



Central Valley Regional Water Quality Control Board

20 April 2018

Ed Ralston, Program Manager Phillips 66 Company 76 Broadway Sacramento CA 95818 CERTIFIED MAIL 7017 3040 0000 4339 1194

NOTICE OF APPLICABILITY (NOA); LIMITED THREAT GENERAL WASTE DISCHARGE REQUIREMENTS ORDER R5-2016-0076-01 (NPDES NO. CAG995002); PHILLIPS 66 COMPANY, GROUNDWATER TREATMENT SYSTEM ADJACENT TO THE CALIFORNIA AQUEDUCT, MERCED COUNTY

On 8 February 2016, Phillips 66 Company (Discharger) applied for coverage under the General Order for Treated Groundwater from Cleanup of Petroleum Fuel Pollution (Petroleum General Order) for a groundwater treatment system adjacent to the California Aqueduct (Facility) in Merced County. A Notice of Applicability (NOA) was issued 10 March 2016 for the Facility, but delays in the project timeline postponed the effective date of the NOA indefinitely. On 1 February 2018, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) amended General Order R5-2016-0076-01 for Limited Threat Discharges to Surface Water (Limited Threat General Order) to, in part, replace the previous Petroleum General Order. On 22 February 2018, the Central Valley Water Board received a Notice of Intent (NOI) application for coverage under the amended Limited Threat General Order for the same project that had been postponed under the Petroleum General Order. Central Valley Water Board staff has determined that the proposed discharge meets the required conditions for coverage under the Limited Threat General Order, as a Tier 2 discharger. Beginning 20 April 2018, this NOA will become effective and the Facility will be assigned Limited Threat General Order R5-2016-0076-01-037. Please reference your Limited Threat General Order number, **R5-2016-0076-01-037**, in your correspondences and submitted documents.

The enclosed Limited Threat General Order may also be viewed at the following web address:

https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

A copy of this NOA can be viewed at the following web address:

https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01/

KARL E. LONGLEY ScD, P.E., CHAIR | PAMELA C. CREEDON P.E., BCEE, EXECUTIVE OFFICER



You are urged to familiarize yourself with the contents of the entire Limited Threat General Order and this NOA. The Limited Threat General Order prescribes mandatory discharge monitoring and reporting requirements. The Facility activities shall be operated in accordance with the requirements contained in this NOA and the Limited Threat General Order.

PROJECT DESCRIPTION

In 1985, a leak was discovered in a crude oil pipeline approximately 6.5 miles southwest of Gustine in Merced County. The leak was adjacent to the California Aqueduct, approximately nine miles north of Butts Road. As part of the remediation, a groundwater cleanup system was constructed on property owned by the California Department of Water Resources (DWR). The system consisted of an oil/water separator, an oil recovery tank, a granular activated carbon (GAC) feed tank, a GAC forwarding pump, a surge tank, and two 6,000 pound GAC vessels. Treated groundwater was discharged to an unnamed ephemeral drainage course that crosses the California Aqueduct roughly 850 feet south of the treatment system.

In August 1997, a landslide collapsed a portion of the west-side section of the California Aqueduct thereby allowing an unknown quantity of separate phase hydrocarbons to migrate into the California Aqueduct. In response, an interceptor trench was constructed to capture and remove dissolved hydrocarbons and free petroleum from groundwater and prevent impacted groundwater from migrating into the California Aqueduct when DWR lowered the water level in the California Aqueduct. Beginning in early 2000, the operation of the treatment system switched from full-time operation to stand-by mode (i.e., operating one day per month to ensure the system functioned properly). The Facility was previously enrolled under the Petroleum General Order (R5-2013-0075-006) for the stand-by operations and, upon the Discharger's request, Central Valley Water Board staff terminated coverage under the Petroleum General Order on 21 April 2014.

AECOM, under contract with the Discharger, is implementing a Corrective Action Plan (CAP) at the site. The CAP consists of two phases. Phase I consisted of the removal of the interceptor trench and construction of a cutoff wall. According to the Discharger's application, Phase I was completed in December 2015. Phase II will be implemented in conjunction with DWR's planned slump repair activities, estimated to begin April 2018. DWR activities will consist of removal of a small portion of pipeline, excavation of impacted soils and backfilling with clean soils, and decommissioning the existing groundwater treatment system. A temporary mobile groundwater treatment system will process dewatering fluids from the aqueduct sump pumps and liner repair area. The Discharger anticipates operating the treatment system for a period of two months, depending on DWR's schedule.

