



---

## Lahontan Regional Water Quality Control Board

September 9, 2019

TO: ATTACHED MAILING LIST

### **Revised Waste Discharge Requirements for Pacific Gas and Electric Company, Hinkley Compressor Station, San Bernardino County**

Tentative Waste Discharge Requirements have been prepared for the subject line facility, located in Hinkley. The California Regional Water Quality Control Board (Water Board) requests that you review the referenced documents and provide us with your written comments no later than **October 1, 2019**. You can view the documents on our web site at: [www.waterboards.ca.gov/lahontan](http://www.waterboards.ca.gov/lahontan) (under "Announcements"). If you do not have access to the internet, you may request a hard copy of the documents be mailed to you. Please send your comments to the Water Board's email address at [Lahontan@waterboards.ca.gov](mailto:Lahontan@waterboards.ca.gov) and include **Hinkley Compressor Station WDID No. 6B362031001 Comments** in the subject line text, or you may mail your comments to the Water Board's Victorville office at the address shown on this letter, to the attention of Christina Guerra.

The Water Board will consider adopting the revised Waste Discharge Requirements at its regular meeting scheduled for November 20<sup>th</sup> and 21<sup>st</sup> in Barstow, California. As required by California Code of Regulations, title 27, section 21730, notice of the meeting and the enclosed documents are being circulated not less than 45 days before the scheduled meeting. You can view the Water Board's meeting agenda 10 days before the meeting on our web site at: [www.waterboards.ca.gov/lahontan](http://www.waterboards.ca.gov/lahontan) (click on Agenda). If you need further information regarding this meeting, please contact our office at (760) 241-6583.

If you have any questions regarding this letter or the enclosed documents, please contact Christina Guerra, Engineering Geologist, at (760) 241-7333, email [christina.guerra@waterboards.ca.gov](mailto:christina.guerra@waterboards.ca.gov), or Jan Zimmerman, Senior Engineering Geologist, at (760) 241-7376, email [jan.zimmerman@waterboards.ca.gov](mailto:jan.zimmerman@waterboards.ca.gov).

Angelica Soto  
Office Technician

cc: mailing list

Enc (electronic only): Tentative Revised Waste Discharge Requirements and Monitoring and Reporting Program, Hinkley Compressor Station

PETER C. PUMPHREY, CHAIR | PATTY Z. KOUYOUMDJIAN, EXECUTIVE OFFICER

---

2501 Lake Tahoe Blvd., So. Lake Tahoe, CA 96150 | 15095 Amargosa Road, Bldg 2, Ste 210, Victorville CA 92394  
e-mail [Lahontan@waterboards.ca.gov](mailto:Lahontan@waterboards.ca.gov) | website [www.waterboards.ca.gov/lahontan](http://www.waterboards.ca.gov/lahontan)

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION**

**BOARD ORDER NO. R6V-2019-(TENTATIVE)  
WDID NO. 6B362031001**

**REVISED WASTE DISCHARGE REQUIREMENTS**

**FOR**

**PACIFIC GAS AND ELECTRIC COMPANY  
HINKLEY COMPRESSOR STATION**

San Bernardino County

---

The California Regional Water Quality Control Board, Lahontan Region (Water Board) finds:

1. Discharger

On May 16, 2019 and May 24, 2019, Pacific Gas and Electric Company (PG&E) submitted a Report of Waste Discharge (ROWD) and Addendum ROWD, which collectively constitutes a complete ROWD to support proposed revisions to Waste Discharge Requirements (WDRs), Board Order R6V-2013-0003, and the proposed relining of the Pond 8 surface impoundment with an engineered alternative liner system at the Hinkley Compressor Station (Facility). PG&E owns the land underlying the proposed Facility. For the purpose of this Order, PG&E is referred to as the "Discharger."

2. Facility Location

The Facility is located in the town of Hinkley, at the southeast intersection of Community Boulevard and Fairview Road, in Section 2, Township 9N, Range 3W, San Bernardino Baseline and Meridian and is shown on Attachment A.

3. Facility

For the purposes of this Order, the Facility consists of the following: (1) a natural gas compressor station; (2) five Class II surface impoundments (evaporation ponds); (3) related piping and appurtenances; and (4) associated office and parking areas. A Facility map is included in Attachment B.

4. Reason for Action

Revised WDRs are being issued for the relining of the Pond 8 surface impoundment in its existing footprint, to document the continued operation of Ponds 4, 5, 6R, 7R, and 8, and for general updates to the WDRs and Monitoring and Reporting Program (MRP) to reflect current site conditions.

Of the five surface impoundments existing at the Facility, only two are currently receiving waste discharges (Pond 4 and Pond 6R). Neither Pond 7R nor Pond 8 have received waste discharge since 2015, and Pond 5 stopped receiving waste in March 2019. Pond 5 and Pond 7R are currently undergoing leak detection evaluations and repairs will be made, as needed. The Pond 8 liner system has reached its operational life expectancy and needs to be replaced.

The total capacity of the five surface impoundments is needed for proper operation of the Facility. Currently, the limited pond capacity requires the Discharger to reduce the cooling tower boiler blowdown rates during the winter months to ensure that surface impoundment freeboard requirements are met. However, the reduction in blowdown rates causes higher conductivity of the discharged wastewater and can result in damage to the compressor station equipment. The capacity to be provided by the relining of Pond 8 will allow Facility maintenance to occur and to maintain Facility operations.

#### 5. Order History

- a. August 10, 1972, the Water Board adopted Board Order No. 6-72-44, which allowed the discharge of industrial wastewater into six 1.5-acre evaporation ponds (surface impoundments). However, only two surface impoundments were constructed under this Order (Ponds 1 and 2).
- b. November 15, 1973, the Water Board adopted revised WDRs, Board Order No. 6-73-137, which revised the discharge requirements for the Facility.
- c. July 11, 1974, the Water Board adopted Board Order No. 6-74-64, which allowed the discharge of waste into the two existing surface impoundments (Ponds 1 and 2) and to two additional surface impoundments (Ponds 3 and 4). This Board Order also rescinded Board Order No. 6-73-137.
- d. August 14, 1980, the Water Board adopted revised WDRs, Board Order No. 6-80-54, which allowed the discharge of waste into the four existing surface impoundments (Ponds 1 through 4) and to two additional surface impoundments (Ponds 5 and 6). This Board Order also rescinded Board Order No. 6-74-64.  
  
July 8, 1982, the Water Board adopted revised WDRs, Board Order No. 6-82-79, which allowed the discharge of waste into the six existing surface impoundments (Ponds 1 through 6) and to two additional surface impoundments (Ponds 7 and 8). However, only Pond 7 was constructed under this Order. This Board Order also rescinded Board Order No. 6-80-54.
- e. June 14, 1990, the Water Board adopted revised Board Order No. 6-90-42, which allowed the construction and operation of an additional surface impoundment, Pond 8, and required the Discharger to retrofit the existing Ponds 1 through 7 by

adding an additional liner. This Board Order also rescinded Board Order No. 6-82-79.

- f. August 12, 1993, the Water Board adopted amended WDRs, Board Order No. 6-90-42A1, which authorized the discharge of evaporative waste (sludge) to Pond 8 and to revise the time schedule for retrofit of Ponds 1 through 7.
- g. July 17, 1997, the Water Board adopted revised WDRs, Board Order No. 6-97-82, to document clean closure of Ponds 1, 2, 3, 6, and 7, and to allow the continued discharge of waste to Ponds 4, 5, and 8. This Board Order also rescinded Board Order Nos. 6-90-42 and 6-90-42A1.
- h. January 16, 2013, the Water Board adopted revised WDRs, Board Order No. R6V-2013-0003, authorizing the construction and operation of two new surface impoundments (Pond 6R and Pond 7R) in the footprint of former Pond 6 and Pond 7, respectively, and to allow the continued discharge of waste to Ponds 4, 5, and 8. This Board Order also rescinded Board Order No. 6-97-82.

#### 6. Detected Release to Groundwater

On December 7, 1987, the Discharger notified the Water Board and the San Bernardino County Department of Environmental Health Services of the discovery of 0.58 parts per million (ppm) of hexavalent chromium in an onsite groundwater monitoring well north of the Facility's industrial wastewater ponds. The contamination was discovered on November 30, 1987, as part of an ongoing environmental assessment program at PG&E facilities. Representatives of the Discharger indicated that the industrial wastewater ponds were the likely source of the chromium in the groundwater because a chromium-based corrosion inhibitor used in their cooling tower blowdown water was discharged to unlined industrial wastewater percolation ponds between 1951 and 1966. During that time, approximately 750,000 gallons per month of blowdown wastewater was discharged to the unlined ponds.

#### 7. Enforcement History

As a result of the detected release to groundwater, the Water Board has taken the following enforcement actions and is currently requiring cleanup of groundwater in the Harper Valley Groundwater Basin.

- a. December 29, 1987, Cleanup and Abatement Order (CAO) No. 6-87-160 was issued because wastewater containing hexavalent chromium previously discharged at the Facility to unlined ponds polluted groundwater. The Order specified dates for submitting plans for site investigation, characterization of hydrogeology, and initiation of cleanup and abatement of hexavalent chromium in the soil and groundwater.

- b. Subsequent amendment, CAO No. 6-87-160A1 adopted June 3, 1994, required the Discharger to destroy wells that could provide a conduit for migration of hexavalent chromium to the underlying aquifer and to implement a full-scale groundwater extraction system.
- c. CAO No. 6-87-160A2, adopted August 3, 1998, required the Discharger to monitor and to submit reports on the effectiveness of corrective action activities.
- d. CAO No. R6V-2015-0068, adopted November 4, 2015, combined outstanding requirements from previous CAOs, added new requirements, and included deadlines for future cleanup and abatement actions, and rescinded all previous CAOs.

8. Land Uses

The majority of land surrounding the Facility is rural residential and agricultural. Wells within a one-mile radius access groundwater for domestic, industrial, and agricultural purposes.

9. Site Topography

The topography at the Facility is relatively flat, and gently sloping downward to the northeast, with elevations ranging from approximately 2,197 feet above mean sea level (msl) to 2,202 feet above msl.

10. Climate

The area typically has hot summers and mild winters. The mean annual temperature is 65° Fahrenheit (F) and ranges from 100° F in the summer to 35° F in the winter. The annual average precipitation in the vicinity of the Facility is less than 5 inches. The net evaporation rate for the area is approximately 78 inches annually. Predominant wind direction is westerly.

11. Site Geology

The soils underlying the Facility are comprised of interbedded sands, gravels, silts, and clays. The sands extend to a depth of approximately 125 to 150 feet below ground surface (bgs) at the Facility. Underlying the sands is the "Blue Clay" aquitard. Between the Blue Clay and bedrock are permeable stratum composed of calcareous sedimentary rock and highly weathered, decomposed, and fractured bedrock that exists as the transitional interface above the granitic bedrock. The thickness of the weathered rock is highly variable, generally ranging between a few feet up to 20 feet thick. The Blue Clay aquitard thins to the west and to the south towards the Mojave River. The depth to bedrock is about 175 feet bgs beneath the Facility.

The nearest active fault is the northwest-southeast trending Lenwood fault located about one mile southeast of the Facility. Dextral slip is between 0.2 and 1.0 millimeter per year (mm/yr) but can occur at greater values when triggered by other seismic events.

12. Site Hydrology and Hydrogeology

The Facility is located within the Harper Valley Hydrologic Subarea of the Mojave Hydrologic Unit and approximately 1 mile north of the Mojave River. The Facility is not within a 100-year floodplain.

The Facility overlies the Harper Valley Groundwater Basin. Two hydraulically connected aquifers are within the greater Mojave Groundwater Basin, the Floodplain Aquifer and the Regional Aquifer. The Floodplain Aquifer is composed of past and current Mojave River deposits. The surrounding and underlying Regional Aquifer is generally composed of unconsolidated alluvial fan deposits from the surrounding mountains. The Facility is located above the Floodplain Aquifer. The hydro-stratigraphy is generally divided into two additional depth-specific aquifers, the Upper Aquifer and the Lower Aquifer generally separated by the Blue Clay aquitard. The Upper Aquifer includes the Floodplain Aquifer and portions of the Regional Aquifer and is underlain by the Blue Clay aquitard. Below the Blue Clay aquitard is the deeper, semi-confined Lower Aquifer. Depth to groundwater in the Upper Aquifer and beneath the Facility ranges from about 75 to 100 feet bgs.

13. Groundwater Quality

A water sample representative of background water quality, though impacted by the Discharger's historical waste discharges as described in Finding 6, was collected by the Discharger from groundwater monitoring wells MW-01 and PMW-01 in January and October 2018. Selected results are presented in Table 1, Groundwater Quality Results, below.

**Table 1. Groundwater Quality Results**

Constituent	Units	Monitoring Well MW-01 Sample Concentration	Monitoring Well PMW-01 Sample Concentration	MCL
Chloride	mg/L	69	58	NE
Chromium (Hexavalent)	µg/L	<0.2	<0.2	NE
Chromium (Total)	µg/L	0.002	<0.01	50
Fluoride	mg/L	0.29	0.21	2
Magnesium	mg/L	NS	14	NE
Nitrate as Nitrogen	mg/L	<0.05	<0.05	10
pH	pH units	7.1	6.78	6.5-8.5
Sodium	mg/L	75	70	250

Specific Conductance	µmhos/cm	933	810	900*
Sulfate	mg/L	14	32	NE
Total Dissolved Solids (TDS)	mg/L	590	510	500*

Notes:

\* = Secondary MCL

MCL = maximum contaminant level

µmhos/cm = micromhos per centimeter

mg/L = milligrams per liter

MW = monitoring well

µg/L = micrograms per liter

NS = not sampled

NE = not established

14. Water Sources

On-site production wells owned by the Discharger provide the water used at the Facility. Production wells used for industrial operations include FW-03 and FW-04. A water sample was collected by the Discharger from supply well FW-03 on December 7, 2017. Water quality data from supply well FW-03 is shown in Table 2, Water Supply Quality Results, below.

