

Lahontan Regional Water Quality Control Board

September 1, 2015

To Interested Stakeholders and Public:

REQUEST FOR COMMENTS

On
Draft Cleanup and Abatement Order (CAO)
Requiring Pacific Gas and Electric Company to
Clean Up Discharges of Chromium to
Groundwaters in Hinkley

Comments Due September 30, 2015, by 5:00pm

Instructions for Submitting Comments

All comments less than 50 MB that do not contain large maps or attachments (those which need to be printed on larger than 8½ x 11" paper to be legible) may be submitted electronically to the following email address: RB6enfproceed@waterboards.ca.gov. All electronic submittals should be submitted in a searchable pdf format in a legible font no smaller than 11-point size.

If your submittal is more 50 MB, or contains maps or attachments that need to be printed on paper larger than 8½ x 11" to be legible, then you must provide an electronic copy on a compact disc and 10 hard copies to the following address:

Attn: Sue Genera, Executive Assistant and Water Board Clerk
Lahontan Regional Water Quality Control Board
2501 Lake Tahoe Blvd.
South Lake Tahoe, CA 96150

The Lahontan Regional Water Quality Control Board (Water Board) requests your review and comment on a draft CAO, which consists of the draft order and nine attachments, including a map describing an area of allowed plume expansion related to the plume remediation, hydraulic capture metrics, and monitoring requirements.

The Water Board Advisory Team (Advisory Team) developed this draft CAO after reviewing input received from stakeholders at the May 28, 2015, public workshop and by addressing written comments received from stakeholders. This draft CAO also includes suggested changes received on July 8, 2015, which were crafted from consensus between the Water Board Prosecution Team (Prosecution Team) and

KIMBERLY COX, CHAIR | PATTY Z. KOUYOUMDJIAN, EXECUTIVE OFFICER

PG&E. The consensus changes and previous comments received on the draft CAO can be viewed at the Water Board's public website for this item:

http://www.waterboards.ca.gov/lahontan/water_issues/projects/pge/cao/

Public Participation

Before the 30-day Public Comment period ends, the Water Board will hold a public workshop on the draft CAO on September 16, 2015, in Barstow. The purpose of the public workshop is for the Advisory Team to 1) briefly describe the consensus changes received from PG&E and the Water Board Prosecution Team, and 2) explain the Advisory Team's recommended changes in the draft CAO and attachments. The Water Board is tentatively scheduled to consider the draft CAO at its November 4-5, 2015, Board meeting in Barstow. In anticipation of that Board meeting, the Water Board may issue special instructions regarding the procedures the Water Board wishes to follow when it hears the draft CAO item at its meeting. At that Board meeting, the Water Board will consider the comments received and would either adopt the CAO as proposed, adopt it with modifications, or reject it.

Purpose and Overview of the CAO

Since 1987, the Water Board has been requiring PG&E's to investigate, cleanup and abate its discharges of total and hexavalent chromium to the groundwaters beneath the Hinkley area. During that time, the Water Board has issued numerous orders directing PG&E's actions. The draft CAO reduces confusion by consolidating requirements and replacing 15 previous orders issued; directs PG&E to continue to remediate chromium-contaminated groundwater; requires specific factors be considered when investigating and mapping the chromium plume boundary; sets plume capture requirements; and sets deadlines to meet interim cleanup targets. A monitoring and reporting program is presented in Attachment 8, which includes a decision tree flow chart for determining when certain wells are to be monitored.

Background

PG&E's Hinkley Compressor Station is located southeast of the community of Hinkley, about 8 miles west of Barstow in San Bernardino County. The Compressor Station has operated since 1952. From 1952 to 1965, hexavalent chromium-based corrosion inhibitor was added to water used in the cooling towers, and the untreated cooling tower water was discharged to unlined evaporation ponds. In 1987, PG&E reported to the State that total chromium and hexavalent chromium concentrations exceeding the California drinking water standard of 50 parts per billion (ppb) total chromium were found in groundwater beneath and down gradient of the site. Since 1987, the Water Board has been requiring PG&E to carry out investigation and cleanup actions for chromium in groundwater at the Hinkley Compressor Station. Various cleanup methods have been operated on a limited-scale basis to stop the spreading of chromium in groundwater and to test cleanup methods to remove chromium from soils and groundwater, including excavation of contaminated

soil, groundwater extraction and agricultural land treatment, in-situ (subsurface) treatment, and freshwater injection into the aquifer.