The Discharger's temporary treatment system accepts dewatering fluids from DWR's aboveground settling tanks. The temporary treatment system includes one 18,000 gallon aboveground influent storage tank, four sand media filters, two polishing filters, and two parallel GAC trains. Each GAC train consists of one 6,000 pound GAC vessel and two 3,000 pound GAC vessels in series. Treated groundwater may be pumped to one 18,000 gallon aboveground effluent storage tank prior to discharge. Otherwise, treated groundwater will be discharged directly to the ephemeral drainage course without storage.

The outfall from the treatment system to the ephemeral drainage course is at latitude and longitude of 37°10'12" north and 121°03'54" west (Discharge Point 001), on the east side of the

California Aqueduct, whereas the previous groundwater treatment system discharged on the west side of the California Aqueduct. From the discharge point, the drainage course flows north, crosses Interstate 5, and flows into a pond on the south side of the Delta Mendota Canal. See enclosed project map. The Discharger's application states that a maximum of 2.5 to 5 million gallons of dewatering fluids are anticipated to be generated for treatment during the project. During operation, a maximum flowrate of 0.432 million gallons per day (mgd) and an average flowrate of 0.315 mgd is expected.

CALIFORNIA TOXICS RULE / STATE IMPLEMENTATION POLICY MONITORING

The Limited Threat General Order incorporates the requirements of the California Toxics Rule (CTR) and the State Water Resources Control Board's (State Water Board), *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, 2005, also known as the State Implementation Policy (SIP). Screening levels for CTR constituents and other constituents of concern are found in Attachment I of the Limited Threat General Order. Attachment I lists the most stringent objective/criteria (i.e., screening level) for receiving waters with and without the municipal and domestic (MUN) beneficial use. The Central Valley Water Board's *Water Quality Control Plan for the Sacramento River and the San Joaquin River Basins, Fourth Edition (Revised July 2016*) (hereinafter Basin Plan) identifies beneficial uses for surface waters and groundwaters. In addition, the Basin Plan implements State Water Board Resolution 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Therefore, the screening levels based on MUN are used in this NOA.

To satisfy the wastewater monitoring requirements for the NOI application, the Discharger provided 1) historic influent and effluent monitoring data for the Facility, 2) analytical results from 2016 and 2018 collected at the nearest well (MW-24), and 3) analytical results from 2018 of the effluent of the new treatment system. Central Valley Water Board staff compared representative data to the applicable screening levels listed in Attachment I of the Limited Threat General Order based on the MUN beneficial use. Water Quality-Based Effluent Limitations and Technology-Based Effluent Limitations for certain petroleum constituents are established in this NOA, based on the presence of these constituents in groundwater and/or the expected performance of the treatment technology.

EFFLUENT LIMITATIONS

Effluent limitations are specified in Section V., Effluent Limitations, of the Limited Threat General Order. The following effluent limitations are applicable to this discharge and are contained in Section V.A and V.B of the Limited Threat General Order:

Table 1. Effluent Limitations

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_		Effluent Lim				
Parameter	Units	Units Average Monthly		Limit Type ¹		
Priority Pollutants						
Benzene	μg/L	_	0.5	TBEL		
Ethylbenzene	μg/L	-	0.5	TBEL		
1,2-Dichloroethane	μg/L	0.38	0.5	WQBEL/TBEL		
Naphthalene	μg/L	_	5.0	TBEL		

	Units	Effluent Lin		
Parameter		Average Monthly	Maximum Daily	Limit Type ¹
Toluene	μg/L	-	0.5	TBEL
Non-conventional Pollutants				
Ethylene Dibromide	μg/L	0.05	0.10	WQBEL
Methanol	μg/L	-	20	TBEL
Methyl Tertiary Butyl Ether	μg/L	-	1.0	TBEL
Carcinogenic PAHs ²	μg/L	0.0044	0.0088	WQBEL
Total Petroleum Hydrocarbons (Gasoline Range)	μg/L	_	50	TBEL
Total Petroleum Hydrocarbons (Diesel Range)	μg/L	-	50	TBEL
Xylene ³	μg/L	_	0.5	TBEL