**Table 2. Water Supply Quality Results**

Constituent	Units	Supply Well FW-03 Sample Concentration	MCL
Fluoride	mg/L	0.56	2
Nitrate as Nitrogen	mg/L	1.1	10
Arsenic	mg/L	ND	0.01
Boron	mg/L	0.12	NE
Magnesium	mg/L	7.2	NE
Chloride	mg/L	42	NE
Hexavalent Chromium	ug/L	ND (0.033)**	NE
pH	pH units	7.9	6.5-8.5
Specific Conductance	µmhos/cm	470	900*
Sulfate	mg/L	47	250
Total Dissolved Solids (TDS)	mg/L	280	500*

Notes:

\*\* = Sampled January 8, 2019

\* = Secondary MCL

MCL = maximum contaminant level

ug/L = micrograms per liter

µmhos/cm = micromhos per centimeter

mg/L = milligrams per liter

ND = not detected

NE = not established

15. Waste Management Unit Classification and Authorized Disposal Sites

The surface impoundments are classified as Class II waste management units (WMUs), as defined in California Code of Regulations (CCR), title 27, section 20250. The five surface impoundments (Ponds 4, 5, 6R, 7R, and 8) are the only authorized disposal locations for wastewater at the Facility (see Attachment B).

16. Waste Classification

The blowdown from the cooling towers at the compressor station accounts for approximately 90 percent (%) of the wastewater discharged to the surface impoundments. The remaining 10% of the discharge to the surface impoundments is comprised of intermittent waste streams from cleaning and maintenance operations.

The wastewater contains concentrations of several constituents, including arsenic, fluoride, hexavalent chromium, magnesium, nitrate, and total dissolved solids (TDS). The wastewater discharged to the surface impoundments is classified as a designated waste. Designated waste is defined in California Water Code (CWC), section 13173, subdivision (b), as “nonhazardous waste that consists of, or contains, pollutants that, under ambient environmental conditions at a waste management unit, could be released in concentrations exceeding applicable water quality objectives or that could reasonably be expected to affect beneficial uses of the waters of the state as contained in the appropriate state water quality control plan.” The predicted quality of wastewater to be discharged to the surface impoundments is included in Attachment C. These data were derived by analyzing representative samples of the discharge to determine the concentration of chemical constituents.

17. Description of Surface Impoundments

The cooling water blowdown and the intermittent maintenance waste streams from the Facility are discharged into five lined Class II surface impoundments (see Attachment B). Surface impoundments Ponds 4, 5, 6R, and 7R are currently in use. Pond 8 has reached its operational life span and is proposed to be relined with an engineered alternative liner system. The surface impoundments must also contain the volume of rain which falls onto the surface impoundment areas during a 1,000-year, 24-hour storm event, and maintain a minimum two feet of freeboard.

Ponds 4 and 5 have a maximum surface area of approximately 1.06 acres with a maximum operating volume of approximately 1.3 million gallons each. Ponds 4 and 5 are constructed with the following engineered alternative liner system, from bottom to top.

- a. An 8- to 10-inch thick clay liner with a permeability of less than  $3 \times 10^{-7}$  centimeters per second (cm/sec).
- b. A 60-mil thick high-density polyethylene (HDPE) liner.
- c. A geonet leachate collection layer installed between the liners.
- d. A 60-mil thick HDPE liner.

In September 2011, maintenance of Pond 4 included the removal of sludge, cleaning the



top of the existing liner, inspection and repair of the existing primary liner, and placement of an additional 60-mil HDPE on top of the existing primary liner system.

Pond 6R has a maximum surface area of approximately 1.22 acres with a maximum operating volume of 2 million gallons. Pond 7R has a maximum surface area of approximately 1.26 acres and a maximum operating volume of 2.3 million gallons. Ponds

6R and 7R are constructed with the following engineered alternative liner system, from bottom to top.

- a. An 8-inch recompacted native subgrade, which is moisture conditioned and compacted to 90 percent of the maximum dry density per American Society for Testing and Materials Standard D1557.
- b. A pan lysimeter under the lower-most part of each surface impoundment that consists of a 60-mil HDPE layer and granular drainage material.
- c. A geosynthetic clay layer (GCL) secondary liner.
- d. A 60-mil HDPE smooth liner.
- e. A 60-mil HDPE Drain Liner® with integral studs facing down, forming an integral drainage layer (equivalent to Leachate Collection and Recovery System [LCRS] when placed overlying smooth geomembrane).

Pond 8 has a maximum surface area of 2.41 acres with a maximum operating volume of 4 million gallons. The proposed engineered alternative liner system for the Pond 8 surface impoundment is to be constructed from bottom to top, as follows.

- a. Existing unsaturated zone monitoring suction lysimeters (6), constructed at the two low points of the surface impoundment.
- b. A GCL with a permeability of  $5 \times 10^{-9}$  cm/sec.
- c. A 60-mil HDPE geomembrane with extrusion molded drainage studs on the upper surface (Drain Liner® or equivalent) and whose interplanar space forms an integral drainage layer (equivalent to LCRS) when placed beneath the overlying smooth geomembrane.
- d. An 80-mil black/white HDPE geomembrane with an electrically conductive back.

The surface impoundments are each equipped with a LCRS sump directly underneath the deepest portion of each surface impoundment. The LCRS is designed to monitor the liner of the surface impoundment, and to provide the earliest possible detection of a leak in the liner of the surface impoundment. Ponds 6R, 7R, and 8 are also equipped with an unsaturated zone monitoring system beneath the LCRS.

18. Engineered Alternative to Prescriptive Standard for Surface Impoundments

The CCR, title 27, includes prescriptive standards for waste management unit construction and allows for engineered alternatives to such standards. The Discharger has proposed engineered alternatives to the CCR, title 27 prescriptive standards for the construction of the Class II surface impoundments. CCR, title 27, section 20080, subdivision (b), requires that alternatives shall only be approved where the Discharger demonstrates that: (1) the construction of prescriptive standard is not feasible because it is unreasonably and unnecessarily burdensome and will cost substantially more than alternatives, which meet the criteria, or is impractical and will not promote attainment of applicable performance standards; and (2) there is a specific engineered alternative that is consistent with the performance goal of the prescriptive standard and affords equivalent protection against water quality impairment.

The prescriptive standard for a surface impoundment is either a single clay liner or a double clay liner system with a LCRS, both having a hydraulic conductivity of at least  $1 \times 10^{-6}$  cm/sec. The Discharger proposed engineered alternatives for construction of the surface impoundments because construction of the prescriptive clay liner is not feasible at this Facility. Repeated wetting and drying cycles are expected to desiccate and crack a compacted clay liner during typical operational conditions. Cracking would compromise the clay liner and not achieve the performance standard.

Water Board staff has evaluated the proposed engineered alternative liner system for the relining of Pond 8 and has determined that the engineered alternative meets the CCR, title 27 requirements, is consistent with the performance goal of the prescriptive standards, and affords equivalent protection against water quality impairment.

19. Action Leakage Rates

The Discharger has requested that the Water Board allow an action leakage rate (ALR) of liquid through the upper liner of the surface impoundments into the leachate collection sumps. The respective ALRs are based on proposed design dimensions and design specifications of the surface impoundments and on a 1992, United States Environmental Protection Agency (U.S. EPA) guidance document, *Action Leakage Rates for Leak Detection Systems, Supplemental Background Document for the Final Double Liners and Leak Detection Systems Rule for Hazardous Waste Landfills, Waste Piles, and Surface Impoundments*. The numerical ALRs are needed to be specified in the MRP to include requirements for monitoring and reporting leakage rates from the LCRS and the type of response actions the Discharger must take if applicable ALRs are exceeded.

20. Water Quality Protection Standard

The Water Quality Protection Standard (WQPS) consists of monitoring parameters, constituents of concern (COCs), concentration limits, monitoring points, and the point of compliance. The WQPS applies over the active life of the Facility, closure period, and

the compliance period. The COCs, monitoring points, and point of compliance for groundwater and unsaturated zone monitoring are described in MRP No. R6V-2019-(TENTATIVE).

21. Compliance Period

The compliance period is the number of years equal to the active life of the WMU plus any post-closure monitoring and maintenance period until the Water Board finds that the Facility no longer poses a threat to water quality. The compliance period is the minimum period during which the Discharger must conduct a water quality monitoring program subsequent to a release. The compliance period must begin anew each time the Discharger initiates the Evaluation Monitoring Program (EMP). The compliance period shall be extended until the Discharger can demonstrate that the WMU has been in continuous compliance with its WQPS for a period of three years as specified in CCR, title 27, section 20410(c).

22. Detection Monitoring Program

Pursuant to CCR, title 27, sections 20385 and 20420, the Discharger is implementing a detection monitoring program (DMP) for the Facility. The DMP for the Facility consists of monitoring groundwater and the unsaturated zone for the presence of COCs. The DMP is specified in MRP No. R6V-2019-(TENTATIVE).

23. Evaluation Monitoring Program

An EMP may be required, pursuant to CCR, title 27, sections 20385 and 20420(k)(6), whenever there is "measurably significant" evidence of a release from the Facility during a DMP or whenever there is significant physical evidence of a release from the Facility. The Discharger needs to delineate the nature and extent of the release and develop a suite of proposed corrective action measures within 90 days of establishing an EMP, unless the Discharger proposes and substantiates a longer time period for implementing the EMP. If the EMP confirms measurably significant evidence of a release, then the Discharger needs to submit an Engineering Feasibility Study for corrective action pursuant to CCR, title 27, section 20425, subdivision (b), and MRP No. R6V-2019-(TENTATIVE).

24. Corrective Action Program

A corrective action program (CAP) to remediate released wastes from the Facility may be required pursuant to CCR, title 27, sections 20385 and 20430, if results of an EMP confirm measurably significant evidence of a release from the Facility.

25. Known or Reasonably Foreseeable Release from the Surface Impoundments

The Discharger has submitted a corrective action estimate to address a known or

reasonably foreseeable release, including a cost estimate of the total likely maximum cost of remediation for a known or reasonably foreseeable release for the five existing surface impoundments, pursuant to CCR, title 27, section 20380, subdivision (b). The analysis includes a proposed financial assurance mechanism to cover the estimated corrective action costs meeting the requirements of CCR, title 27, sections 22220 through 22222 and 22225 et seq. The Discharger needs to maintain a financial assurance instrument for corrective action of a known or reasonably foreseeable release from the surface impoundments.

26. Surface Impoundments Closure Specifications

The Discharger proposes to clean-close four of the five surface impoundments (Ponds 4, 5, 6R, and 7R), consolidate the waste materials into Pond 8, and close the Pond 8 surface impoundment as a landfill, pursuant to CCR, title 27, section 21400, subdivision (b)(2)(A). At closure, any residual water remaining in the Ponds 4, 5, 6R, and 7R will be allowed to evaporate and all residual wastes, including liquids, sludges, precipitates, settled solids, and liner materials will be completely removed, and disposed into Pond 8. The Discharger has submitted a preliminary closure and post-closure plan and financial estimates for both (1) clean closure of all surface impoundments, and (2) clean closure of Ponds 4, 5, 6R, and 7R and the closure of Pond 8 as a landfill. Adequate financial assurance mechanisms for closure are needed to be maintained by the Discharger.

27. Financial Assurances

The Discharger needs to obtain and maintain financial instruments for closure, post-closure, and for corrective action of a known or reasonably foreseeable release as required under CCR, title 27, sections 22207 and 22222.

The Discharger needs to report the amount of money available in the funds as part of the annual self-monitoring report and demonstrate in the annual report that the amount of financial assurance is adequate or to increase the amount of financial assurance, as appropriate, for inflation.

28. Storm Water

The Facility's industrial operations currently do not require coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Dischargers Associated with Industrial Activities, NPDES No. CAS000001, Statewide Industrial General Permit, Order No. 2014-0057-DWQ, and as amended. However, the Discharger maintains a zero discharge Facility. Structural and non-structural Best Management Practices (BMPs) are implemented. Storm water protection at the Facility is primarily accomplished through drainage control for protection from run-on; exposure of pollutants to precipitation is minimized; and run-off is managed with secondary containment to minimize erosion and sedimentation. Storm water is captured in secondary containment. Storm water captured in secondary containment that is tied into

the oil water separator, is treated, and then discharged to the surface impoundments. Storm water not treated by the oil water separator is contained in drums; if there is an indication that this storm water is impacted by contaminants, the water is analyzed and disposed of accordingly.

29. Basin Plan

The Water Board adopted a *Water Quality Control Plan for the Lahontan Region* (Basin Plan), which became effective on March 31, 1995. This Order implements the Basin Plan, as amended.

30. Receiving Waters

The receiving waters are the groundwaters of the Harper Valley Groundwater Basin (Department of Water Resources, Groundwater Basin Number 6-47, Basin Plan, Plate 2B).

31. Beneficial Uses

The present and probable beneficial uses of the groundwaters of the Harper Valley Groundwater Basin No. 6-47, as set forth and defined in the Basin Plan are:

- a. Municipal and Domestic Supply (MUN);
- b. Agricultural Supply (AGR);
- c. Industrial Service Supply (IND); and
- d. Freshwater Replenishment (FRSH).

32. Statistical and Non-Statistical Methods

Statistical and non-statistical analyses of monitoring data are necessary for the earliest possible detection of a release of waste from the Facility. CCR, title 27, section 20415, subdivision (e)(7), requires statistical data analyses to determine when there is "measurably significant" evidence of a release from the Facility. CCR, title 27, section 20415, subdivision (e)(8) allows non-statistical data analysis methods that can achieve the goal of the monitoring program at least as well as the most appropriate statistical method. The monitoring parameters listed in MRP No. R6V-2019-(TENTATIVE) are believed to be the best indicators of a release from the Facility.

33. Discharge of Monitoring Well Purge Water

As part of the regularly scheduled groundwater sampling events, groundwater monitoring wells are purged until parameters of electrical conductivity, pH, and temperature are sufficiently stabilized to assure collection of a representative sample. Purged groundwater is currently discharged to an onsite tank and allowed to evaporate. Because of the multitude of contaminants from the historical hexavalent chromium release and

associated cleanup injection products, the purge water may also contain these constituents at concentrations greater than background. The chromium cleanup is ongoing. To protect the groundwater from further degradation, the discharge to the ground of purge water needs to be prohibited from containing concentrations of COCs associated with the historical hexavalent chromium release and associated cleanup injection products, and COCs and monitoring parameters, which exceed the WQPS, as described in MRP No. R6V-2019-(TENTATIVE).

