

## Lahontan Regional Water Quality Control Board

May 24, 2013

Sheryl Bilbrey  
Director, Remediation Program Office  
Pacific Gas and Electric Company  
3401 Crow Canyon Road  
San Ramon, CA 94105-1814

### **INVESTIGATIVE ORDER NO. R6V-2013-0041**

### **REQUEST FOR ADDITIONAL INFORMATION OF THE NORTHWEST FRESHWATER INJECTION SYSTEM, PACIFIC GAS AND ELECTRIC COMPANY (PG&E), HINKLEY COMPRESSOR STATION, SAN BERNARDINO COUNTY, BOARD ORDER NO. R6V-2008-0014**

This Investigative Order directs PG&E to submit a technical report to the Water Board containing additional information concerning the operation and maintenance of the Northwest Freshwater Injection System (NWFI) in Hinkley. The Water Board's requirement that you submit technical reports is made pursuant to Section 13267 of the California Water Code.

### **Background**

PG&E is currently injecting clean water into five injection wells on Serra Road as an interim remedial measure for chromium in groundwater from historic discharges at the Hinkley Compressor Station. The injection wells comprise the NWFI system that creates a freshwater barrier in the saturated zone for the purpose of preventing chromium migration westward. The operation and maintenance of the NWFI system is required to be documented in quarterly reports, pursuant to Board Order R6V-2008-0014 for General Waste Discharge Requirements (General Permit).

Prior to startup of the NWFI system, PG&E conducted a modeling exercise using an injection rate of 80 gpm to maintain an adequate groundwater barrier to prevent chromium plume migration westward (Stantec, September 2008). The Water Board Executive Officer accepted the model results in approving the Notice of Applicability for General Waste Discharge Requirements (Board Order R6V-2008-0014). The Water Board has not received a revised groundwater model showing that an injection rate of less than 80 gpm can achieve an effective freshwater barrier, laterally and vertically, in groundwater.

PG&E's Fourth Quarter 2012 and First Quarter 2013 monitoring reports contain limited information on the operation and maintenance of the NWFI system. For instance, the two reports state that water was injected into the five injection wells at an annual average injection rate of 63 and 60 gallons per minute (gpm), respectively. The statements imply that operations were normal or typical during the two quarters. Yet, the tabulated data in the monitoring reports indicate otherwise. For instance, Table 2-12 contains the quarterly operations log for the NWFI system. The logs in both reports reflect extensive activities for backwashing and maintenance of the injection wells, different from the normal or typical activities that PG&E described in prior quarterly reports.

The activities reported in Table 2-12 suggest extensive downtime of the system during Fourth Quarter 2012 and First Quarter 2013, which has not been explained. This conclusion is supported by freshwater discharge data provided in Table 2-11. In Fourth Quarter 2012, the average injection rate into injection well IN-03 was at 7.6 gpm, which was a 41% reduction from the prior quarter. Further, the total days of pumping for IN-03 in the same quarter was an average of 20 days, down from almost 30 days the quarter before. None of these reductions were mentioned in the Fourth Quarter 2012 or First Quarter 2012 monitoring reports. The First Quarter 2013 monitoring report also did not describe quarterly specific operations and maintenance activities and reductions made in the NWFI system.

The NWFI injection rates listed in the Fourth Quarter 2012 and First Quarter 2013 monitoring reports are significantly (20 percent or more) less than 80 gpm. The quarterly average injection rate reported for Fourth Quarter 2012 was 57.6 gpm and in First Quarter 2013 was 53.6 gpm. The reduced NWFI average discharge rates are not discussed in quarterly monitoring reports, neither are the reduced average injection rate for IN-03 for the period. In addition, neither monitoring report discussed quarterly specific maintenance actions for well development or discharges of rehabilitation chemicals. Furthermore, the only mention of activities planned for the next quarter in each monitoring report is "NWFI system operations will continue," without any discussion to improve injection rates or number of days of operation. These issues are significant considering that current plume maps show the chromium plume migrating between injection wells IN-02 and IN-03 to the west.

In a May 14, 2013 conference call, Water Board staff expressed concern of the above-mentioned topics to Kevin Sullivan and Iain Baker of PG&E. Board staff stated we believe quarterly monitoring reports were not providing adequate or detailed information regarding the operation and maintenance of the NWFI system. Mr. Sullivan then described in detail well development activities conducted and chemicals being used to remove well screen encrustation from the injection wells to increase injection rates to prior levels. These activities led to downtime of injection wells and operation of the freshwater barrier. In light of detected chromium concentration in monitoring wells located west of the Serra Road and the freshwater barrier, this information is relevant and needs to be provided in a report addendum.

Therefore, the Water Board requires that PG&E submit an addendum report to the Fourth Quarter 2012 and First Quarter 2013 monitoring reports describing all operation and maintenance activities and chemicals used for the NWF1 system as described below.

### **Requirements**

Pursuant to section 13267 of the California Water Code, PG&E is required to submit to the Water Board an addendum report by **July 1, 2013** containing the following items regarding the NWF1 system during Fourth Quarter 2012 and First Quarter 2013:

- Explanation of operation and maintenance activities for all injection wells and description of any deviances from prior quarters.
- Discussion of the average injection rate and total days of operating during the period for IN-03, in comparison to the prior quarter.
- Discussion of the type, amount, and concentration of chemicals used for well development.
- Amend Table 2-11 to show the total calculation of all columns for the quarter being reported.
- Discussion of the average injection rate and total days of operating for the entire NWF1 system, in comparison to the prior quarter.
- Discussion how reduced operation of certain injection wells and the NWF1 system as a whole has on the areal extent of and effective depth of the freshwater barrier to prevent chromium plume migration westward.
- Discussion on the activities planned for the next quarter to increase the injection rate and days of operation for IN-03 and the NWF1 system as a whole.
- Actions needed to increase annual average injection rates to 80 gpm or a justification of why another number is effective at creating a barrier laterally and vertically. Justification shall consist of a revised groundwater model or other equally effective method.

### **Enforcement**

Technical reports required by this order are necessary to investigate the water quality in the Hinkley basin during PG&E's ongoing cleanup of chromium pursuant to Cleanup and Abatement Order R6V-2008-0002 and amendments. The need for this investigation outweighs the burden on PG&E to produce the information in that radionuclide data will assist in evaluating potential threats to public health in the environmental impact report that could result from PG&E's proposed cleanup alternatives.

Pursuant to section 13268 of the Water Code, a violation of Water Code Section 13267 requirement may subject you to civil liability of up to \$1,000 per day for each day in which the violation occurs.

If you should have any questions, please contact me at (530) 542-5436 or [lkemper@waterboards.ca.gov](mailto:lkemper@waterboards.ca.gov) or Lisa Dernbach at (530) 542-5424 or [ldernbach@waterboards.ca.gov](mailto:ldernbach@waterboards.ca.gov).



Lauri Kemper, P.E.  
Assistant Executive Officer

Enclosure: Section 13267 Fact Sheet

cc's: PG&E Technical Mail List and Iyris list (and web posting)  
Kevin Sullivan  
PG&E, Tom Wilson

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