¹ TBEL – Technology-Based Effluent Limitation; WQBEL – Water-Quality Based Effluent Limitation

- **1. Flow (Section V.A.1.a).** The maximum daily discharge flow shall not exceed 0.432 million gallons per day.
- 2. pH (Section V.A.1.b.i). The pH of all discharges within the Sacramento and San Joaquin River basins (except Goose Lake in Modoc County) shall at all times be within the range of 6.5 to 8.5.
- 3. Whole Effluent Toxicity, Chronic (Section V.A.2.a). There shall be no chronic toxicity in the discharge.
- **4.** Whole Effluent Toxicity, Acute (Section V.A.3.a). Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:
 - i. 70%, minimum for any one bioassay; and
 - ii. 90%, median for any three consecutive bioassays.

RECEIVING WATER LIMITATIONS

The Limited Threat General Order includes receiving surface water limitations in Section VIII.A. Receiving Water Limitations are based on water quality objectives contained in the Basin Plan for the Sacramento and San Joaquin River Basin and are a required part of the Limited Threat General Order. Based on the information provided in the NOI, only the following receiving surface water limitations are applicable to this discharge:

- Bacteria (VIII.A.2);
- Biostimulatory substances (VIII.A.3);
- Chemical constituents (VIII.A.4);
- Color (VIII.A.5);
- Dissolved oxygen (VIII.A.6.a);

² Applies to the sum of benzo[a]pyrene, benz[a]anthracene, benzo[b]fluroanthene, benzo[k]fluoranthene, dibenz[a,h]anthracene, indeno[1,2,3-cd]pyrene, and chrysene.

³ Applies to the sum of o-xylene, m-xylene, and p-xylene.

- Floating material (VIII.A.7);
- Oil and grease (VIII.A.8);
- pH (VIII.A.9.a);
- Pesticides (VIII.A.10);
- Radioactivity (VIII.A.11);
- Suspended sediments (VIII.A.12);
- Settleable substances (VIII.A.13);
- Suspended material (VIII.A.14);
- Taste and odors (VIII.A.15);
- Temperature (VIII.A.16.a);
- Toxicity (VIII.A.17); and
- Turbidity (VIII.A.18.a).

MONITORING AND REPORTING

Monitoring and reporting requirements are contained in Attachment C of the Limited Threat General Order. The Discharger is required to comply with the following specific monitoring and reporting requirements in accordance with Attachment C of the Limited Threat General Order.

Monitoring Locations – The Discharger shall monitor the influent, effluent, and the receiving water at the specified locations as follows:

 Table 2.
 Monitoring Station Locations

	Tuble 2. Monitoring Station Educations			
Discharge Point Name	Monitoring Location Name	Monitoring Location Description		
-	INF-001	A location where a representative sample of the influent to the Facility can be collected.		
001	EFF-001	A location where a representative sample of the effluent can be collected prior to discharging to Discharge Point 001.		
-	RSW-001U	Unnamed ephemeral drainage course, approximately 200 feet upstream of Discharge Point 001, or the first accessible sampling point upstream of this location.		
_	RSW-001D	Unnamed ephemeral drainage course, approximately 200 feet downstream of Discharge Point 001, or the first accessible sampling point downstream of this location.		

Influent Monitoring – When operating the treatment system, the Discharger shall monitor the influent at INF-001 as follows:

Table 3. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Priority Pollutants				
Benzene	μg/L	Grab	1/Month ¹	2
Ethylbenzene	μg/L	Grab	1/Month ¹	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Toluene	μg/L	Grab	1/Month ¹	2
Non-Conventional Pollutants				
Total Petroleum Hydrocarbons (Gasoline Range)	μg/L	Grab	1/Month ¹	2
Total Petroleum Hydrocarbons (Diesel Range)	μg/L	Grab	1/Month ¹	2
Xylene ³	μg/L	Grab	1/Month ¹	2

If these constituents are not present in any monitoring well or extraction well at the cleanup site, the monitoring well documentation may be submitted in lieu of the influent monitoring for these constituents. Confirmation samples on an annual basis shall be submitted to verify the absence of these chemicals. If three consecutive monthly influent sampling events result in non-detectable concentration, at appropriate detection limits, then the sampling frequency shall be reduced to quarterly. If three consecutive quarterly sampling events results in non-detectable concentration, at appropriate detection limits, then the sampling frequency shall be reduced to annually. If a detectable concentration is determined to be present in the wastewater, the frequency will be monthly.