34. California Water Code, Section 13241 Considerations

Pursuant to CWC, section 13241, the requirements of this Order take into consideration:

- a. Past, present, and probable future beneficial uses of water. This Order identifies existing groundwater quality and past, present, and probable future beneficial uses of water, as described in Finding Nos. 13 and 31, respectively. The proposed discharge will not adversely affect present or probable future beneficial uses of water including municipal and domestic supply, agricultural supply, industrial service supply, and freshwater replenishment, because the discharge is authorized only to lined surface impoundments and this Order required monitoring to detect any impacts to water quality.
- b. Environmental characteristics of the hydrographic unit under consideration including the quality of water available thereto. Finding No. 13 describes the environmental characteristics and quality of water available.
- c. Water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect water quality in the area. Compliance with the requirements of this Order will not affect surface and groundwater quality. The Water Board will use its existing authority and these WDRs to ensure protection of water quality from these discharges.
- d. Economic considerations. Water Quality Objectives established in the Basin Plan for the Harper Valley Groundwater Basin do not subject the Discharger to economic disadvantage as compared to other similar discharges in the Region. This Order will require the Discharger to submit proposals compliant with the requirements of CCR, title 27, and is reasonable.
- e. The need for developing housing within the region. The Discharger is not responsible for developing housing within the region. This Order provides for capacity to collect, store, and evaporate wastewater in lined surface impoundments.
- f. The need to develop and use recycled water. The Discharger does not propose the use of recycled water at this Facility.

35. Human Right to Safe, Clean, Affordable, and Accessible Water

California Water Code, section 106.3, establishes a state policy that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes and directs state agencies to consider this policy when adopting regulations pertinent to those uses of water. To promote this policy, requirements are needed for drainage controls, monitoring to assess water quality, and corrective action to address impacts to water quality.

36. California Environmental Quality Act

The Water Board as lead agency adopted, as required by California Environmental Quality Act (CEQA), Public Resources Code, a Mitigated Negative Declaration (MND) for the Facility on January 16, 2013. The Water Board considered the MND when it previously revised the WDRs in 2013. The MND evaluated the construction of two new Class II surface impoundments (Ponds 6R and 7R) in the former footprints of Ponds 6 and 7 that were not backfilled. Engineered design features that include the construction of liner systems for the surface impoundments are required pursuant to this Order to mitigate potential water quality impacts to groundwater from the operation of Ponds 4, 5, 6R, 7R, and 8. The Water Board has reviewed the MND and has concluded that a supplement or subsequent MND is not required. No changes have occurred in the project or in the project area that would cause impacts or increase the severity of impacts already considered. The re-lining of Pond 8 will be within the project area analyzed in the MND, and there is no proposed change to the project layout features. Based on the analysis of the MND and the engineered design features for the surface impoundments that include multiple liners, the Water Board finds that the project will not have a significant effect on water quality.

37. Antidegradation Analysis

State Water Board Resolution No. 68-16 ("Statement of Policy with Respect to Maintenance of High Quality Waters in California") requires that whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality must be maintained. Any change in the existing high quality is allowed by that policy only if it has been demonstrated to the Regional Water Board that any change will be consistent with maximum benefit to the people of the state, will not unreasonably affect present and anticipated beneficial use of such water, and will not result in water quality less than that prescribed in the policies. The policy further requires that Dischargers meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that pollution or nuisance will not occur and that the highest water quality consistent with maximum benefit to the people of the state will be maintained.

There is a detected release to groundwater as a result of historical waste discharges to

unlined percolation ponds. The detected release and cleanup actions are managed under enforcement Cleanup and Abatement Order No. R6V-2015-0068. Adequate liner systems, which comply with CCR, title 27 requirements, are needed to prevent an unauthorized release to groundwater and this WDR is expected to prevent further degradation of water quality as a result of waste discharges. A robust monitoring and maintenance program is needed to ensure that waste discharges are contained within the surface impoundments at the Facility. As a result, further degradation is not expected.

38. Technical and Monitoring Reports

California 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 discharge 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."

Technical reports are necessary to assure compliance with this WDR. Therefore, the burden, including costs, of these reports bears a reasonable relationship to the need for the report and the benefits to be obtained from the reports.

39. Right to Petition

Any person aggrieved by this action of the Water Board may petition the State Water Board to review the action in accordance with California Water Code, section 13320, and CCR, 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](http://www.waterboards.ca.gov/public_notices/petitions/water_quality), or will be provided in hard copy or electronic format upon request.

40. Notification of Interested Parties

The Water Board notified the Discharger and interested agencies and persons of its intent to adopt revised WDRs for the authorized discharge of wastes to the surface

impoundments and has provided them with an opportunity to submit their written views and recommendations.



41. Consideration of Interested Parties

The Water Board, in a public meeting held on November 20, 2019, heard and considered all comments pertaining to the discharge.

**IT IS HEREBY ORDERED**, pursuant to California Water Code, sections 13263 and 13267, that the Discharger must comply with the following:

I. RECEIVING WATER LIMITATIONS

The discharge must not cause the existing water quality to be degraded nor shall the discharge cause a violation of any applicable water quality standard for receiving water adopted by the Water Board or the State Water Board as required by California Water Code and regulations adopted hereunder.

A. Under no circumstances shall the discharge cause the presence of the following substances or conditions in groundwaters of the Harper Valley Groundwater Basin.

1. Bacteria – Groundwaters designated as MUN, the median concentration of coliform organisms, over any seven-day period, must be less than 1.1 Most Probable Number per 100 milliliters (MPN/100 mL).
2. Chemical Constituents – Groundwaters designated as MUN must not contain concentrations of chemical constituents in excess of the Primary MCL or Secondary MCL based upon drinking water standards specified in the following provisions of CCR, title 22: Table 64431-A of section 64431 (Inorganic Chemicals), Table 64444-A of section 64444 (Organic Chemicals), Table 64449-A of section 64449 (Secondary MCLs – Consumer Acceptance Contaminant Levels), and Table 64449-B of section 64449 (Secondary MCLs – Consumer Acceptance Contaminant Level Ranges). This incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect.

Groundwaters must not contain concentrations of chemical constituents that adversely affect the water for beneficial uses.

3. Radioactivity – Radionuclides must not be present in concentrations that are deleterious to human, plant, animal, or aquatic life, or that result in the accumulation of radionuclides in the food chain to an extent that it presents a hazard to human, plant, animal, or aquatic life. Groundwater designated MUN must not contain concentrations of radionuclides in excess of limits specified in CCR, title 22, section 64442, Table 64442, and section 64443, Table 64443, including future changes as the changes take effect.

4. Taste and Odors – Groundwaters must not contain taste or odor-producing substances in concentrations that cause a nuisance or that adversely affect beneficial uses. For groundwaters designated as MUN, at a minimum, concentrations must not exceed adopted Secondary MCLs as specified in CCR, title 22, section 64449, Table 64449-A (Secondary MCLs – Consumer Acceptance Contaminant Level) and Table 64449-B (Secondary MCLs – Consumer Acceptance Contaminant Levels Ranges) including future changes as the changes take effect.

## II. REQUIREMENTS AND PROHIBITIONS

### A. General

1. The discharge must not cause or threaten to cause a condition of pollution or nuisance as defined in California Water Code, section 13050.
2. The discharge of waste, as defined in California Water Code, section 13050, subdivision (d), must not cause an exceedance of any narrative Water Quality Objective (WQO) contained in the Basin Plan.
3. There must be no discharge, bypass, or diversion of wastewater from the collection, conveyance, or disposal facilities to adjacent land areas or surface waters.
4. Where any numeric or narrative WQO contained in the Basin Plan is already being exceeded, any discharge which causes further degradation or pollution is prohibited.
5. Surface drainage within the surface impoundments must be contained within the surface impoundments. No water contained within the surface impoundments is to be discharged outside the surface impoundments, unless it is to a location approved by the Water Board Executive Officer.
6. All facilities used for the collection, conveyance, or disposal of waste must be adequately protected against overflow, washout, inundation, structural damage, or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 1,000 years.
7. The discharge of hazardous waste to the surface impoundments or generation of hazardous waste due to evaporation in the surface impoundments is prohibited.

8. The discharge of solid wastes, leachate, wastewater, or any other deleterious materials to groundwater is prohibited.
9. The discharge of waste, except to the authorized surface impoundments, is prohibited.
10. The discharge must not cause any increases in the concentration of waste constituents in soil-pore gas, soil-pore liquid, soil, or other geologic materials outside of the surface impoundments if such waste constituents could migrate to waters of the State – in either liquid or gaseous phase – and cause a condition of nuisance, degradation, contamination, or pollution.
11. The discharge of waste in a manner that does not maintain a five-foot separation between the waste and the seasonal high groundwater table is prohibited as specified in CCR, title 27, section 20240, subdivision (c).
12. The integrity of the active surface impoundments must be maintained throughout the life of the waste management units and must not be diminished as a result of maintenance operation or lack thereof.
13. The discharge of pesticides to surface waters or groundwater is prohibited.
14. Water used for dust control must be limited to a minimal amount. A "minimal amount" is defined as that amount which will not result in run-off.
15. The Discharger must maintain in good working order any control system or monitoring device installed to achieve compliance with these WDRs.
16. The Discharger must at all times maintain adequate and viable financial assurances acceptable to the Water Board Executive Officer for costs associated with closure and for corrective action for all known or reasonably foreseeable releases.

B. Surface Impoundments

- a. The surface impoundment liner systems for Ponds 4, 5, 6R, 7R, and 8 must be constructed and maintained as described in Finding 17.
- b. The surface impoundment freeboard, the vertical distance between the liquid surface elevation and the lowest part of the pond dike or the invert of an overflow structure, must be a minimum of two feet at all times, as specified in CCR, title 27, section 20375.

- c. All lined surface impoundments must be effectively sealed to prevent the exfiltration of liquids. For this project, “effectively sealed” facilities are Class II waste management units that are designed and constructed to meet the requirements of CCR, title 27, sections 20310, 20320, and 20330.
- d. Within 90 days following the completion of significant changes to the engineered alternative liner systems, a technical report shall be submitted containing as-built drawings and a construction quality assurance/quality control report. The report shall contain all field and laboratory data generated during the construction activities. The report shall also contain certification, signed by a California professional civil engineer, that the surface impoundment was constructed and suitable for operation in accordance with CCR, title 27 requirements.

C. Leachate Collection and Recovery Systems

1. If a quantity of leachate is detected in a LCRS above the ALR, as specified in MRP No. R6V-2019-(TENTATIVE), the Discharger must immediately take steps to locate and repair leak(s) in the liner system and comply with the Notice of Tentative Release requirements presented in MRP No. R6V-2019-(TENTATIVE), Section IV.C., “Unscheduled Reports to be Filed With the Water Board.” If subsequent repairs do not result in a reduction in the leakage rate to less than the ALR for any given surface impoundment, the Discharger must immediately cease the discharge of waste to that surface impoundment, including leachate, and notify the Water Board. The notification shall include a timetable for remedial action to repair the liner of the surface impoundment(s).
2. The LCRS must be operated to function without clogging throughout the life of the surface impoundment.
3. Any leachate collected in the LCRS must either be returned to one of the surface impoundments or disposed at a Class II Waste Management Unit.

D. Electronic Submittal of Information

Pursuant to CCR, title 23, section 3890, the Discharger must submit all reports, including soil and water data, prepared for the purpose of subsurface investigation or remediation of a discharge of waste to land subject to Division 2 of title 27 electronically over the internet to the State Water Board’s GeoTracker system. This requirement is in addition to, and not superseded by, any other applicable reporting requirement.

### III. WATER QUALITY MONITORING AND RESPONSE PROGRAMS

#### A. Water Quality Protection Standard

1. The WQPS consists of COCs, concentration limits, monitoring points, and the point of compliance. The COCs, concentration limits, monitoring points, and point of compliance for groundwater and unsaturated zone monitoring are described in MRP No. R6V-2019-(TENTATIVE).
2. The Discharger must submit a ROWD to the Water Board at least 120 days before initiating discharge of any new constituents of concern to the surface impoundments. Before a new discharge commences, the Discharger must estimate the concentration for such constituents within the wastewater stream and submit written statistical method(s) in order to detect a release of such constituents.
3. At any given time, the concentration limit for each monitoring parameter and COC must be equal to the background data set of that constituent unless a concentration limit greater than background has been established. The background data set for each monitoring point/constituent pair should be comprised of at least eight data points, collected quarterly.
4. If the Discharger or Water Board Executive Officer determines that concentration limits were or are exceeded, the Discharger may immediately institute verification procedures upon such determination as specified below or, within 90 days of such determination, submit a technical report pursuant California Water Code, section 13267, subdivision (b), proposing an EMP meeting the provisions of CCR, title 27. In the event of a new release, the Discharger will only have 90 days, once the Water Board authorizes the establishment of the EMP to complete the delineation, develop a suite of proposed corrective action measures, and submit a revised ROWD with a proposed CAP for adoption by the Water Board.
5. Monitoring of the groundwater and the unsaturated zone must be conducted to obtain background data and to provide the best assurance of the early detection of any new releases from the Facility.

#### B. Detection Monitoring Program

The Discharger must maintain a DMP as required in CCR, title 27, section 20420.

#### C. Evaluation Monitoring Program

The Discharger must perform an EMP whenever there is measurably significant evidence and/or significant physical evidence of release pursuant to CCR, title 27, section 20385, subdivision (a)(2) or (3). Within 90 days of initiating the EMP, the

Discharger must delineate the nature and extent of the release, as well as develop, propose, and support corrective action measures to be implemented in a CAP.

D. Corrective Action Program

The Discharger must implement a corrective action program as required pursuant to CCR, title 27, section 20385 and 20430(c), following completion of an EMP.

E. Data Analysis

Within 45 days after completion of sampling, the Discharger must determine at each monitoring point whether there is measurably significant evidence and/or significant physical evidence of a new release from the Facility. The analysis must consider all monitoring parameters and COCs. The Executive Officer may also make an independent finding that there is measurably significant evidence and/or significant physical evidence of a new release.

1. To determine whether there is "measurably significant" (as defined in CCR, title 27, section 20164) evidence of a new release from the Facility, the Discharger must use approved statistical data analysis methods to evaluate point of compliance groundwater data, as required by CCR, title 27, section 20415, subdivision (e).
2. To determine whether there is significant physical evidence of a new release from the Facility, the Discharger must also use non-statistical methods. Significant physical evidence may include, but is not limited to, unexplained volumetric changes in the surface impoundments, unexplained stress in biological communities, unexplained changes in soil characteristics, visible signs of spill/release, unexplained water table mounding beneath or adjacent to the surface impoundments, and/or any other change in the environment that could be reasonably be expected to be the result of a new release from the surface impoundments. Other non-statistical evidence of a release may include trends of increasing concentrations of one or more constituents over time.
3. If there is measurably significant evidence and/or significant physical evidence of a new release, the Discharger must immediately notify the Water Board by telephone as to the monitoring points and constituent(s) or parameters involved followed by written notification sent certified mail within seven days (see "Unscheduled Reports to be Filed With the Water Board," MRP No. R6V-2019-[TENTATIVE]). The Discharger must initiate the verification procedures, as specified in this Order, Section III.F.

