and midstream sampling after installation of the additional GAC vessels and venturi to assess for removal of iron and manganese.

Mandatory Minimum Penalties

6. California Water Code (CWC) sections 13385(h) and (i) require the Central Valley Water Board to impose mandatory minimum penalties (MMP's) upon dischargers that violate certain effluent limitations. CWC section 13385(j)(3) exempts the discharge from MMP's, "*where the waste discharge is in compliance with either a cease and desist order issued pursuant to Section 13301 or a time schedule order issued pursuant to Section 13300 or 13308, if all the [specified] requirements are met...for the purposes of this subdivision, the time schedule may not exceed five years in length...*".

7. Per the requirements of CWC section 13385(j)(3), the Central Valley Water Board finds that:
 - a. This Order specifies the actions that the Discharger is required to take in order to correct the violations that would otherwise be subject to CWC section 13385(h) and (i).
 - b. To comply with final effluent limitations, the Discharger has determined that while additional GAC vessels and a venturi have been installed, an additional two years is necessary to 1) operate the GWETS for 12 months and collect influent and effluent data and 2) assess trends in concentrations and verify the efficacy of the GWETS to meet the final effluent limits.
 - c. This Order establishes a time schedule to bring the waste discharge into compliance with the effluent limitations that is as short as possible, taking into account the technological, operational, and economic factors that affect the design, development, and implementation of the control measures that are necessary to comply with the effluent limitations.
8. The final effluent limitations for nitrate, tertiary butyl alcohol, iron and manganese became applicable to the waste discharge on the effective date of WDR Order R5-2008-0008 (15 March 2008). TSO R5-2008-0009-01, as amended on 2 May 2011, provided protection from MMP's from 15 March 2008 to 31 December 2012 for violations of effluent limitations for nitrate, tertiary butyl alcohol, and manganese, and provided protection from MMP's from 2 May 2011 to 31 December 2012 for iron.
9. By statute, a Time Schedule Order may provide protection from MMP's for no more than five years, except as provided in CWC section 13385(j)(3)(C)(ii).
10. Per the requirements of CWC Section 13385(j)(3)(C)(ii)(I) for the purpose of treatment facility upgrade, the time schedule shall not exceed 10 years. Per the requirements of 13385(j)(3)(C)(ii)(II) following a public hearing, and upon a showing that the Discharger is making diligent progress toward bringing the waste discharge into compliance with the effluent limitation, the Central Valley Water Board may extend the time schedule for an additional five years, if the Discharger demonstrates that the additional time is necessary to comply with the effluent limitation. In accordance with CWC Section 13385(j)(3)(C)(ii)(I) the total length of the compliance schedules is less than ten years. The Central Valley Water Board finds, as described in previous findings in this Order, that the Discharger has demonstrated due diligence and is making diligent progress to bring the waste discharge into compliance with final effluent limitations for nitrate, tertiary butyl alcohol, iron and manganese contained in WDR Order R5-2013-0103.
11. Compliance with this Order exempts the Discharger from MMP's for violations of the final effluent limitations for nitrate, tertiary butyl alcohol, iron and manganese from the date of this Order until **31 December 2014**.
12. If an interim effluent limit contained in this Order is exceeded, then the Discharger is subject to MMPs for that particular exceedance as it will no longer meet the exemption in CWC Section 13385(j)(3).
13. In accordance with CWC section 13385(j)(3), the total length of protection from MMP's for nitrate, tertiary butyl alcohol, iron and manganese does not exceed ten years from the date the effluent limits became applicable to the waste discharge.

14. This Order provides a time schedule for completing the actions necessary to ensure compliance with the final effluent limitations for nitrate, tertiary butyl alcohol, iron and manganese contained in WDR Order R5-2013-0103. Since the time schedule for completion of actions necessary to bring the waste discharge into compliance exceeds one year, this Order includes interim effluent limitations and interim requirements and dates for their achievement.
15. The compliance time schedule in this Order includes interim performance-based effluent limitations for nitrate, iron and manganese. The interim effluent limitation for nitrate has been retained from TSO R5-2008-0009-01, however, the averaging period has been changed from a maximum daily effluent limit to a monthly average effluent limit to be consistent with the averaging period of the effluent limit in Order R5-2013-0103. In developing the interim limitations for nitrate, where there are 10 sampling data points or more, sampling and laboratory variability is accounted for by establishing interim limits that are based on normally distributed data where 99.9 percent of the data points will lie within 3.3 standard deviations of the mean (Basic Statistical Methods for Engineers and Scientists, Kennedy and Neville, Harper and Row). Therefore, the interim limitations for nitrate in this Order are retained as the mean plus 3.3 standard deviations of the available data.