CONSENSUS TEXT SUBMITTED

The Prosecution Team submitted on July 8, 2015, a version of the draft CAO showing redline changes that depict specific text agreed upon with PG&E. The agreed upon text is a result of collaboration between the two parties and nearly half of the draft CAO issues have been resolved between these parties. These consensus points are also in line with the IRP Manager's written recommendations. Some of the consensus points included using preliminary results from the USGS background study to modify the interim cleanup levels, removing duplicative monitoring requirements, using a decision tree and statistical tests to determine well sampling frequency, and removing the concept of "affected area".

UNRESOLVED ISSUES

While many consensus points have been reached between the Prosecution Team and PG&E, four main issues are unresolved. These unresolved issues are discussed separately below. The Prosecution Teams and PG&E's opposing positions are summarized based upon the draft CAO the Prosecution Team released in January 2015, and PG&E's comments submitted on March 12, 2015. The Advisory Team recommendation, which follows each issue, was developed based upon several factors: previous Board actions, input and comments received from stakeholders, technical accuracy supported by factual findings, and consistency with existing law.

A. Cleanup of Lower Aquifer

Prosecution Team: Require cleanup of Cr (VI) in lower aquifer to non-detect.

PG&E: Remove requirement to cleanup to non-detect, and allow process of determining background values, completing delineation, and conducting feasibility studies for this area, consistent with the sequential process set forth in State Water Board Resolution 92-49.

Advisory Team Recommendation: Require cleanup of Cr(VI) that has migrated from PG&E's release in upper aquifer to the lower aquifer, based on technical evaluations, including determination of the background levels of chromium in the lower aquifer.

B. Plume Definition & Mapping Requirements

Prosecution Team: Draw the Cr(VI) plume by connecting monitoring wells with Cr(VI) detections above 3.1 ppb CrVI or 3.2 Cr(T) that are within 2,600 feet of one another. Where there is no access to install additional monitoring wells, plume boundary lines must be drawn to connect monitoring wells exceeding interim background concentrations up to one mile apart.

PG&E: Map the Cr (VI) plume using Best Professional Judgment, which considers all available information.

Advisory Team Recommendation: Require PG&E to define with sufficient resolution the extent of the total and hexavalent chromium in the upper aquifer.

For the southern chromium plume, sufficient resolution means either use data points from monitoring wells spaced no more than 1,320 feet apart, or submit a technical justification explaining the reasons why additional monitoring points are not needed based on Best Professional Judgment.

For the northern area, sufficient resolution means to use Best Professional Judgment to define and map the chromium.

Best Professional Judgment is defined as a CA-licensed Professional Geologist or Civil Engineer reviewing all available information in line with the industry standards, and considering, at a minimum, specific factors about the site's geology, hydrogeology, and geochemistry.

C. Replacement Water Requirements if domestic well > 10 ppb Cr(VI) or showing increasing trends

Prosecution Team: Require replacement water for "all indoor uses."

PG&E: Replacement water is only necessary for replacing drinking water. The most efficient and least disruptive option is the installation of reverse osmosis treatment units on drinking water taps.

Advisory Team Recommendation: For long-term water replacement, PG&E must evaluate three different options and consider several factors to provide water for drinking and cooking purposes. Bottled water is required at a minimum.

D. Technical Corrections

Advisory Team Explanation and Recommendation: This draft CAO contains corrections to some findings to ensure that the requirements of the Order are supported by facts and evidence, and provide the Water Board's rationale.

Additional findings were also necessary to support the new requirements provided by the Water Board Prosecution Team and PG&E as part of their consensus text. Other parts of the findings and requirements were rearranged and rewritten in an attempt to provide more clarity and consistency.

QUESTIONS OR NEED ADDITIONAL INFORMATION?

Please contact the Advisory Team members if you have questions or need additional information.

Doug Smith (doug.smith@waterboards.ca.gov or 530-542-5453)

Rich Booth (richard.booth@waterboards.ca.gov or 530-542-5574)

Kim Niemeyer (kim.niemeyer@waterboards.ca.gov or 916-341-5547)

Enclosure:

Draft Cleanup and Abatement Order (CAO)

Attachment 1: Orders Replaced by CAO No. R6V-2015-DRAFT

Attachment 2: Location of Chromium Plumes (3rd quarter 2014)

Attachment 3: Area of Plume Expansion

Attachment 4: Active Water Board Orders and Notices Authorizing Cleanup Actions

Attachment 5: Hydraulic Capture Metrics

Attachment 6: Hydraulic Capture Monitoring Plan, Shallow Zone of Upper Aquifer

Attachment 7: Hydraulic Capture Monitoring Plan, Deep Zone of Upper Aquifer

Attachment 8: Groundwater MRP, CAO No. R6V-2015-DRAFT

Attachment 9: Summary of Performance and Submittal Requirements