F. Verification Procedures

Whenever there is a determination by the Discharger or Executive Officer that there is measurably significant evidence or significant physical evidence of a new release, the Discharger must initiate verification procedures as specified below.

1. The Discharger must either conduct a composite retest using data from the initial sampling event with all data obtained from the resampling event or must conduct a discrete retest in which only data obtained from the resampling event must be analyzed to verify evidence of a release. Alternatively, the Discharger may perform a pass 1-of-3 retesting approach using quarterly samples, as an engineered alternative.
2. The verification procedure need only be performed for the constituent(s) that has shown a measurably significant evidence of a release and must be performed for those monitoring points at which a release is indicated.
3. Within seven days of receiving the results of the last laboratory analyses for the retest, the Discharger must report to the Water Board, by certified mail, the results of the verification procedure, as well as all data collected for use in the retest.
4. If the Discharger or Executive Officer verifies that there is or was evidence of a release, the Discharger is required to submit a technical report to the Water Board within 90 days of such a determination, pursuant to California Water Code, section 13267, subdivision (b). The report must propose an EMP (see Section III.C above) or make a demonstration to the Water Board that there is a source other than the surface impoundments that caused evidence of a release (see "Unscheduled Reports to be Filed With the Water Board," MRP No. R6V-2019-(TENTATIVE)).
5. If the Discharger declines to conduct verification procedures, the Discharger must submit a technical report, as specified in this Order, Section III.G.

G. Technical Report Without Verification Procedures

If the Discharger chooses not to initiate verification procedures after there has been a determination made for evidence of a release, a technical report must be submitted pursuant to California Water Code, section 13267(b). The report must propose an EMP or attempt to demonstrate that the release did not originate from the surface impoundments.

H. Monitoring and Reporting

1. Pursuant to California Water Code, section 13267, subdivision (b), the Discharger must comply with the monitoring and reporting requirements as established in the attached MRP No. R6V-2019-(TENTATIVE) and as specified by the Executive Officer. The MRP may be modified by the Water Board Executive Officer.
2. The Discharger must comply with the "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached to and made part of MRP No. R6V-2019-(TENTATIVE).

IV. PROVISIONS

A. Rescission of Waste Discharge Requirements

Board Order No. R6V-2013-0003 and MRP No. R6V-2013-0003 are hereby rescinded.

B. Standard Provisions

The Discharger must comply with the "Standard Provisions for Waste Discharge Requirements," dated September 1, 1994, in Attachment D, which is attached to and made part of this Order.

C. Claim of Copyright or Other Protection

Any and all reports and other documents submitted to the Water Board pursuant to this request will need to be copied for some or all of the following reasons: 1) normal internal use of the document, including staff copies, record copies, copies for Board members and agenda packets, 2) any further proceedings of the Water Board and the State Water Board, 3) any court proceeding that may involve the document, and 4) any copies requested by members of the public pursuant to the Public Records Act or other legal proceeding.

If the Discharger or its contractor(s) claims any copyright or other protection, the submittal must include a notice, and the notice will accompany all documents copied for the reasons stated above. If copyright protection for a submitted document is claimed, failure to expressly grant permission for the copying stated above will render the document unusable for the Water Board's purposes and will result in the document being returned to the Discharger as if the task had not been completed.



D. Closure Plan

The preliminary closure plan must be updated if there is a substantial change in operations or costs for closure. The Discharger must submit a report to the Water Board on or before **April 30, 2020**, and by **April 30** every year thereafter, indicating that the preliminary closure plan is in conformance with existing Facility operations. This report may be included in the annual monitoring report as required in MRP No. R6V-2019-(TENTATIVE).

A final closure plan must be submitted to the Water Board for review and approval at least 180 days prior to beginning any partial or final closure activities, or prior to discontinuing the use of the Facility for waste treatment, storage, or disposal pursuant to CCR, title 27, section 21710(c)(5)(B). The final closure plan must be prepared by or under the supervision of either a California-licensed civil engineer or a certified engineering geologist and be in compliance with CCR, title 27, section 21400.

E. Financial Assurance

The Discharger must submit to the Water Board a financial assurance report on or before **April 30, 2020**, and by **April 30** every year thereafter, providing evidence that adequate financial assurances has been provided for closure, post-closure maintenance, and for corrective action of all known and reasonably foreseeable releases. Evidence must include the total amount of money available in the fund developed by the Discharger. In addition, the Discharger must either provide evidence that the amount of financial assurance is still adequate or increase the amount of financial assurance by an appropriate amount. An increase may be necessary due to inflation, change(s) in regulatory requirements, change(s) in the accepted preliminary closure and post-closure plan, or other unforeseen events.

F. Modifications to the Facility

If the Discharger intends to expand the Facility or the capacity of the surface impoundments, a report must be filed with the Water Board **no later than 120 days prior** to the anticipated change, containing a detailed plan for Facility expansion. This plan must include, but is not limited to, a time schedule for studies, design, and other information needed to document the proposed expansion of the Facility pursuant to CCR, title 27, section 21710.

V. TIME SCHEDULE

A. Final Design Plan

**At least 90 days** prior to the reconstruction or relining of a surface impoundment or proposed significant changes to an engineered alternative liner system, the

Discharger must submit design plans for the Facility in accordance with the requirements of CCR, title 27, sections 20310 and 20320 and accepted engineered alternatives, including a design capacity for containing precipitation from a 25-year, 24-hour event; details of the LCRS; the unsaturated zone monitoring system; and the groundwater monitoring well locations, to be accepted by the Water Board's Executive Officer. The design plans submitted for the Facility must include a Construction Quality Assurance Plan, which meets the requirements of CCR, title 27, sections 20323 and 20324.

B. Sampling and Analysis Plan

**At least 90 days** prior to proposed significant changes to an engineered alternative liner system, the Discharger must submit a revised Sampling and Analysis Plan (SAP) to be accepted by the Water Board's Executive Officer. The SAP must include procedures for sampling and analyses of the surface impoundments, LCRS, unsaturated zone monitoring system, and groundwater monitoring wells.

C. Monitoring Systems Installation Report

**No later than 180 days** following completion of reconstruction or relining of a surface impoundment and **at least 60 days** prior to discharge into that surface impoundment, the Discharger must submit a technical report discussing the installation of the monitoring systems for the proposed surface impoundment. The report shall summarize all work activities associated with the installation of the groundwater and vadose zone monitoring systems. The report must be certified by a California professional civil engineer or a California professional geologist. It must contain sufficient information to verify that the construction was in accordance with State and/or County standards.

D. Final Construction Quality Assurance Report

**No later than 180 days** following the completion of reconstruction or relining of a surface impoundment, and **at least 60 days** prior to discharge onto the newly reconstructed or relined surface impoundments, a Final Construction Quality Assurance Report, required in CCR, title 27, section 20324, subdivision (d)(1)(C), must be submitted to the Water Board for review and acceptance. The report must be certified by a California professional civil engineer or a California professional engineering geologist. It must contain sufficient information and test results to verify that construction was in accordance with the submitted design plans and specifications and with the accepted engineered alternative to the prescriptive standards and performance goals of CCR, title 27.

I, Patty Z. Kouyoumdjian, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by California Regional Water Quality Control Board, Lahontan Region, on November 20, 2019.

---

PATTY Z. KOUYOUMDJIAN  
EXECUTIVE OFFICER

- Attachments:
- A. Vicinity/Location Map Hinkley Compressor Station
  - B. Facility Map Hinkley Compressor Station
  - C. Wastewater Discharge Sample Results (2019)
  - D. Standard Provisions for Waste Discharge Requirements

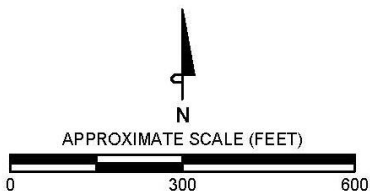


**Attachment B**



FILE NAME: Z:\Shared\CAD\_DRAWING\Current\PG&E\Hinkley\Revised ROWD Pond 8 Realign\Fig-2-2\_Aerial View of Facility.dwg | Layout Tab: 6x11

SOURCE AERIAL PHOTO: Google Earth, August 2014.



**AERIAL VIEW OF FACILITY**

Pacific Gas and Electric Company  
 Hinkley Compressor Station  
 Hinkley, California



324179

**FIGURE 2-2**

**Attachment C**

**Waste Characterization Sample Results**

Constituent	Units	Discharge Concentrations	Date of Sampling
Antimony	mg/L	<0.01	08/23/2019
Arsenic	mg/L	0.018	02/13/2019
Barium	mg/L	0.28	02/13/2019
Beryllium	mg/L	<0.002	08/23/2019
Boron	mg/L	0.91	05/07/2019
Bromoform	µg/L	<1	02/13/2019
Cadmium	mg/L	<0.001	02/13/2019
Calcium	mg/L	200	08/23/2019
Chloride	mg/L	220	08/23/2019
Chromium, Hexavalent	µg/L	0.69	02/13/2019
Cobalt	mg/L	<0.01	08/23/2019
Copper	mg/L	0.0027	02/13/2019
Fish Bioassay LC50	mg/L	> 750	08/23/2019
Fluoride	mg/L	1.7	08/23/2019
Iron	mg/L	0.19	02/13/2019
Lead	mg/L	<0.001	02/13/2019
Magnesium	mg/L	33	08/23/2019
Manganese	mg/L	<0.02	08/23/2019
Mercury	mg/L	<0.0002	08/23/2019
Molybdenum	mg/L	0.021	02/13/2019
Nickel	mg/L	<0.002	02/13/2019
Nitrate – as Nitrogen	mg/L	6.2	08/23/2019
Nitrite – as Nitrogen	mg/L	<0.3	08/23/2019
Organic Lead	µg/L	<7.0	08/23/2019
pH	pH Units	7.52	05/07/2019
o-Phosphate as P	mg/L	2.0 J	08/23/2019
Potassium	mg/L	12	08/23/2019
SC	µmhos/cm	2,629	05/07/2019
Selenium	mg/L	<0.01	08/23/2019
Silver	mg/L	<0.01	08/23/2019
Sodium	mg/L	190	08/23/2019
Sulfate	mg/L	510	08/23/2019
TDS	mg/L	2,000	05/07/2019
Thallium	mg/L	<0.01	08/23/2019
Total Alkalinity	mg/L	190	08/23/2019
Total Chromium	mg/L	0.002	02/13/2019
Vanadium	mg/L	0.025	08/23/2019
Zinc	mg/L	0.061	02/13/2019

Notes:

- J = estimated concentration
- LC50 = lethal concentration killing 50 percent of the test species
- meq/L = milliequivalents of solute per liter of solution
- mg/L = milligrams per liter
- N = nitrogen
- P = phosphorus
- SC = specific conductance
- TDS = total dissolved solids
- µg/L = micrograms per liter
- µmhos/cm = micromhos per centimeter

## Attachment D

### CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LAHONTAN REGION

#### **STANDARD PROVISIONS** FOR WASTE DISCHARGE REQUIREMENTS

##### 1. Inspection and Entry

The Discharger shall permit Regional Board staff:

- a. to enter upon premises in which an effluent source is located or in which any required records are kept;
- b. to copy any records relating to the discharge or relating to compliance with the Waste Discharge Requirements (WDRs);
- c. to inspect monitoring equipment or records; and
- d. to sample any discharge.

##### 2. Reporting Requirements

- a. Pursuant to California Water Code 13267(b), the Discharger shall immediately notify the Regional Board by telephone whenever an adverse condition occurred as a result of this discharge; written confirmation shall follow within two weeks. An adverse condition includes, but is not limited to, spills of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance.
- b. Pursuant to California Water Code Section 13260 (c), any proposed material change in the character of the waste, manner or method of treatment or disposal, increase of discharge, or location of discharge, shall be reported to the Regional Board at least 120 days in advance of implementation of any such proposal. This shall include, but not be limited to, all significant soil disturbances.
- c. The Owners/Discharger of property subject to WDRs shall be considered to have a continuing responsibility for ensuring compliance with applicable WDRs in the operations or use of the owned property. Pursuant to California Water Code Section 13260(c), any change in the ownership and/or operation of property subject to the WDRs shall be reported to the Regional Board. Notification of applicable WDRs shall be furnished in writing to the new owners and/or operators and a copy of such notification shall be sent to the Regional Board.
- d. If a Discharger becomes aware that any information submitted to the Regional Board is incorrect, the Discharger shall immediately notify the Regional Board, in writing, and correct that information.

- e. Reports required by the WDRs, and other information requested by the Regional Board, must be signed by a duly authorized representative of the Discharger. Under Section 13268 of the California Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation.
- f. If the Discharger becomes aware that their WDRs (or permit) are no longer needed (because the project will not be built or the discharge will cease) the Discharger shall notify the Regional Board in writing and request that their WDRs (or permit) be rescinded.

3. Right to Revise WDRs

The Regional Board reserves the privilege of changing all or any portion of the WDRs upon legal notice to and after opportunity to be heard is given to all concerned parties.

4. Duty to Comply

Failure to comply with the WDRs may constitute a violation of the California Water Code and is grounds for enforcement action or for permit termination, revocation and re-issuance, or modification.

5. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of the WDRs which has a reasonable likelihood of adversely affecting human health or the environment.

6. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the WDRs. Proper operation and maintenance includes adequate laboratory control, where appropriate, and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by the Discharger, when necessary to achieve compliance with the conditions of the WDRs.

7. Waste Discharge Requirement Actions

The WDRs may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for waste discharge requirement modification, revocation and re-issuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any of the WDRs conditions.



8. Property Rights

The WDRs do not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

9. Enforcement

The California Water Code provides for civil liability and criminal penalties for violations or threatened violations of the WDRs including imposition of civil liability or referral to the Attorney General.

10. Availability

A copy of the WDRs shall be kept and maintained by the Discharger and be available at all times to operating personnel.