- ² Pollutants shall be analyzed using the analytical methods described in 40 CFR 136.
- ³ Xylene includes o-xylene, m-xylene, and p-xylene.

Effluent Monitoring – When discharging to the unnamed ephemeral drainage course, the Discharger shall monitor the effluent at EFF-001 as follows:

Table 4. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	GPD	Meter	Continuous ¹	2
Conventional Pollutants				
рН	standard units	Grab	1/Month	2,3
Priority Pollutants				
Benzene	μg/L	Grab	1/Month ⁴	2,5
Ethylbenzene	μg/L	Grab	1/Month ⁴	2,5
1,2-Dichloroethane	μg/L	Grab	1/Month ⁴	2,5
Naphthalene	μg/L	Grab	1/Month ⁴	2,5
Toluene	μg/L	Grab	1/Month ⁴	2,5
Non-Conventional Pollutants				
Carcinogenic PAHs ⁶	μg/L	Grab	1/Month ⁴	2
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Month	2,3
Ethylene Dibromide	μg/L	Grab	1/Month ⁴	2
Methanol	μg/L	Grab	1/Month ⁴	2
Methyl Tertiary Butyl Ether	μg/L	Grab	1/Month ⁴	2
Temperature	°F	Grab	1/Month	2,3

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Petroleum Hydrocarbons (Gasoline Range)	μg/L	Grab	1/Month ⁴	2
Total Petroleum Hydrocarbons (Diesel Range)	μg/L	Grab	1/Month ⁴	2
Xylene ⁷	μg/L	Grab	1/Month ⁴	2
Acute Whole Effluent Toxicity (WET)	% Survival	Grab	1/Year	2,8,9
Chronic WET	TUc	Grab	1/Year	2,8

- When discharging to surface water.
- Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
- A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained by the Discharger.
- 4 1) Analysis shall be conducted weekly for 4 consecutive weeks following initial discharge from the treatment system. 2) If any sample shows detectable concentrations, the Discharger shall immediately resample and reanalyze the effluent for the detected constituent(s), and shall continue sampling the effluent on a weekly basis until the constituent(s) concentrations are below permitted levels. 3) If three consecutive monthly sampling events result in non-detectable concentrations, at appropriate detection limits, then the sampling frequency shall be reduced to quarterly. 4) If a detectable concentration is determined to be present in the wastewater, the frequency will revert back to monthly. 5) Subsequent to the initial testing required in 1) above, if a constituent is not present in the influent sample, then the testing for that constituent may be discontinued until detected in the influent.
- For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.
- ⁶ Carcinogenic PAHs include: benzo[a]pyrene, benz[a]anthracene, benzo[b]fluroanthene, benzo[k]fluoranthene, dibenz[a,h]anthracene, indeno[1,2,3-cd]pyrene, and chrysene.
- ⁷ Xylene includes o-xylene, m-xylene, and p-xylene.
- 8 See the Limited Threat General Order MRP (Attachment C, Section V) for toxicity monitoring requirements
- The test species for acute toxicity shall be fathead minnows (Pimephales promelas).

Receiving Water Monitoring – If the discharge comprises the entire flow in the receiving water or if there is no discharge, receiving water monitoring is not required. The Discharger shall monitor the receiving water at RSW-001U and RSW-001D as follows:

 Table 5.
 Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
рН	standard units	Grab	1/Quarter	1,2
Temperature	°F	Grab	1/Quarter	1,2
Dissolved Oxygen	mg/L	Grab	1/Quarter	1,2
Turbidity	NTU	Grab	1/Quarter	1,2
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Quarter	1,2
Hardness, Total (as CaCO ₃)	mg/L	Grab	1/Quarter ³	2

- A hand-held field meter may be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
- Pollutants shall be analyzed using the analytical methods described in 40 CFR part 136 or by methods approved by the Central Valley Water Board or the State Water Board.
- ³ Monitoring is only required at Monitoring Location RSW-001U.

