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Patty Kouyoumdjian
Executive Officer
Lahontan Regional Water Quality Control Board
2501 Lake Tahoe Boulevard
South Lake Tahoe, California 96150

Subject: Whole House Replacement Water Program Modification

Dear Ms. Kouyoumdjian:

Pacific Gas and Electric Company (PG&E) is committed to remediating the groundwater in the Hinkley community, and has made substantial progress towards that goal. We also are committed to working closely with the California Regional Water Quality Control Board, Lahontan Region (Regional Board) and the Hinkley community to address concerns about drinking water supplies.

Last year, PG&E voluntarily introduced an unprecedented program that offers whole house replacement water to Hinkley residents living within one mile of the hexavalent chromium plume boundary if their domestic well has *any* detection of hexavalent chromium, i.e., any amount above the 0.06 parts per billion (ppb) detection limit. PG&E's program guarantees that the level of hexavalent chromium in replacement water is more than *800 times lower than* the standards currently applied to other California residents.

On August 23rd, the State of California issued a proposed hexavalent chromium drinking water standard of 10 ppb. A final drinking water standard is expected next year.

After careful review of the existing whole house replacement water program, significant experience implementing the program over the last year, and consideration of the proposed hexavalent chromium drinking water standard, PG&E believes future eligibility for the program should be modified pending the final drinking water standard. Specifically, PG&E's proposal is as follows:

- Currently Eligible Residents: PG&E is proposing no changes. Simply put, residents who currently are eligible for the program will remain in the program with no changes.
- Future Potentially Eligible Residents: While the drinking water standard is being finalized, PG&E proposes that any newly eligible residents would meet the following criteria: (1) the residence is within the contiguous hexavalent chromium plume boundary, and (2) the domestic well has a detection of hexavalent chromium above the current

background level of 3.1 ppb. Bottled water would continue to be offered to residents with domestic well detections below 3.1 ppb within future depictions of the contiguous plume boundary.

As described more fully below, PG&E believes these proposed modifications continue to provide an unprecedented level of protection to Hinkley residents while the hexavalent chromium drinking water standard is being finalized. Consistent with PG&E's original program design and the Regional Board's order, the final drinking water standard will set the standard for continued program eligibility once it is established.

1. Background

PG&E is committed to cleaning up the hexavalent chromium plume caused by its historical operations and to working with the Regional Board and the community to restore the water quality in Hinkley. Our interim remedial actions have made significant progress, reducing the highest concentrations of hexavalent chromium in the plume core by over 50%, increasing remedial pumping to over 1,000 gallons per minute, and demonstrating plume capture at Thompson Road. Working cooperatively with the Regional Board, the Independent Review Panel Manager, the United States Geological Survey and the community of Hinkley, PG&E is committed to implementing the final approved remedy and updating the study to determine the naturally occurring levels of hexavalent chromium in the groundwater.

In addition to focusing on the clean-up, PG&E has responded to residents' concerns regarding drinking water. Since 2010, a program of replacement water has been in place and has evolved over time. Because the main route of chromium exposure is through ingestion, the program began with the provision of bottled water for cooking and drinking, to anyone over the current background level of 3.1 ppb. This program was gradually expanded to include residents within ½ mile of the plume, and eventually to residents within one mile of the plume.[1]

Last year, in response to a desire for a more "permanent" solution PG&E expanded the program beyond bottled water to include whole house replacement water. Because the State had not yet adopted a drinking water standard for hexavalent chromium, the eligibility criteria for the replacement water program was set at the hexavalent chromium detection limit of 0.06 ppb. This resulted in Hinkley residents being guaranteed a drinking water supply with no detectable levels of hexavalent chromium, more than 800 times lower than the standard applied to other California residents.

[1] This geographic buffer zone is unprecedented; PG&E has not identified any other examples of a party voluntarily offering bottled water one mile outside the boundary of the impacted groundwater, nor has PG&E identified any example of a regulatory order requiring bottled or replacement water one mile outside a plume boundary.