11. Severability

Provisions of the WDRs are severable. If any provision of the requirements is found invalid, the remainder of the requirements shall not be affected.

12. Public Access

General public access shall be effectively excluded from treatment and disposal facilities.

13. Transfers

Providing there is no material change in the operation of the facility, this Order may be transferred to a new owner or operation. The owner/operator must request the transfer in writing and receive written approval from the Regional Board's Executive Officer.

14. Definitions

- a. "Surface waters" as used in this Order, include, but are not limited to, live streams, either perennial or ephemeral, which flow in natural or artificial water courses and natural lakes and artificial impoundments of waters. "Surface waters" does not include artificial water courses or impoundments used exclusively for wastewater disposal.
- b. "Ground waters" as used in this Order, include, but are not limited to, all subsurface waters being above atmospheric pressure and the capillary fringe of these waters.

15. Storm Protection

All facilities used for collection, transport, treatment, storage, or disposal of waste shall be adequately protected against overflow, washout, inundation, structural damage or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.

x: PROVISIONS WDR (File: standard prov3)

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION**

**MONITORING AND REPORTING PROGRAM  
NO. R6V-2019-(TENTATIVE)  
WDID NO. 6B362031001**

**FOR**

**PACIFIC GAS AND ELECTRIC COMPANY  
HINKLEY COMPRESSOR STATION**

San Bernardino County

---

This Monitoring and Reporting Program (MRP) No. R6V-2019-(TENTATIVE) is issued to Pacific Gas and Electric Company (Discharger) for the Hinkley Compressor Station (Facility) pursuant to California Water Code, section 13267 and incorporates requirements for groundwater and unsaturated zone monitoring and reporting; facility monitoring, maintenance, and reporting; and financial assurances reporting contained in California Code of Regulations (CCR), title 27, section 20005, et seq. The technical reports required by Order No. R6V-2019-(TENTATIVE) and MRP No. R6V-2019-(TENTATIVE) are necessary to assure compliance with the Waste Discharge Requirements (WDRs). Therefore, the burden, including costs, of these reports bears a reasonable relationship to the need for the report and the benefits to be obtained from the reports.

**I. WATER QUALITY PROTECTION STANDARD**

A Water Quality Protection Standard (WQPS) is required by CCR, title 27, sections 20390 through 20410, to assure the earliest possible detection of a release from a waste management unit to the underlying soil and/or groundwater. The WQPS consists of all constituents of concern (COCs), the concentration limits for each COC, the point of compliance, and all water quality monitoring points. The Executive Officer shall review and approve the WQPS, or any modification thereto, for each monitored medium.

The Discharger is currently implementing a Detection Monitoring Program (DMP) to monitor groundwater and the unsaturated zone for the Facility. A WQPS is necessary to provide the best assurance of the earliest detection of any releases from the Facility.

**A. Constituents of Concern**

The COCs include all the waste constituents, their reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the waste management units (surface impoundments). The COCs for each monitored medium are listed in Attachment A, which is made part of this MRP. The Discharger must monitor all COCs at the sampling frequency and reporting frequency listed in Attachment A.

B. Monitoring Parameters

Monitoring parameters are those COCs that provide a reliable indication of a release from the surface impoundments. The monitoring parameters for each monitored medium are listed in this MRP, Attachment A. The Discharger must monitor all monitoring parameters at the sampling frequency and reporting frequency listed in Attachment A.

C. Concentration Limits

Concentration limits are established for each COC and are intended to reflect background ambient conditions of surface and subsurface media that are unaffected by a release from the existing surface impoundments. At any given time, the concentration limit for each COC must be equal to the background data set of that constituent unless a concentration limit greater than background (CLGB) has been established. CCR, title 27, section 20415 allows for various options to determine concentration limits.

1. The Discharger is using the following methodologies to determine concentration limits for the groundwater monitoring program.
  - a. Intrawell Comparisons – The Discharger is using historical water quality data from individual groundwater monitoring wells to develop well-specific concentration limits for inorganic constituents. Intrawell comparisons for these COCs are appropriate because these COCs show spatial variation in water quality across the site and a historical release has been detected in groundwater.
  - b. Non-Statistical Comparisons – For inorganic COCs either not detected in the background well or only detected at trace concentrations and for man-made organic COCs, the concentration limit is set at the respective practical quantitation limit (PQL) for the analytical method used.

If subsequent sampling of the background monitoring point(s) indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste management activities at the Facility, the Discharger may request modification of the WQPS concentration limits to provide season-specific concentration limits (background data sets) for each COC at each monitoring point.

CLGBs for corrective action may be proposed by the Discharger in accordance with CCR, title 27, section 20430, after proposed corrective action measures reveal that it is technically and economically infeasible to

achieve background water quality levels. The Discharger has not proposed CLGBs for this Facility.

D. Point of Compliance and Monitoring Points

The point of compliance and monitoring points for the groundwater and unsaturated zone systems are shown on Attachment B of this MRP. The Discharger may add monitoring points, as needed, to comply with the DMP requirements contained in this MRP, and as approved by the Water Board Executive Officer.

The point of compliance is a vertical surface located at the hydraulically downgradient limit of the surface impoundments that extends through the uppermost aquifer underlying the Facility. A groundwater monitoring network is established for the Facility. The Point of Compliance boundary is bound by monitoring wells SA-SM-06S, MW-20, PMW-06, MW-15, PMW-05, PMW-04, PMW-03, and MW-03. The unsaturated zone monitoring is comprised of pan lysimeters for Ponds 4, 5, 6R, and 7R, and suction lysimeters for Pond 8.

E. Compliance Period

The Discharger plans to clean-close four surface impoundments, (Ponds 4, 5, 6R, and 7R), consolidate the waste materials into Pond 8, and close the Pond 8 surface impoundment as a landfill, pursuant to CCR, title 27, section 21400, subdivision (b)(2)(A). At closure, at which time any residual water remaining in the Ponds 4, 5, 6R, and 7R will be allowed to evaporate and all residual wastes, including liquids, sludges, precipitates, settled solids, and liner materials will be completely removed, and disposed into Pond 8.

The compliance period is the number of years equal to the active life of the waste management unit plus any post-closure monitoring and maintenance period until the Water Board finds that the Facility no longer poses a threat to water quality. The compliance period is the minimum period during which the Discharger must conduct a water quality monitoring program subsequent to a release. The compliance period must begin anew each time the Discharger initiates an Evaluation Monitoring Program (EMP). The compliance period may be extended if the Facility is not in compliance with its WQPS.

II. MONITORING

The Discharger must comply with the monitoring requirements outlined below. The discharger must monitor the groundwater and the unsaturated zone beneath the surface impoundments, monitor wastewater effluent discharges to the surface impoundments, and monitor wastewater in the surface impoundments. All monitoring and inspection activities must be documented, and all sampling must be

conducted in accordance with an approved Sampling and Analysis Plan (SAP) that includes quality assurance and quality control standards and procedures, as described in the General Provisions for Monitoring and Reporting (Attachment C of this MRP).

The Discharger must operate and maintain a detection monitoring system that complies with the DMP monitoring provisions contained in CCR, title 27, sections 20380 through 20420. Monitoring of the groundwater and unsaturated zone must be conducted to provide the best assurance of the early detection of a release from the Facility. Changes to the existing monitoring systems must be designed and certified by a California-licensed professional geologist or civil engineer as meeting the requirements of CCR, title 27, section 20415(e)(1). The Discharger must collect, preserve, and transport samples in accordance with the SAP.

All samples collected in accordance with this MRP, except for field parameters, are to be analyzed by a California state-certified laboratory using United States Environmental Protection Agency (USEPA) analytical methods or the most recently approved SW-846 USEPA method or other equivalent USEPA method. An alternate method may be proposed and used if acceptable to the Executive Officer.

A. Wastewater Effluent

The Discharger must monitor the composition of wastewater discharged to the surface impoundments through the collection of liquid samples for laboratory analyses. All observations and measurements must be recorded in a permanent logbook kept onsite.

1. Monitoring Point

A liquid grab sample will be collected from the wastewater conveyance system at a location upgradient from the point of discharge to a surface impoundment. The sample location must be documented for each sampling event.

2. Monitoring Parameters and Constituents of Concern

The Discharger must monitor wastewater liquid for all COCs and monitoring parameters in accordance with the frequencies listed in Attachment A.

3. Field Parameters

The Discharger must monitor wastewater liquid for all field parameters in accordance with the frequencies listed in Attachment A.

4. Flow Rate Characteristics

The Discharger must record the following flow rate characteristics of wastewater discharged to the surface impoundments: the maximum daily flow rate in gallons per day; the total volume of flow in gallons per day; and the cumulative total of wastewater discharged in gallons per month.

5. Calibration Documentation

Annually, the Discharger must submit documentation of instrument calibration and performance checks to verify proper operation of all field monitoring equipment including wastewater flow meters. Wastewater flow meters are to be replaced, as needed.

B. Surface Impoundment

The surface impoundment monitoring program monitors the composition of wastes contained within the surface impoundments through the collection of liquid and solid samples for laboratory analyses. All observations and measurements must be recorded in a permanent logbook kept onsite.

1. Monitoring Points

A liquid grab sample will be collected from each surface impoundment at a location, as specified herein: opposite the discharge inlet; at a depth of one foot below the water surface elevation; and in a quiescent area of the surface impoundment.

If a surface impoundment is dry at the time of monitoring, this information must be recorded and reported to the Water Board in accordance with the reporting requirements of MRP, Section IV.B.

2. Monitoring Parameters and Constituents of Concern

The Discharger must monitor surface impoundment liquid for all COCs and monitoring parameters in accordance with the frequencies listed in Attachment A.

3. Field Parameters

The Discharger must monitor surface impoundment liquids all field parameters in accordance with the frequencies listed in Attachment A.

4. Calibration Documentation

Annually, the Discharger must submit documentation of instrument calibration and performance checks to verify proper operation of all field monitoring equipment.

5. Dikes and Liners

Visually inspect, on a daily basis, each of the surface impoundment dikes and exposed liners to determine if there are any indication of loss of integrity. Should the inspection indicate that any unauthorized discharge has occurred, or may occur, the Discharger must notify the Water Board within 24 hours of the inspection, followed by confirmation in writing within 7 days.

Measure, daily, freeboard (in feet), as measured from the top of the lowest part of the dike to the water surface elevation in each surface impoundment.

6. Sludge

Collect a representative grab sample of the sludge (if present) of each surface impoundment, and analyze each sample for all COCs in accordance with the frequencies listed in Attachment A.

C. Leachate Collection and Recovery Sumps

The LCRS monitoring program monitors the composition of liquids within the LCRS through the collection liquid samples for laboratory analyses. All observations and measurements must be recorded in a permanent logbook kept onsite.

1. Monitoring Points

Each surface impoundment is equipped with an LCRS. The LCRS monitoring point locations are shown on MRP, Attachment B. If a LCRS is dry at the time of monitoring, this information must be recorded and reported to the Water Board in accordance with the reporting requirements of MRP, Section IV.B.

2. Monitoring Parameters and Constituents of Concern

The Discharger must monitor LCRS liquids for all COCs and monitoring parameters in accordance with the frequencies listed in Attachment A.



3. Field Parameters

The Discharger must monitor LCRS liquid for all field parameters in accordance with the frequencies listed in Attachment A.

4. Calibration Documentation

Annually, the Discharger must submit documentation of instrument calibration and performance checks to verify proper operation of all field monitoring equipment.

5. Inspections

Inspect, weekly, the LCRS for the presence of liquids. Upon detection of liquid in a LCRS that was dry during the prior week's inspection, the Discharger must immediately collect a grab sample of the liquid and analyze the sample for all COCs and monitoring parameters listed in Attachment A.

The Discharger must record, in conjunction with the LCRS weekly inspection, the volume of liquid pumped from the LCRS, the pumping rate (in gallons per day), date, and discharge location(s) of liquids pumped from the LCRS.

6. Action Leakage Rates and Rapid and Large Leak Rates

The Action Leakage Rates and Rapid and Large Leak Rates for Ponds 4, 5, 6R, 7R, and 8 are shown in Table 1, LCRS Action Leakage Rates (ALR) and Rapid and Large Leak Rates (RLL), below. The ALRs for the surface impoundments are based on the surface areas of the surface impoundments, the RLLs are calculated based on the maximum design flow rate of the leak detection system that can be removed without liquid head on the bottom liner exceeding 1 foot, and on a 1992, USEPA guidance document, *Action Leakage Rates for Leak Detection Systems, Supplemental Background Document for the Final Double Liners and Leak Detection Systems Rule for Hazardous Waste Landfills, Waste Piles, and Surface Impoundments*. Per the USEPA guidance document, the ALRs account for the area of the surface impoundment, multiplied by a factor of 20 for the LCRS. The RLLs is calculated based on LCRS design (e.g. slope, hydraulic conductivity, thickness of drainage material). The leakage rates for the surface impoundments are based on the original design criteria for those surface impoundments.

**TABLE 1. LCRS Action Leakage Rates and Rapid and Large Leak Rates**

Surface Impoundment	Surface Area (Acres)	Action Leakage Rate (gpd)	Rapid and Large Leakage Rate (gpd)
Pond 4	1.06	21	250
Pond 5	1.06	21	250
Pond 6R	1.22	25	250
Pond 7R	1.26	25	250
Pond 8	2.41	48	276

If liquids are detected in the LCRS, the Discharger must take the response actions described in Table 2, Action and Response Levels for LCRS.

**TABLE 2. Action and Response Levels for LCRS**

Unit Flow Rate	Action/Response
Less than Action Leakage Rate	No action required. Record weekly flow rate and submit recorded flow rates with the next Quarterly Report.
Greater than or equal to the Action Leakage Rate	Notify the Water Board immediately (within 24 hours). Cease discharge to the affected surface impoundment and repair the liner.
Greater than or equal to the Rapid and Large Leakage Rate	Notify the Water Board immediately (within 24 hours). Cease discharge to the affected surface impoundment, remove the contents of the surface impoundment and LCRS until the leakage rate is no longer exceeded and repair the liner. A sample must be collected and analyzed for the COCs and the monitoring parameters identified in Table 1 (Attachment A).

D. Unsaturated Zone

The unsaturated (vadose) zone monitoring program monitors the composition of soil-pore liquids beneath the surface impoundments through the collection liquid samples for laboratory analyses and field measurements.

