



California Regional Water Quality Control Board
Lahontan Region



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MEMORANDUM

TO: Harold J. Singer
Executive Officer
LAHONTAN REGIONAL WATER QUALITY CONTROL BOARD

FROM: 
Lauri Kemper
Assistant Executive Officer
LAHONTAN REGIONAL WATER QUALITY CONTROL BOARD

DATE: July 12, 2011

SUBJECT: SUGGESTED CLARIFICATIONS AND REVISIONS ON DRAFT CLEANUP AND ABATEMENT ORDER, PACIFIC GAS AND ELECTRIC COMPANY (PG&E), HINKLEY COMPRESSOR STATION, SAN BERNADINO COUNTY

The Lahontan Water Board Prosecution Team offers the following revisions to clarify or improve accuracy of specific statements in the Draft Cleanup and Abatement Order, requiring PG&E to provide whole-house replacement water for Hinkley residents having PG&E's waste in domestic and community wells.

Findings

1. In Finding No. 3, the third sentence should reflect that the average gradient of groundwater is 0.04 feet per foot, not 0.004 feet per foot.
2. In Finding No. 6, the first sentence starting out as "Recent testing of the Hinkley wells..." should be moved to the end of the paragraph so as to follow chronology discussed.
3. In Finding No. 13, the words "to attempt" should be inserted into the last sentence so as to read, "Additionally, the Discharger has implemented an Action Plan by increasing groundwater extraction to attempt to capture the migrating plume."
4. The paragraph in Finding No. 15 should be revised to be more historically accurate as per the following:

In 1986, the U.S. EPA classified hexavalent chromium as a known human carcinogen by the inhalation route of exposure. The California Air Resources Board has also (in 1985) identified hexavalent chromium as a Toxic Air Contaminant based on carcinogenic effects by inhalation, and determined a unit risk of $0.15 (\mu\text{g}/\text{m}^3)^{-1}$, relying on a health effects analysis by the California Office of Environmental Health Hazard

California Environmental Protection Agency

Assessment (OEHHA). In 2001, OEHHA issued a list of approved Chronic Reference Exposure Levels (RELs), including RELs for two chromium compounds: soluble hexavalent chromium and chromic trioxide (chromic acid mist). Primary routes of potential human exposure to chromium compounds are inhalation, ingestion, and dermal contact.

OEHHA set $0.002 \mu\text{g}/\text{m}^3$ (2 parts per trillion or 0.002 parts per billion) as the REL for chromic acid compounds. The REL was based upon a human study of occupational exposure that recognized the health risks of inhalation by persons exposed to mists from chromic acid used in industrial processes.

The REL for soluble hexavalent chromium compounds (other than chromic acid) was set at $0.2 \mu\text{g}/\text{m}^3$. The REL was based on a rat study that provided data on inhalation dose-response exposure effects.

These RELs are finalized regulatory limits, which are enforceable standards, but not directly correlated to risks from hexavalent chromium in water. Chromium compound RELs and carcinogenic unit risks are important because they demonstrate established science that inhaled chromium has adverse impacts on human health at extremely low levels.

5. The third sentence of Finding No. 16 should be revised to list the California Department of Public Health instead of the Department of Health Services: "The PHG is used by the California Department of Public Health (DPH) to develop..."
6. The third paragraph in Finding No. 29 contains some inaccuracies that should instead be revised to read:

"The affected area is defined as all domestic wells located within one mile from the $3.1 \mu\text{g}/\text{L}$ hexavalent chromium/ $3.2 \mu\text{g}/\text{L}$ total chromium plume boundaries based upon well data detecting chromium at that distance in the second quarter 2011 site-wide groundwater sampling event, reported by the Discharger."

Orders

1. In Order No. 3, we recommend for clarity that the paragraph begin with, "From hereon, all water samples must be analyzed..."
2. Despite DPH staff concerns about no laboratory in California is ELAP certified to analyze hexavalent chromium down to a reporting limit of 0.06, we recommend that Order No.3 remain as is since the U.S. EPA has determined that modifications of Method SW 218.6 enable laboratories to attain a detection limit as low as $0.02 \mu\text{g}/\text{L}$ (ppb) and can support a reporting limit of $0.06 \mu\text{g}/\text{L}$ (ppb) with no additional burden. The lower detection and reporting limits of hexavalent chromium are necessary to be consistent with the draft Public Health Goal of $0.02 \mu\text{g}/\text{L}$ (ppb). The Prosecution Team's second choice would be to require a reporting limit of $0.2 \mu\text{g}/\text{L}$ (ppb) hexavalent chromium, as the Discharger has achieved this level for years.

The Prosecution Team appreciates the opportunity to provide the Advisory Team with these suggested revisions. Please contact me at (530) 542-5436 if you have any questions.

cc: PG&E Technical Mail List

LSD/clhT: Water Board Comments on Draft Replacement Water CAO 711.doc
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