2. Current Information Regarding Hexavalent Chromium levels in Domestic Wells

PG&E understands that Hinkley residents are concerned about the quality of the water in their homes, and believes that the facts can help to allay these fears. Over the last few years we have taken a total of approximately 2,500 samples from more than 400 domestic wells. Data from those samples show that:

- All of the domestic water supply wells in Hinkley are well below the existing state drinking water standard for total chromium of 50 ppb, without any treatment.
- All of the domestic water wells in Hinkley also below the newly proposed drinking water standard for hexavalent chromium of 10 ppb, again, without any treatment.
- In fact, all of the wells in Hinkley contain lower hexavalent chromium levels than those found in municipal water supplies in numerous communities across the state of California such as Apple Valley, Davis, and others.

More specifically, nearly half of all eligible residents' domestic wells are below 1.2 ppb, the average background level for hexavalent chromium currently established by the Regional Board. This is over 40 times lower than drinking water standard for total chromium and 8 times lower than the proposed hexavalent chromium standard. Ninety percent of all eligible residents' wells are below 3.1 ppb, the current maximum background level, over 16 times lower than the drinking water standard for total chromium and 3 times lower than the proposed hexavalent chromium standard. The highest domestic well detection is 8.6 ppb, 6 times lower than the standard for total chromium and lower than the proposed hexavalent chromium standard.

3. Hexavalent Chromium Drinking Water Standard

On August 23rd, the California Department of Public Health (CDPH) proposed a hexavalent chromium drinking water standard of 10 ppb. CDPH recently advised a court overseeing the process that it would finalize the drinking water standard within twelve months, i.e., by August 2014.[2] As described above, all of the drinking water supply wells in Hinkley meet the proposed standard by a large margin.

In 2012, the Regional Board issued an order stating that the final hexavalent chromium drinking water standard will define continued eligibility in PG&E's whole house replacement water program.[3]

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[2] The Natural Resources Defense Council has sued CDPH for its delay in adopting the hexavalent chromium drinking water standard. In July, the court overseeing the matter issued an order that, among other things, set a hearing in late October to determine when CDPH will finalize the drinking water standard.

[3] Residents who are no longer eligible for the program after the drinking water standard is finalized can elect to have PG&E either remove or transfer ownership of the whole house water replacement units.

4. New Program Specifics

Based on all of the information available at this time, including sampling data from domestic water supplies, experience implementing the whole house replacement water program, and issuance of the proposed hexavalent chromium drinking water standard, PG&E believes it is appropriate to reevaluate future eligibility for the program while the drinking water standard is being finalized. Even with the proposed modifications, PG&E's program provides an extremely conservative level of protection not seen anywhere else in California or the rest of the country. PG&E's specific proposal is described below.

a. Currently Eligible Residents

PG&E is not proposing any changes to the program for currently eligible residents. PG&E is committed to installing all of the replacement water systems for the households within the current boundary of the replacement water program, i.e., households located within one mile of the 2013 second quarter plume boundary. In addition, PG&E will finalize negotiations with all eligible residents who have elected the property purchase option. Although all of these residents' wells contain hexavalent chromium levels well below the proposed drinking water standard, PG&E will honor its original commitments.

b. Future Potentially Eligible Residents

While the hexavalent chromium drinking water standard is being finalized, PG&E proposes to modify the whole house water program eligibility criteria for any *new* residents as follows: (1) the residence is within the contiguous hexavalent chromium plume boundary; and (2) the resident's domestic well contains hexavalent chromium above the currently adopted background level of 3.1 ppb. For residents within future depictions of the contiguous plume boundary with domestic well detections below 3.1 ppb, PG&E will continue to offer bottled water. PG&E believes these modifications are justified given the extremely conservative and unprecedented nature of the current program, coupled with the fact that any future expansion of the program likely will be short-term given the long lead times for the whole house replacement water units and the expected timing of the final drinking water standard.

Because PG&E is not proposing any changes for currently eligible residents, the existing one-mile buffer already provides a hefty margin of conservatism to PG&E's program. All residents within one mile of the 2013 second quarter plume map will continue to be eligible for the program while the hexavalent chromium standard is being finalized. As noted above, PG&E is unaware of any other program that provides such an extensive geographic buffer. In the unlikely event the contiguous plume boundary expands beyond the current one-mile buffer, residents within the expanded plume will be eligible for the program.