1. Monitoring Points

The unsaturated zone is monitored for soil-pore liquids using lysimeters located directly beneath the LCRS of each surface

impoundment. Unsaturated zone monitoring point locations are shown on MRP, Attachment B. If a lysimeter is dry at the time of monitoring, this information must be recorded and reported in the Water Board in accordance with the reporting requirements of MRP Section IV.B.

2. Monitoring Parameters and Constituents of Concern

The Discharger must monitor soil-pore liquids for all COCs and monitoring parameters in accordance with the frequencies listed in Attachment A.

3. Field Parameters

The Discharger must monitor soil-pore liquids for all field parameters in accordance with the frequencies listed in Attachment A.

4. Calibration Documentation

Annually, the Discharger must submit documentation of instrument calibration and performance checks to verify proper operation of all field monitoring equipment.

5. Field Verification Testing

Each lysimeter is equipped with one or more sensors that continuously monitor percent moisture in the lysimeter. If moisture is detected by the sensors, field verification testing must be performed within 24 hours of the detection. Field verification testing must include the following.

- a. Sampling of liquids from the lysimeter. If sufficient sample volume is collected, the sample must be analyzed for all COCs and monitoring parameters listed in Attachment A.
- b. Comparison of lysimeter liquid water quality to the most current water quality data for the wastewater contained within the surface impoundment and the liquid collected from the LCRS.
- c. Documentation that the lysimeter and other field monitoring equipment is operating properly.
- d. The Discharger must notify the Water Board in accordance with the Notice of Tentative Release requirements outlined in MRP, Section IV.C.1.a.

- e. The Discharger must submit a technical report to the Water Board documenting the results of the field verification testing within 30 days of receiving the laboratory analytical results or, if no samples were analyzed, within 30 days of the date of the detection.

E. Groundwater

The groundwater monitoring program monitors the quality of groundwater that passes through the point of compliance as well as monitors the quality of groundwater upgradient, cross-gradient, and downgradient of the surface impoundments through the collection of groundwater samples for laboratory analysis and field measurement of water quality parameters.

1. Monitoring Points

Groundwater monitoring points are shown on MRP, Attachment B.

2. Depth to Groundwater

Prior to purging and sampling, the Discharger must measure and record the depth below the ground surface of the static groundwater elevation (feet below ground surface [bgs]) in all groundwater monitoring wells. The measurements must be accurate to the nearest 0.01 foot.

3. Groundwater Purging and Sampling

Quarterly, prior to sampling, all groundwater monitoring wells must be purged using either standard or low-flow techniques until temperature, electrical conductivity, and pH of extracted well water have stabilized. These parameters will be considered stable when three consecutive readings have pH values within +/- 0.1 pH units, temperature values within +/- two (2) degrees Celsius, and electrical conductivity values within +/- three (3) percent.

4. Monitoring Parameters and Constituents of Concern

The Discharger must monitor, at each groundwater monitoring well, all COCs and monitoring parameters in accordance with the frequencies listed in Attachment A. Should any non-monitoring parameter COC exceed their respective concentration limit by a measurably significant amount at any given monitoring point, that non-monitoring parameter COC will become a monitoring parameter at that monitoring point.

5. Field Parameters

The Discharger must monitor the groundwater for all field parameters in accordance with the frequencies listed in Attachment A.

6. Aquifer Characteristics

The Discharger must calculate, and illustrate on a site plan and/or aerial photograph, the following aquifer characteristics: the depth to groundwater (feet bgs) in each groundwater monitoring well; the static water level (feet above mean sea level) in each groundwater monitoring well; the slope of the groundwater gradient (feet/feet); the direction of the groundwater gradient beneath and around the Facility (degrees from true north); the velocity of groundwater flow (feet/year); and the current groundwater isocontours for that monitoring period.

7. Calibration Documentation

Annually, the Discharger must submit documentation of instrument calibration and performance checks to verify proper operation of the field monitoring equipment.

III. DATA ANALYSES

All data analyses methods (statistical and non-statistical) must meet the requirements of CCR, title 27, section 20415, subdivisions (e)(8) and (9).

A. Site-Specific Statistical Analysis Method

To determine whether there is "measurably significant" evidence of any new releases from the Facility, evaluation of data will be conducted using statistical methods. For detection monitoring, the Discharger must use statistical methods to analyze COCs and monitoring parameters that exhibit concentrations that equal or exceed their respective concentration limit. The Discharger may propose and use any data analyses that meets the requirements of CCR, title 27, section 20415, subdivision (e)(7). *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* (USEPA, 2009) or subsequent versions may also be used to select the statistical test to use for comparing detection monitoring data to background monitoring data.

The Discharger initially utilized the Shewhart-CUSUM Control Chart methods to statistically evaluate groundwater analytical data from the groundwater monitoring wells used to monitor the surface impoundments. However, the Discharger has shown that this method is not reliable due to the on-going

remediation of hexavalent chromium in groundwater at and around the Facility. In 2014, the Discharger proposed and began implementing prediction limits, a different statistical evaluation method for groundwater analytical data. The prediction limit method meets the requirements of CCR, title 27, section 20415, subdivision (e)(8)(C).

B. Non-Statistical Analysis Methods

To determine if any releases occur from the Facility, data evaluation must also be conducted using non-statistical methods. Non-statistical analyses shall be as follows.

1. Physical Evidence

Physical evidence can include, but is not limited to, unexplained stress in biological communities such as vegetation loss, soil discoloration, or groundwater mounding. Each semi-annual and annual report must comment on such physical elements.

2. Time-Series Plots

Non-statistical evidence of a release may include trends of increasing concentrations of one or more constituents over time, as depicted in time-series plots. Each semi-annual and annual report must include time-series plots. Time-series plots are not required for parameters that have never been detected above their MDL (as specified by the applicable USEPA method).

IV. REPORTING REQUIREMENTS

The Discharger must comply with the following reporting requirements.

A. Submittal of Electronic Laboratory Data

All water and soil laboratory data collected during the corresponding reporting period, must be submitted electronically to the Water Board by uploading to the State Water Board's GeoTracker system, per the following schedule. The laboratory data must be uploaded in Electronic Deliverable Format (EDF).

<b>LABORATORY DATA REPORTING SCHEDULE</b>	
<b>Sampling and Reporting Period</b>	<b>EDF Upload Due Date</b>
January 1 – March 31	April 30
April 1 – June 30	July 30
July 1 – September 30	October 30
October 1 – December 31	January 30

**B. Scheduled Reports to be Filed with the Water Board**

The following periodic reports, including all water and soil monitoring data collected during the corresponding reporting period, must be submitted electronically to the Water Board by uploading to the State Water Board’s GeoTracker system, per the following schedule.

<b>MONITORING REPORTING SCHEDULE</b>		
<b>Report Name</b>	<b>Sampling and Reporting Period</b>	<b>Report Due Date</b>
First Semi-Annual Monitoring Report <sup>1</sup>	January 1 – June 30	July 30
Second Semi-Annual Monitoring Report <sup>1</sup>	July 1 – December 31	January 30
Annual Monitoring Report	January 1 – December 31	April 30
Five-Year Constituent of Concern Report <sup>1,2</sup>	January 1 – June 30 July 1 – December 31	July 30 January 30
<sup>1</sup> Reports may be combined. <sup>2</sup> Sampling and reporting period will alternate between January 1 through June 30 for one five-year sampling event and July 1 through December 31 for the next five-year sampling event. The July 30 report due date corresponds to the January 1 through June 30 sampling and reporting period; the January 30 report due date corresponds to the July 1 through December 31 sampling and reporting period. The next five-year constituent of concern report is due January 30, 2025.		

**1. Semi-Annual Monitoring Reports**

Each semi-annual report must include, but not be limited to, the following information.

- a. All data collected during the reporting period in accordance with the approved SAP for the wastewater effluent, surface impoundments, LCRS, unsaturated zone, and groundwater monitoring systems, as outlined in MRP, Section II.
- b. Tabulated results of sampling and laboratory analyses for each groundwater monitoring point, including historical (last ten years at minimum) and current reporting period data, as well as

the concentration limit for each monitoring parameter and an identification of each sample that exceeds its respective concentration limit by a measurably significant amount at any given monitoring point.

- c. Tabulated results of sampling and laboratory analyses for each of the following monitoring points including historical (last ten years at minimum) and current reporting period data.
  - i. All unsaturated zone monitoring points
  - ii. All LCRS monitoring points
  - iii. All surface impoundment monitoring points
  - iv. All wastewater effluent monitoring points
- d. A map and/or aerial photograph showing the surface impoundment perimeter and ancillary facilities as well as locations of monitoring points and background monitoring points, observation stations, and the surface trace of the point of compliance.
- e. Describe, calculate and illustrate on a map and/or aerial photograph the static groundwater surface elevation (feet above mean sea level) in each groundwater monitoring well, the groundwater gradient (feet/feet) and the direction of the groundwater gradient beneath and around the surface impoundments, the velocity of groundwater flow (feet/year), and the current groundwater isocontours for that monitoring period.
- f. All data and visual observations associated with monitoring of the surface impoundments, wastewater flow monitoring, wastewater effluent conveyance and monitoring, and an evaluation of the effectiveness of the LCRS facilities.
- g. A narrative description of any modifications to, additions to, maintenance of, or operational problems associated with the wastewater conveyance system or surface impoundment disposal facilities.
- h. Copies of all field monitoring and well sampling data sheets.
- i. Time-series plots of the analytical results from the groundwater, unsaturated zone, LCRS, surface impoundment, and wastewater effluent monitoring at each monitoring point for each COC detected during the monitoring period as well as



available historical data (minimum of last ten years of data). Time-series plots must include, as horizontal lines, the COCs concentration limit as derived in accordance with the WQPS for the respective COC/monitoring point pair (if applicable), as well as the PQL and MDL for the analytical method used.

- j. A letter transmitting the essential points of each report, including a discussion of any violations found since the last report was submitted and describing actions taken or planned for correcting those violations.
  - i. If the Discharger has previously submitted a detailed time schedule for correcting violations, a reference to the correspondence transmitting this schedule will suffice.
  - ii. If no violations have occurred since the last submittal, this must be stated in the letter of transmittal.

## 2. Annual Monitoring Reports

Each annual report must include, but not be limited to, the following information.

- a. All data collected in accordance with this MRP, Section IV.B.1.
- b. A narrative of the items described in the General Provisions for Monitoring and Reporting (Attachment C of this MRP).
- c. A list of all monitoring point/monitoring parameter pairs (pairs), by medium, which have exhibited a verified measurably significant increase, together with the respective date (for each) when that increase occurred. Any pairs that have shown an increase within that (prior) year shall be bold-underlined. In addition, by medium, list any non-monitoring parameter COCs that, during testing that year (tested every five years), have exceeded their respective concentration limit by a measurably significant amount and, as a result, have become monitoring parameters, together with the date when the transition occurred.
- d. Two maps, one for each semi-annual monitoring period of the last reporting year, showing (1) the groundwater elevation isocontours determined for that monitoring period, (2) all monitoring points, (3) the surface trace for each waste

management unit, (4) all observation stations, and (5) the surface trace of the Facility's point of compliance. The maps must be to scale, be labeled, and include a legend.

- e. Graphical and tabular data for the monitoring data obtained for the previous calendar year (January – December). Each table must summarize the historical and most recently detected constituent concentrations for all locations sampled and compare these data to both the given monitoring point/COC pair's respective statistical concentration limit and (if applicable) MCL and be labeled appropriately. Each such graph must be plotted using raw data, and at a scale appropriate to show trends or variations in water quality. For graphs showing trends of similar constituents (e.g., volatile organic compounds), the scale must be the same.
- f. Calibration methods and any discrepancies of any meters used for field parameter evaluations after calibration is performed.
- g. An evaluation of the effectiveness of both the groundwater and unsaturated zone monitoring programs and any proposed modifications necessary to improve the detection monitoring.
- h. A brief chronological summary of dates of any operational problems and maintenance activities that may impact water quality at the site.
- i. The compliance record and the corrective actions taken or planned, which may be needed to bring the Facility into full compliance with the discharge requirements.
- j. Evidence that adequate financial assurance for (1) closure and post-closure monitoring and maintenance and (2) corrective action for all known or reasonably foreseeable releases is still in effect. Evidence may include a copy of the renewed financial instrument or a copy of the receipt for payment of the financial instrument.
- k. Evidence that the financial assurance amount is adequate or increase the amount of financial assurance by an appropriate amount if necessary, due to inflation, a change in the preliminary closure plan, or other unforeseen events.
- l. The Discharger must review the preliminary closure plan and corrective action plan for all known or reasonably foreseeable

releases annually to determine if significant changes in the operation of the Facility warrant an update to these plans. Any proposed changes to these plans must be outlined in the annual report.

- m. The Discharger has established background concentration limits in the WQPS for detection monitoring. These limits may be revised annually. The revised limits must be included in the annual report.

3. Five-Year Constituent of Concern Monitoring and Reporting Program

Pursuant to CCR, title 27, section 20420, subdivision (g), every five years the Discharger must sample a suite of non-monitoring parameter COCs. Groundwater samples must be collected at all monitoring points and submitted for laboratory analyses once every five years for all monitoring parameters and COCs listed in Appendix I and Appendix II of Title 40, Code of Federal Regulations (40 CFR), Part 258 (Attachment A). Successive monitoring efforts must be carried out alternately during January 1 through June 30 of one five-year sampling event and July 1 through December 31 of the next five-year sampling event, and every fifth year, thereafter. The five-year COC sampling event must be reported no later than 45 days following the monitoring period. The last five-year sampling event occurred in the first half of 2019 and was reported in 2019; therefore, the next five-year sampling event is scheduled to occur in second half of 2024 and reported to the Water Board no later than **January 30, 2025**.

C. Unscheduled Reports to be Filed with the Water Board

The following reports must be submitted to the Water Board as specified below.

1. Notice of Tentative Release from the Facility

Should the statistical or non-statistical data analyses or field verification testing indicate, for any given COC, that a release is tentatively identified, the Discharger must follow these requirements.

a. Physical or Measurably Significant Evidence of a Release from the Facility

The Discharger must immediately (within 24 hours) notify the Water Board verbally whenever a determination is made that there is significant physical or “measurably significant” evidence

of a release from the Facility. This verbal notification must be followed by written notification via certified mail within seven days of such determination. Upon such notification, the Discharger may initiate the verification procedures (as outlined in Order No. R6V-2019-[TENTATIVE], Section III.F) or demonstrate that another source other than the surface impoundments caused evidence of a release in accordance with MRP, Section IV.C.1.b.