In conducting receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by RSW-001U and RSW-001D. Attention shall be given to the presence or absence of:

- a. Floating or suspended matter;
- **b.** Discoloration;
- c. Bottom deposits;
- d. Aquatic Life;
- e. Visible films, sheens, or coatings;
- f. Fungi, slimes, or objectionable growths; and
- **g.** Potential nuisance conditions.

Notes on receiving water conditions shall be summarized in the monitoring reports.

Self-Monitoring Report Submittals – Monitoring in accordance with the Limited Threat General Order shall begin on 20 April 2018. Self-monitoring reports shall be submitted to the Central Valley Water Board on a quarterly basis, beginning with the Second Quarter 2018. This report shall be submitted by 1 August 2018. If no discharge occurs during the quarter, the monitoring report must be submitted stating that there has been no discharge. Table 6, below, summarizes the monitoring report due dates required under the Limited Threat General Order. Quarterly monitoring reports must be submitted until your coverage is formally terminated in accordance with the Limited Threat General Order, even if there is no discharge during the reporting quarter.

 Table 6.
 Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On	Quarterly Report Due Date
Continuous 1/Week 1/Month 1/Quarter 1/Year	NOA Effective Date	1 May (1 Jan – 31 Mar) 1 Aug (1 Apr – 30 Jun) 1 Nov (1 Jul – 30 Sep) 1 Feb, of the following year (1 Oct – 31 Dec)

GENERAL INFORMATION AND REQUIREMENTS

The Discharger must notify Central Valley Water Board staff within 24 hours of 1) the start of discharge and 2) having knowledge of noncompliance.

Discharge of material other than what is described in the application is prohibited. The required annual fee (as specified in the annual billing you will receive from the State Water Resources Control Board) shall be submitted until this NOA is officially terminated. You must notify this office in writing when the discharge regulated by the Limited Threat General Order is no longer necessary by submitting the Request for Termination of Coverage (Attachment E of the Limited Threat General Order). If a timely written request is not received, the Discharger will be required to pay additional annual fees as determined by the State Water Resources Control Board.

ENFORCEMENT

Failure to comply with the Limited Threat General Order may result in enforcement actions, which could include civil liability. Effluent limitation violations are subject to a Mandatory Minimum Penalty (MMP) of \$3,000 per violation. In addition, late monitoring reports may be subject to MMPs or discretionary penalties of up to \$1,000 per day late. When discharges do not occur during a quarterly report monitoring period, the Discharger must still submit a quarterly monitoring report indicating that no discharge occurred to avoid being subject to enforcement actions.

COMMUNICATION

The Central Valley Regional Water Quality Control Board has transitioned to a paperless office system, therefore, please convert all documents to a searchable Portable Document Format (pdf) and email them to CentralValleyFresno@waterboards.ca.gov. Please include the following information in the body of the email: Discharger's name, Facility name, County name, CIWQS Place ID 228047, and the Order number R5-2016-0076-01-037. Documents that are 50 megabytes or larger shall be transferred to a CD, DVD, or flash drive and mailed to our office at 1685 "E" Street, Fresno, California 93706.

All documents, including self-monitoring reports and written notifications, submitted to comply with this NOA and the Limited Threat General Order shall be directed, via the paperless office system, to the Compliance and Enforcement Unit, attention Warren Gross. Mr. Gross can be reached at (559) 445-5128 or at Warren.Gross@waterboards.ca.gov.

Questions regarding the permitting aspects of the Limited Threat General Order, and notification for termination of coverage under the Limited Threat General Order, shall be directed, via the

paperless office system, to the NPDES Permitting Unit, attention Nicolette Dentoni. Ms. Dentoni can also be reached at (559) 444-2505 or at Nicolette.Dentoni@waterboards.ca.gov.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Resources Control Board to review the action in accordance with California Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Resources Control Board must receive the petition by 5:00 p.m., 30 days after the date of this NOA, 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 Resources Control 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.

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for Pamela C. Creedon

D. Executive Officer

Attachments: Attachment A, Project Maps

Enclosures: Limited Threat General Order R5-2016-0076-01 (Discharger only)

cc: David Smith, U.S. EPA, Region IX, San Francisco (via email)
Division of Water Quality, State Water Board, Sacramento (via email)
Phill Plunkett, AECOM, Bakersfield (via email)