The interim effluent limitations for iron and manganese consist of an average annual effluent concentration derived using effluent sample data from October 2011 through 20 March 2013, provided by the Discharger. In developing the interim limitations for iron and manganese, the maximum effluent concentrations were multiplied by a safety factor of two. Based on the effluent data, the interim annual average effluent limitations for iron and manganese were calculated as 2000 µg/L and 1700 µg/L, respectively. The statistical methods normally used to calculate performance-based effluent limits were found to be inadequate due to the large statistical variability of the data. The Discharger is able to extract groundwater from multiple wells and trenches with metals concentrations that vary drastically in each location. To statistically calculate a concentration that is originating from multiple locations with their own statistical variability is not feasible.

Tertiary butyl alcohol (TBA) is a break down product of methyl tert-butyl ether. TBA has been increasing in the groundwater over the past year and it is likely to continue to increase. It is infeasible to determine a performance-based effluent limitation for TBA based on past data, because the data may not be representative of TBA levels in the future.

16. The Central Valley Water Board finds that the Discharger can maintain compliance with the interim effluent limitations included in this Order. Interim effluent limitations are established when compliance with the final effluent limitations cannot be achieved by the existing Facility. Discharge of constituents in concentrations in excess of the final effluent limitations, but in compliance with the interim effluent limitations, can significantly degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. The interim effluent limitations, however, establish an enforceable ceiling concentration until compliance with the final effluent limitation can be achieved.

Other Regulatory Requirements

17. CWC section 13300 states: *“Whenever a regional board finds that a discharge of waste is taking place or threatening to take place that violates or will violate requirements prescribed by the regional board, or the state board, or that the waste collection, treatment, or disposal facilities of a discharger are approaching capacity, the board may require the discharger to submit for approval of the board, with such modifications as it may deem necessary, a detailed time schedule of specific actions the discharger shall take in order to correct or prevent a violation of requirements.”*
18. CWC section 13267 states in part: *In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.*
19. The Discharger owns and operates the treatment facility which is subject to this Order. The technical and monitoring reports required by this Order are necessary to determine compliance with the WDRs and with this Order.
20. Issuance of this Order is exempt from the provisions of the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) (“CEQA”) pursuant to CWC section 13389, since the adoption or modification of a NPDES permit for an existing source is statutorily exempt and this Order only serves to implement a NPDES permit. (*Pacific Water Conditioning Ass’n, Inc. v. City Council of City of Riverside (1977) 73 Cal.App.3d 546, 555-556.*).
21. On 26 July 2013, 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 this Cease and Desist Order under CWC section 13301 to establish a time schedule to achieve compliance with waste discharge requirements.

IT IS HEREBY ORDERED THAT:

1. Time Schedule Order R5-2008-0009-01 is rescinded upon the effective date of this Order except for enforcement purposes.
2. Pursuant to CWC Section 13300 and 13267, the Discharger shall comply with the following time schedule to ensure completion of the compliance project described in Finding 7b, above:

<u>Task</u>	<u>Date Due</u>
Submit Updated Method of Compliance Workplan/Schedule	Complete
Submit and Implement an updated Pollution Prevention Plan pursuant to CWC section 13263.3(d)(2) for iron, manganese, nitrate, and tertiary butyl alcohol, which includes a plan to operate the groundwater extraction system to strategically pump from areas that minimize pollutant concentrations.	Complete
Progress Reports ¹	1 January, annually
Full compliance with iron, manganese, nitrate, and tertiary butyl alcohol limitations	31 December 2014

¹ The progress reports shall detail what steps have been implemented towards achieving compliance with waste discharge requirements, including studies, construction progress, evaluation of measures implemented, and recommendations for additional measures as necessary to achieve full compliance by the final date.

3. The following interim effluent limitations shall be effective immediately. The interim effluent limitations for iron, manganese, nitrate, and tertiary butyl alcohol shall be effective until **31 December 2014**, or when the Discharger is able to come into compliance, whichever is sooner:

Parameter	Units	Monthly Average Effluent Limitation	Maximum Daily Effluent Limitation	Annual Average Effluent Limitation
Iron, Total Recoverable	µg/L	--	--	2000
Manganese, Total Recoverable	µg/L	--	--	1700
Nitrate, Total (as N)	mg/L	34	--	--
Tertiary Butyl Alcohol	µg/L	--	No Limit ¹	--

¹ It is infeasible to calculate a performance-based limit. See Finding 15.

4. Any person signing a document submitted under this Order shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my knowledge and on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order or with the WDRs may result in the assessment of Administrative Civil Liability of up to \$10,000 per violation, per day, depending on the violation, pursuant to the CWC, 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 CWC section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

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

or will be provided upon request.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **26 July 2013**.

ORIGINAL SIGNED BY

PAMELA C CREEDON, Executive Officer