Similarly, modifying the eligibility trigger to well detections above 3.1 ppb will continue to provide a large margin of safety. This level is over 16 times lower than the standard currently applied to all other California residents and over 3 times lower than the proposed hexavalent chromium drinking water standard.

PG&E also notes that the Regional Board's current methodology for defining the hexavalent chromium plume boundary provides an additional measure of conservatism to PG&E's program. As discussed in detail in PG&E's 2013 second quarter plume map submission, the Regional Board considers only one line of data when defining the plume – detections above 3.1 ppb in wells that are located within 2,000 feet[4] of one another. This methodology is inconsistent with standard industry practice by failing to consider all critical data such as groundwater flow, elevation or chemistry. For example, the Regional Board's methodology requires the plume to include wells on the other side of the Lockhart fault and wells that contain dramatically higher water elevations than the plume—areas that clearly are not attributable to PG&E's historic operations. When all relevant data is considered, the contiguous hexavalent chromium plume is much smaller. Because the whole house replacement water program is directly tied to the Regional Board's narrow plume delineation criteria, there is an extra level of conservatism built in.

The expected timing of the final drinking water standard further supports PG&E's proposed modifications. When the Regional Board first considered replacement water in its 2011 Clean-up and Abatement Order, it concluded that bottled water was an adequate and protective short-term solution but that whole house replacement water should be provided as a more "permanent" solution.[5] At that time, the State of California had just issued the hexavalent chromium public health goal and the final drinking water standard was expected to take years to develop.

CDPH has now issued its proposed drinking water standard and is under court supervision to issue the final, which is expected by August 2014. On average, it takes approximately 9 months between the time a resident is identified as eligible for the whole house water program and the time the unit is turned over to the resident for use.[6] The next opportunity to identify newly eligible residents is after the 2013 third quarter plume map is submitted at the end of October. Taking into account the 9-month lead time, any newly eligible residents identified in October would not have their systems in place until July 2014, only 1 month before the drinking water standard is finalized. Newly identified residents after the fourth quarter of 2013 likely would not receive systems before the drinking water standard is finalized.

Given the multiple layers of conservatism built into PG&E's whole house water replacement program and the fact that all domestic wells in Hinkley are well below the proposed drinking water standard, it makes sense to modify the program until the standard is finalized. Eligibility

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[4] Beginning in the third quarter, the Regional Board has ordered PG&E to modify the plume delineation criteria and connect all detections above 3.1 ppb in wells that are located 2,600 feet of one another. PG&E has petitioned this modification to the State Water Resources Control Board, on the grounds that it is arbitrary and unsupported. Nevertheless, absent a change to the new 2,600-foot criteria prior to submission of the third quarter plume map, PG&E expects the plume will artificially expand as compared to the 2,000-foot criteria.

[5] Order R6V-2011-0005A1, para. 32.

[6] Many factors contribute to this time period including: testing the resident's well to confirm eligibility; the resident's consideration of whether to elect the whole house replacement water option or the property purchase option; ordering the systems once the election has been made; construction of the necessary collateral infrastructure (e.g., electrical, plumbing, etc.); and start-up testing. Once a resident signs the access agreement, PG&E installs and hands over the system within five months.

for the program likely will change once the standard is finalized. In the meantime, in the unlikely event the plume expands beyond the current one-mile buffer, PG&E will offer whole house replacement water systems to any resident within the expanded plume boundary with a domestic well detection above 3.1 ppb, and bottled water to residents with domestic well detections below 3.1 ppb.

5. Requested Action

PG&E asks that Regional Board Order R6V-2011-0005A2 be amended to provide for the updated replacement water program described in this letter. Specifically, we ask that the order be amended to state that the provisions of Order R6V-2-11-0005A1 will continue to be suspended so long as PG&E provides replacement water as described in this letter.

Thank you for your consideration of this request. I would be happy to discuss this proposal with you or to provide you with any additional information that you might require.

Sincerely,

Sheryl Bilbrey

Sheryl Bilbrey
Director, Chromium Remediation

Cc: Lauri Kemper
Kim Niemeyer