The notification must include the following information:

- i. The potential source of the release;
  - ii. General information including the date, time, location, and cause of the release;
  - iii. An estimate of the flow rate and volume of waste involved;
  - iv. A procedure for collecting samples and description of laboratory tests to be conducted;
  - v. Identification of any water body or water-bearing media affected or threatened;
  - vi. A summary of proposed actions; and
  - vii. For a physical evidence of a release – the physical factors that indicate evidence of a release; or
  - viii. For a measurably significant evidence of a release – the monitoring parameters and/or COCs that are involved in the measurably significant evidence of a release from the Facility.
- b. Other Source That May Cause Evidence of a Release from the Facility

The Discharger may make a demonstration that a source other than the Facility caused evidence of a release. For this case, the Discharger must notify the Water Board of the intention to make this demonstration. The notification must be sent to the Water Board by certified mail within seven days of determining physical or measurably significant evidence of a release.

2. Exceeding the Leakage Rates

Exceeding the Action Leakage Rate is an Adverse Condition. The Discharger must immediately notify the Water Board verbally within 24 hours whenever a determination is made that leakage into the LCRS exceeds the Action Leakage Rate for the respective surface impoundment. This oral notification must be followed by written notification via certified mail within 7 days of such determination. This written notification must then be followed by a technical report via certified mail within 30 days of such determination. The technical report must describe the actions taken to abate the Adverse Condition and describe any proposed actions to abate future potential Adverse Conditions.

Exceeding the Rapid and Large Leakage Rate is also an Adverse Condition. In addition to the requirements above for exceeding the Action Leakage Rate, the technical report must include sampling results and a comparison of the wastewater in the surface impoundment and the leachate in the LCRS, as described in MRP, Section II.C.5, Table 2.

3. Evaluation Monitoring

The Discharger must, within 90 days of verifying a release, submit a technical report and amended report of waste discharge to establish an Evaluation Monitoring Program (EMP) pursuant to California Water Code section 13267, subdivision (b), proposing an EMP meeting the provisions of CCR, title 27, section 20420, subdivision (k)(5). If the Discharger decides not to conduct verification procedures or decides not to make a demonstration that a source other than the Facility is responsible for the release, the release will be considered verified. The EMP must include the following information:

- a. COC Concentrations – the maximum concentration of each COC at each monitoring point as determined during the most recent COC sampling event (i.e., under CCR, title 27, section 20420, subdivision (g) or (k)[1]). Any COC that exceeds its concentration limit is to be retested at that monitoring point. Should the results of the retest verify that the COC is above the concentration limit, then that COC will become a monitoring parameter at that monitoring point;

- b. Proposed Monitoring System Changes – any proposed changes to the groundwater and unsaturated zone monitoring systems necessary to meet the provisions of CCR, title 27, section 20425;
- c. Proposed Monitoring Changes – any proposed additions or changes to the monitoring frequency, sampling and analytical procedures or methods, or statistical methods used at the Facility necessary to meet the provisions of CCR, title 27, section 20425; and
- d. Proposed Delineation Approach – a detailed description of the measures to be taken by the Discharger to assess the nature and extent of the release from the Facility.

4. Engineering Feasibility Study Report

Within 180 days of verifying the existence of any new release, the Discharger must submit a revised Engineering Feasibility Study report meeting CCR, title 27, section 20420, subdivision (k)(6), proposing corrective action measures that could be taken to achieve background concentrations for all COCs involved in the release. This report will be the basis for a later expanded Engineering Feasibility Study submitted under the EMP, per CCR, title 27, section 20425, subdivision (b).

5. Monitoring Well Logs

Pursuant to CCR, title 27, section 20415, subdivision (e)(2) all monitoring wells (including groundwater and unsaturated zone monitoring wells) and all other borings installed to satisfy the requirements of this MRP must be drilled by a licensed drilling contractor and must be logged during drilling under the direct supervision of either a California-licensed professional geologist or civil engineer with expertise in stratigraphic well logging. Such logs must be submitted to the Water Board within 90 days following completion of fieldwork.

6. Significant Earthquake Event

After a significant<sup>1</sup> or greater earthquake event at or near the Facility, the Discharger shall notify the Water Board within 48 hours, and within

---

<sup>1</sup> A significant earthquake is a seismic event classified according to the United States Geological Survey (USGS) Earthquake Hazard Program as a moderate earthquake measuring between 5 and 5.9 on the Richter scale, or higher. The Discharger may use the Modified Mercalli Intensity Scale VI or higher for equivalent ground shaking generated by a significant earthquake of Richter magnitude 5.0 or higher as contained with the USGS Earthquake Hazard Program Magnitude/Intensity Comparison chart found at <https://earthquakes.usgs.gov>.

45 days submit to the Water Board a detailed written post-earthquake report describing any physical damages to the containment features or groundwater and/or unsaturated zone monitoring systems or to report no damage to the Facility was sustained. The Discharger shall closely examine the surface impoundments and appurtenant wastewater piping, inspect the slope conditions, drainage control system, and surface grading for signs of cracking or depressed/settled areas following the earthquake event. If cracking or depressed areas are identified, the Discharger shall make repairs to those areas within 30 days from the date of the earthquake event. Repairs must be made in accordance with the WDRs under Board Order No. R6V-2019- (TENTATIVE).

D. General Provisions

The Discharger must comply with Attachment C, "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached to and made part of this MRP.

E. Failure to Furnish Reports

Any person failing or refusing to furnish technical or monitoring reports or falsifying any information provided therein is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation pursuant to California Water Code, section 13268.

F. Violations

If monitoring data indicate violation of a specific requirement in these WDRs, the Discharger must report the violation in the scheduled report for the corresponding reporting period and provide information indicating the cause of violation(s) and the action taken or planned to bring the discharge into compliance.

G. Electronic Reporting Requirements

Pursuant to CCR, title 23, section 3890, the Discharger must submit reports, including soil, vapor, and water data, prepared for the purpose of subsurface investigation or remediation of a discharge of waste to land subject to Division 2 of CCR, title 27, electronically over the internet to the State Water Resources Control Board's GeoTracker system. This requirement is in addition to, and not superseded by, any other applicable reporting requirement. The Discharger must provide the monitoring report to the Water Board, as specified in this MRP, and upload the full monitoring report into GeoTracker, as stipulated by CCR, title 23.

For all other types of documents and correspondence, please send to the Water Board's email address at [Lahontan@waterboards.ca.gov](mailto:Lahontan@waterboards.ca.gov) and include the WDID No. and Facility name in the subject line.

Ordered by: \_\_\_\_\_ Dated: \_\_\_\_\_  
PATTY Z. KOUYOUMDJIAN  
EXECUTIVE OFFICER

- Attachments:
- A. Water Quality Monitoring Program
  - B. Unsaturated Zone and Groundwater Monitoring Network, PG&E Hinkley Compressor Station
  - C. General Provisions for Monitoring and Reporting, September 1, 1994

TENTATIVE



**ATTACHMENT A – WATER QUALITY MONITORING PROGRAM**

<b>WASTEWATER EFFLUENT</b>				
<b>Parameter</b>		<b>Units</b>	<b>Sampling Frequency</b>	<b>Reporting Frequency</b>
<b>Field Parameters</b>				
pH		pH units	quarterly	semi-annual
Specific Conductance		µmhos/cm	quarterly	semi-annual
<b>Constituents of Concern</b>				
<b>Monitoring Parameters<sup>1</sup></b>	Boron	milligrams/liter	quarterly	semi-annual
	Chloride	milligrams/liter	quarterly	semi-annual
	Fluoride	milligrams/liter	quarterly	semi-annual
	Nitrate	milligrams/liter	quarterly	semi-annual
	Sodium	milligrams/liter	quarterly	semi-annual
	Sulfate	milligrams/liter	quarterly	semi-annual
	Total Dissolved Solids	milligrams/liter	quarterly	semi-annual
Arsenic		milligrams/liter	annual	annual
Barium		milligrams/liter	annual	annual
Cadmium		milligrams/liter	annual	annual
Calcium		milligrams/liter	annual	annual
Carbonate		milligrams/liter	annual	annual
Chromium, Total		milligrams/liter	annual	annual
Copper		milligrams/liter	annual	annual
Hexavalent Chromium		milligrams/liter	annual	annual
Iron		milligrams/liter	annual	annual
Lead		milligrams/liter	annual	annual
Magnesium		milligrams/liter	annual	annual
Manganese		milligrams/liter	annual	annual
Molybdenum		milligrams/liter	annual	annual
Nickel		milligrams/liter	annual	annual
Potassium		milligrams/liter	annual	annual
Zinc		micrograms/liter	annual	annual
Oil and Grease		milligrams/liter	annual	annual
Volatile Organic Compounds <sup>2</sup>		micrograms/liter	annual	annual

<b>SURFACE IMPOUNDMENT</b>				
<b>Parameter</b>		<b>Units</b>	<b>Sampling Frequency</b>	<b>Reporting Frequency</b>
<b>Field Parameters</b>				
pH		pH units	quarterly	semi-annual
Specific Conductance		µmhos/cm	quarterly	semi-annual
<b>Constituents of Concern - Liquid</b>				
<b>Monitoring Parameters<sup>1</sup></b>	Boron	milligrams/liter	quarterly	semi-annual
	Chloride	milligrams/liter	quarterly	semi-annual
	Fluoride	milligrams/liter	quarterly	semi-annual
	Nitrate	milligrams/liter	quarterly	semi-annual
	Sodium	milligrams/liter	quarterly	semi-annual
	Sulfate	milligrams/liter	quarterly	semi-annual
	Total Dissolved Solids	milligrams/liter	quarterly	semi-annual
Arsenic		milligrams/liter	annual	annual
Barium		milligrams/liter	annual	annual
Cadmium		milligrams/liter	annual	annual
Calcium		milligrams/liter	annual	annual
Carbonate		milligrams/liter	annual	annual
Chromium, Total		milligrams/liter	annual	annual
Copper		milligrams/liter	annual	annual
Hexavalent Chromium		milligrams/liter	annual	annual
Iron		milligrams/liter	annual	annual
Lead		milligrams/liter	annual	annual
Magnesium		milligrams/liter	annual	annual
Manganese		milligrams/liter	annual	annual
Molybdenum		milligrams/liter	annual	annual
Nickel		milligrams/liter	annual	annual
Potassium		milligrams/liter	annual	annual
Zinc		micrograms/liter	annual	annual
Oil and Grease		milligrams/liter	annual	annual
Volatile Organic Compounds <sup>2</sup>		micrograms/liter	annual	annual
<b>CAM 17 Metals<sup>3</sup> - Sludge</b>				
Antimony		milligrams/kilogram	annual	annual
Arsenic		milligrams/kilogram	annual	annual
Barium		milligrams/kilogram	annual	annual
Beryllium		milligrams/kilogram	annual	annual
Cadmium		milligrams/kilogram	annual	annual
Chromium		milligrams/kilogram	annual	annual
Cobalt		milligrams/kilogram	annual	annual
Copper		milligrams/kilogram	annual	annual
Lead		milligrams/kilogram	annual	annual
Mercury		milligrams/kilogram	annual	annual
Molybdenum		milligrams/kilogram	annual	annual
Nickel		milligrams/kilogram	annual	annual
Selenium		milligrams/kilogram	annual	annual
Silver		milligrams/kilogram	annual	annual
Thallium		milligrams/kilogram	annual	annual
Vanadium		milligrams/kilogram	annual	annual
Zinc		milligrams/kilogram	annual	annual

<b>LEACHATE COLLECTION AND RECOVERY SUMP</b>				
<b>Parameter</b>		<b>Units</b>	<b>Sampling Frequency</b>	<b>Reporting Frequency</b>
<b>Field Parameters</b>				
pH		pH units	quarterly	semi-annual
Specific Conductance		µmhos/cm	quarterly	semi-annual
<b>Constituents of Concern</b>				
<b>Monitoring Parameters<sup>1</sup></b>	Boron	milligrams/liter	quarterly	semi-annual
	Chloride	milligrams/liter	quarterly	semi-annual
	Fluoride	milligrams/liter	quarterly	semi-annual
	Nitrate	milligrams/liter	quarterly	semi-annual
	Sodium	milligrams/liter	quarterly	semi-annual
	Sulfate	milligrams/liter	quarterly	semi-annual
	Total Dissolved Solids	milligrams/liter	quarterly	semi-annual
Arsenic		milligrams/liter	annual	annual
Barium		milligrams/liter	annual	annual
Cadmium		milligrams/liter	annual	annual
Calcium		milligrams/liter	annual	annual
Carbonate		milligrams/liter	annual	annual
Chromium, Total		milligrams/liter	annual	annual
Copper		milligrams/liter	annual	annual
Hexavalent Chromium		milligrams/liter	annual	annual
Iron		milligrams/liter	annual	annual
Lead		milligrams/liter	annual	annual
Magnesium		milligrams/liter	annual	annual
Manganese		milligrams/liter	annual	annual
Molybdenum		milligrams/liter	annual	annual
Nickel		milligrams/liter	annual	annual
Potassium		milligrams/liter	annual	annual
Zinc		micrograms/liter	annual	annual
Oil and Grease		milligrams/liter	annual	annual
Volatile Organic Compounds <sup>2</sup>		micrograms/liter	annual	annual

UNSATURATED ZONE				
Parameter		Units	Sampling Frequency	Reporting Frequency
<b>Field Parameters</b>				
pH		pH Units	quarterly	semi-annual
Specific Conductance		µmhos/cm	quarterly	semi-annual
Temperature		degrees Farenheit or Celsius	quarterly	semi-annual
<b>Constituents of Concern</b>				
<b>Monitoring Parameters<sup>1</sup></b>	Boron	milligrams/liter	quarterly	semi-annual
	Chloride	milligrams/liter	quarterly	semi-annual
	Fluoride	milligrams/liter	quarterly	semi-annual
	Nitrate	milligrams/liter	quarterly	semi-annual
	Sodium	milligrams/liter	quarterly	semi-annual
	Sulfate	milligrams/liter	quarterly	semi-annual
	Total Dissolved Solids	milligrams/liter	quarterly	semi-annual
Molybdenum		milligrams/liter	annual	annual

