

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2002-0010, REVISION NO. 1  
FOR  
CALPINE CORPORATION SANTA ROSA GEYSERS RECHARGE PROJECT  
GEYSERS DISTRIBUTION PIPELINE SYSTEM  
LAKE COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring the recycled water and injection fluids, the watershed, and spills. This MRP is issued pursuant to Water Code section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.

**A. SPILL NOTIFICATION AND REPORTING**

**Spill Notification and Reporting**

The Discharger shall immediately notify the Regional Water Board at (916) 464-3291 of any leak or spill of wastes which is in violation of the WDRs. However, if the spill is less than 100 gallons and is to ground, then the Discharger is not obligated to immediately notify the Board and instead shall include a description of the spill in the monthly monitoring report. If the spill is greater than 100 gallons and/or is to surface waters, the Discharger shall submit a written report within 14 days of the spill. All spill reports, including those included in the monthly monitoring reports, shall include the following information:

- a. The location of the spill or leak,
- b. The estimated volume of the spill or leak,
- c. Measures taken to cleanup the spill or leak,
- d. Corrective actions which were implemented to prevent future spills, and
- e. Results of monitoring conducted in accordance with Section B.2. of this Monitoring and Reporting Program if the spill is to surface waters.

The Discharger shall also notify the California Emergency Management Agency (CALEMA) at (800) 852-7550, and Lake County Department of Environmental Health at (707) 262-2222, or if no answer, (707) 263-2331), as appropriate.

**B. MONITORING**

**1. Recycled Water/Injection Fluid Monitoring**

The Discharger shall collect and analyze samples from locations representative of (a) recycled water from the Santa Rosa Terminal Reservoir, and (b) the Southeast Geysers Effluent Pipeline (example: LACOSAN Point of Delivery). Samples shall be collected on an annual basis between June and September of each year for the constituents listed below.

<u>Constituents/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Electrical Conductivity	mmhos/cm	Grab	Annually	Annually
pH	pH Units	Grab	Annually	Annually
Total Coliform Organisms	MPN/100 mL	Grab	Annually	Annually
Total Dissolved Solids	mg/L	Grab	Annually	Annually
Ammonia	mg/L	Grab	Annually	Annually
Chloride	mg/L	Grab	Annually	Annually
Nitrate	mg/L	Grab	Annually	Annually
Nitrite	mg/L	Grab	Annually	Annually
Sulfate	mg/L	Grab	Annually	Annually
Arsenic	mg/L	Grab	Annually	Annually
Boron	mg/L	Grab	Annually	Annually
Cadmium	mg/L	Grab	Annually	Annually
Chromium (Total)	mg/L	Grab	Annually	Annually
Mercury	mg/L	Grab	Annually	Annually
Iron	mg/L	Grab	Annually	Annually
Lead	mg/L	Grab	Annually	Annually
Sulfate	mg/L	Grab	Annually	Annually
Silver	mg/L	Grab	Annually	Annually
Thallium	mg/L	Grab	Annually	Annually
Vanadium	mg/L	Grab	Annually	Annually

**2. Spill or Leak Monitoring**

In the event of a spill or leak of wastes that enters surface waters, the Discharger shall immediately implement the following monitoring program:

<u>Constituents/Parameter</u>	<u>Sampling Location</u>	<u>Units</u>	<u>Type of Sample</u>
Electrical Conductivity	001, 002, 003	mmhos/cm	Grab
pH	001, 002, 003	pH Units	Grab
Total Dissolved Solids	001, 002, 003	mg/L	Grab
Ammonia	001, 002, 003	mg/L	Grab
Arsenic	001, 002, 003	mg/L	Grab
Boron	001, 002, 003	mg/L	Grab
Chromium (Total)	001, 002, 003	mg/L	Grab
Mercury	001, 002, 003	mg/L	Grab
Chloride	001, 002, 003	mg/L	Grab
Nitrate	001, 002, 003	mg/L	Grab
Sulfate	001, 002, 003	mg/L	Grab

<u>Constituents/Parameter</u>	<u>Sampling Location</u>	<u>Units</u>	<u>Type of Sample</u>
Oil and Grease <sup>1</sup>	001, 002, 003	mg/L	Grab
Turbidity	001, 002, 003	NTU	Grab
Total Coliform	001, 002, 003	MPN/100 mL	Grab
Flow of Receiving Water	002, 003	gal/min	Estimate
Spill Volume	001	gal	Estimate

<sup>1</sup> Petroleum Related Spills Only

**Sampling Location 001** shall be at the source of the spill and shall be representative of the material spilled. It shall be sampled as soon after the spill as possible.

**Sampling Location 002** shall be in the affected surface water stream at a point upstream from the area influenced by the spill and shall be sampled once as soon after the spill as possible.

**Sampling Location 003** shall be in the affected surface water stream within the zone influenced by the spill and shall be relocated as the influenced zone proceeds downstream. It shall be sampled as soon after the spill as possible. Additional sampling may be required by the Executive Officer.

### 3. Watershed Monitoring

Watershed monitoring is required by the Lake County Conditional Use Permit. The Discharger shall **annually** submit the results of all County-required watershed monitoring and analysis performed in the Lake County portion of the Geysers Known Geothermal Resources Area (KGRA). If the results are not submitted under WDR Order 99-029, 99-042, 99-043 or 99-044, the Discharger must submit the results under this Order. If the results are submitted under one of those Orders, the Discharger shall state this fact in the Annual Report.

### C. REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., recycled water, condensate, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported to the Regional Water Board in the next scheduled monitoring report.

## 1. Monthly Reporting

Monthly monitoring reports shall be submitted to the Regional Water Board by the **1<sup>st</sup> day of the second month** following collection of the samples/data. Monthly monitoring reports shall include the following:

- a. Summary of any unauthorized releases or spills, including spill reporting information for spills of less than 100 gallons to ground.
- b. The results of the spill monitoring when the spill is to surface water.
- c. Discussion of pertinent field activities and problems encountered.
- d. Operations summary which describes notable operational conditions of the pipeline, and which addresses any anomalous events or inspection discrepancies associated with the pipeline and/or injection systems.
- e. Any substantive updates to the pipeline contingency response plan required by Provision No. 2 of the WDRs.

## 2. Annual Reporting

The following monitoring results shall be submitted annually to the Regional Water Board by **1 February** of each year:

- a. Results of the watershed monitoring and analysis performed in the Lake County portion of the Geysers KGRA (if appropriate; see Section 3).
- b. Annual monitoring results for the recycled water/injection water monitoring.
- c. A discussion of compliance and the corrective actions taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements.
- d. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.
- e. Cumulative time series data presentations of the recycled water/injection fluids and watershed monitoring results.

A letter transmitting the self-monitoring reports shall accompany each report. The letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the

penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions General Reporting Requirements Section B.3, which states:

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

The Discharger shall implement the above monitoring program as the date of signature.

Original signed by  
Ordered by: \_\_\_\_\_  
PAMELA C. CREEDON, Executive Officer

\_\_\_\_\_  
Date