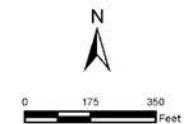
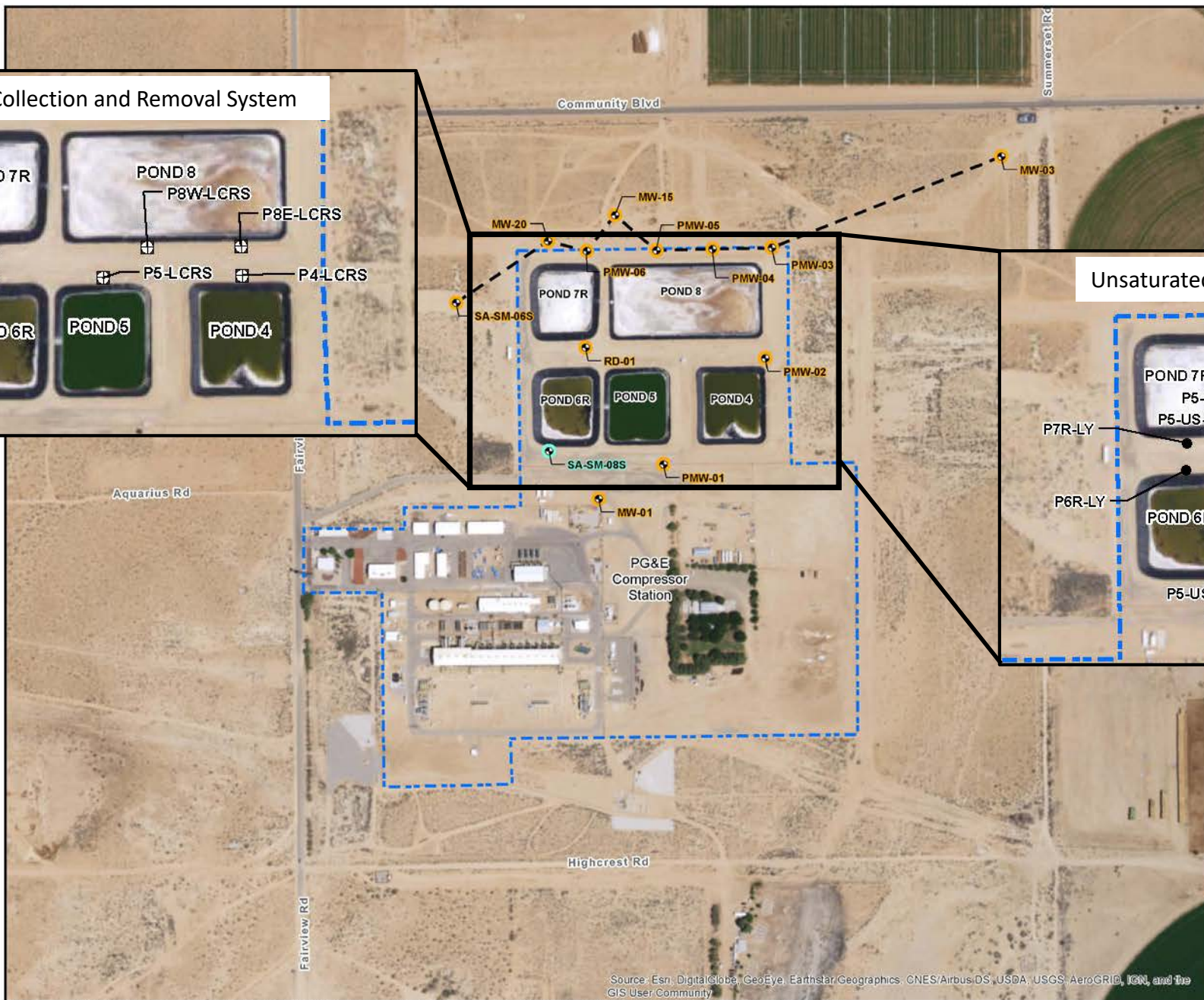
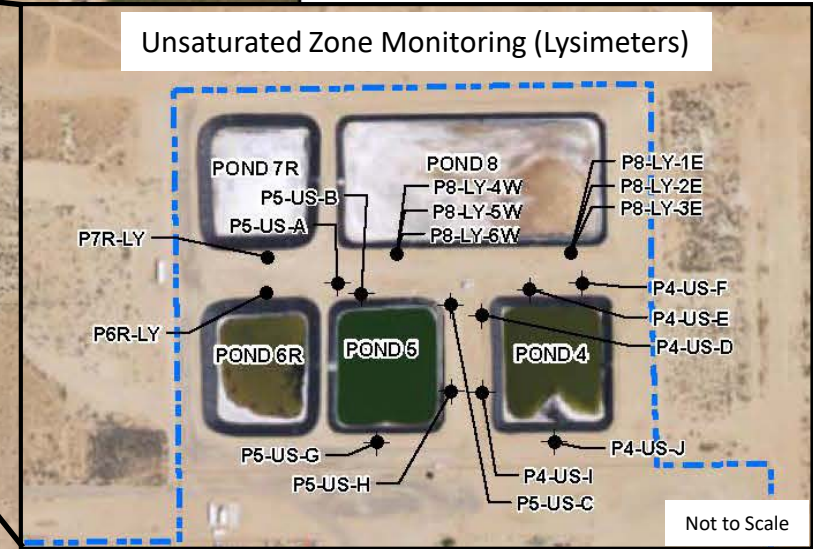
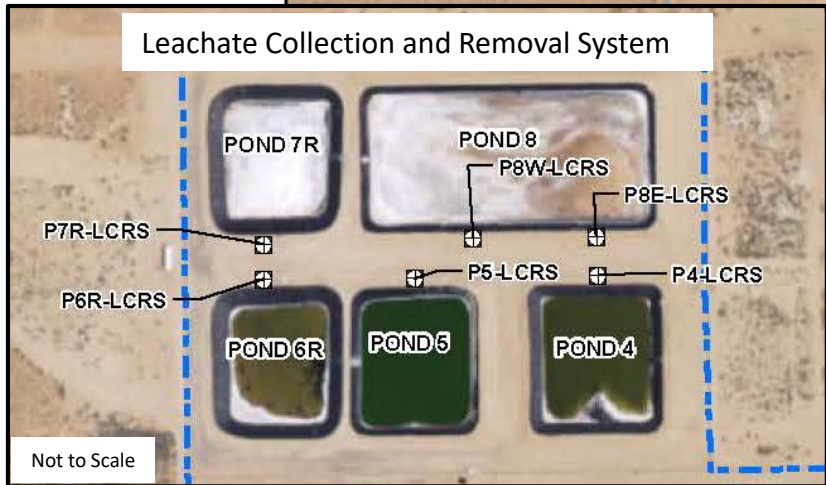
<b>GROUNDWATER</b>				
<b>Parameter</b>		<b>Units</b>	<b>Sampling Frequency</b>	<b>Reporting Frequency</b>
<b>Field Parameters</b>				
Depth to Groundwater		feet below ground surface	quarterly	semi-annual
pH		pH units	quarterly	semi-annual
Specific Conductance		µmhos/cm	quarterly	semi-annual
Temperature		degrees Farenheit or Celsius	quarterly	semi-annual
Turbidity		NTU	quarterly	semi-annual
<b>Constituents of Concern</b>				
<b>Monitoring Parameters<sup>1</sup></b>	Boron	milligrams/liter	quarterly	semi-annual
	Chloride	milligrams/liter	quarterly	semi-annual
	Fluoride	milligrams/liter	quarterly	semi-annual
	Nitrate	milligrams/liter	quarterly	semi-annual
	Sodium	milligrams/liter	quarterly	semi-annual
	Sulfate	milligrams/liter	quarterly	semi-annual
	Total Dissolved Solids	milligrams/liter	quarterly	semi-annual
Arsenic		milligrams/liter	annual	annual
Barium		milligrams/liter	annual	annual
Cadmium		milligrams/liter	annual	annual
Calcium		milligrams/liter	annual	annual
Carbonate		milligrams/liter	annual	annual
Chromium, Total		milligrams/liter	annual	annual
Copper		milligrams/liter	annual	annual
Hexavalent Chromium		milligrams/liter	annual	annual
Iron		milligrams/liter	annual	annual
Lead		milligrams/liter	annual	annual
Magnesium		milligrams/liter	annual	annual
Manganese		milligrams/liter	annual	annual
Molybdenum		milligrams/liter	annual	annual
Nickel		milligrams/liter	annual	annual
Potassium		milligrams/liter	annual	annual
Zinc		micrograms/liter	annual	annual
Oil and Grease		milligrams/liter	annual	annual
Volatile Organic Compounds <sup>2</sup>		micrograms/liter	annual	annual
<b>Five Year Constituents of Concern<sup>4</sup></b>				
Antimony		milligrams/liter	5 year	5 year
Arsenic		milligrams/liter	5 year	5 year
Barium		milligrams/liter	5 year	5 year
Beryllium		milligrams/liter	5 year	5 year
Cadmium		milligrams/liter	5 year	5 year
Chromium, Total		milligrams/liter	5 year	5 year
Cobalt		milligrams/liter	5 year	5 year
Copper		milligrams/liter	5 year	5 year
Dioxins		micrograms/liter	5 year	5 year
Furans		micrograms/liter	5 year	5 year
Herbicides		micrograms/liter	5 year	5 year

<b>Five Year Constituents of Concern<sup>4</sup> (cont.)</b>			
Lead	milligrams/liter	5 year	5 year
Mercury	milligrams/liter	5 year	5 year
Nickel	milligrams/liter	5 year	5 year
Organochlorine Pesticides	micrograms/liter	5 year	5 year
Organophosphorus Pesticides	micrograms/liter	5 year	5 year
Polychlorinated Biphenyls and Pesticides	micrograms/liter	5 year	5 year
Selenium	milligrams/liter	5 year	5 year
Silver	milligrams/liter	5 year	5 year
Sulfide	milligrams/liter	5 year	5 year
Semi-volatile Organic Compounds	micrograms/liter	5 year	5 year
Thallium	milligrams/liter	5 year	5 year
Vanadium	milligrams/liter	5 year	5 year
Total Cyanide	micrograms/liter	5 year	5 year
Volatile Organic Compounds <sup>2</sup>	micrograms/liter	5 year	5 year
Zinc	micrograms/liter	5 year	5 year

1 - Laboratory analytical data is uploaded to GeoTracker quarterly, and monitoring reports are submitted semi-annual.  
2 - As defined in Appendix I, 40 Code of Federal Regulations (CFR), part 258.  
3 - CAM 17 Metals as defined in California Code of Regulations, title 22, section 66261.24.  
4 - As defined in Appendix II, 40 CFR, part 258, except where noted.  
µmhos/cm - micromhos per centimeter  
NTU - Nephelometric Turbidity Units



- LEGEND
- Groundwater Monitoring Well
  - Depth to Groundwater Only
  - Point of Compliance
  - PG&E Compressor Station



### Unsaturated Zone and Groundwater Monitoring Network

PACIFIC GAS AND ELECTRIC COMPANY  
 HINKLEY COMPRESSOR STATION  
 HINKLEY, CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION

**GENERAL PROVISIONS**  
FOR MONITORING AND REPORTING

1. **SAMPLING AND ANALYSIS**

- a. All analyses shall be performed in accordance with the current edition(s) of the following documents:
  - i. Standard Methods for the Examination of Water and Wastewater
  - ii. Methods for Chemical Analysis of Water and Wastes, EPA
- b. All analyses shall be performed in a laboratory certified to perform such analyses by the California State Department of Health Services or a laboratory approved by the Regional Board Executive Officer. Specific methods of analysis must be identified on each laboratory report.
- c. Any modifications to the above methods to eliminate known interferences shall be reported with the sample results. The methods used shall also be reported. If methods other than EPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Regional Board prior to use.
- d. The Discharger shall establish chain-of-custody procedures to insure that specific individuals are responsible for sample integrity from commencement of sample collection through delivery to an approved laboratory. Sample collection, storage, and analysis shall be conducted in accordance with an approved Sampling and Analysis Plan (SAP). The most recent version of the approved SAP shall be kept at the facility.
- e. The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments and equipment to ensure accuracy of measurements, or shall insure that both activities will be conducted. The calibration of any wastewater flow measuring device shall be recorded and maintained in the permanent log book described in 2.b, below.
- f. A grab sample is defined as an individual sample collected in fewer than 15 minutes.
- g. A composite sample is defined as a combination of no fewer than eight individual samples obtained over the specified sampling period at equal intervals. The volume of each individual sample shall be proportional to the discharge flow rate at the time of sampling. The sampling period shall equal the discharge period, or 24 hours, whichever period is shorter.



## 2. OPERATIONAL REQUIREMENTS

### a. Sample Results

Pursuant to California Water Code Section 13267(b), the Discharger shall maintain all sampling and analytical results including: strip charts; date, exact place, and time of sampling; date analyses were performed; sample collector's name; analyst's name; analytical techniques used; and results of all analyses. Such records shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.

### b. Operational Log

Pursuant to California Water Code Section 13267(b), an operation and maintenance log shall be maintained at the facility. All monitoring and reporting data shall be recorded in a permanent log book.

## 3. REPORTING

- a. For every item where the requirements are not met, the Discharger shall submit a statement of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time, and shall submit a timetable for correction.
- b. Pursuant to California Water Code Section 13267(b), all sampling and analytical results shall be made available to the Regional Board upon request. Results shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.
- c. The Discharger shall provide a brief summary of any operational problems and maintenance activities to the Board with each monitoring report. Any modifications or additions to, or any major maintenance conducted on, or any major problems occurring to the wastewater conveyance system, treatment facilities, or disposal facilities shall be included in this summary.
- d. Monitoring reports shall be signed by:
  - i. In the case of a corporation, by a principal executive officer at least of the level of vice-president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates;
  - ii. In the case of a partnership, by a general partner;
  - iii. In the case of a sole proprietorship, by the proprietor; or

- iv. In the case of a municipal, state or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.
- e. Monitoring reports are to include the following:
  - i. Name and telephone number of individual who can answer questions about the report.
  - ii. The Monitoring and Reporting Program Number.
  - iii. WDID Number.
- f. Modifications

This Monitoring and Reporting Program may be modified at the discretion of the Regional Board Executive Officer.

#### 4. NONCOMPLIANCE

Under Section 13268 of the Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation under Section 13268 of the Water Code.

x:PROVISIONS WDRS

file: general pro mrp