

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LAHONTAN REGION**

**MEETING OF MARCH 12-13, 2014  
BARSTOW**

**ITEM:** 7

**SUBJECT: NEW WASTE DISCHARGE REQUIREMENTS (WDRS)  
FOR PACIFIC GAS AND ELECTRIC COMPANY  
AGRICULTURAL TREATMENT UNITS, HINKLEY, SAN  
BERNARDINO COUNTY**

**CHRONOLOGY:**

- July 17, 2013 The Water Board adopted a resolution certifying an Environmental Impact Report (EIR) for comprehensive cleanup of chromium in groundwater at Hinkley.
- October 8, 2013 At the Water Board's regular meeting in Barstow, Water Board staff outlined options to develop waste discharge requirements for agricultural treatment unit (ATU) expansion.
- January 8, 2014 Water Board workshop on the tentative WDRs.

**BACKGROUND:** Tentative WDRs were circulated for a 30-day review period from December 13, 2013 to January 13, 2014. Comment letters were received from the Pacific Gas and Electric Company, the Hinkley Community Advisory Committee and its Independent Review Panel Manager (Project Navigator), and the Water Board's Advisory Team. Water Board members also provided input during the January 8, 2014 workshop. Based on comments received, the tentative WDRs were revised and circulated for another 30-day review period on February 11, 2014.

**DISCUSSION: Key Revisions in Proposed WDRs**

Chromium Plume Bulging Authorization Removed

The tentative WDRs proposed to authorize chromium plume bulging (i.e., limited plume expansion along its eastern edge). Upon further consideration, Water Board staff is no longer recommending that the Board authorize plume bulging in the WDRs because it does not appear likely that agricultural treatment activities would result in bulging; therefore, it is not necessary or appropriate to include such authorization in the ATU WDRs.

The WDRs require agronomic application of water to fields for the majority of the year, minimizing the amount of water percolating to the aquifer; therefore, it is unlikely that ATUs will cause mounding of the water table such that plume bulging due to irrigation will occur. Also, high evapotranspiration rates in the Hinkley Valley, particularly in summer, further limit the amount of water percolation that may cause bulging. Groundwater extraction will increase as ATUs are brought on-line, creating areas of lower water table elevations that draw groundwater gradients in and downward, rather than mounding groundwater creating a bulge. Therefore, the scenario of plume bulging due primarily to ATUs is unlikely.

Previous authorization for plume bulging was given related to in-situ remediation zones, where water is directly injected into the aquifer making bulging more likely. Plume bulging for in-situ operations was authorized in a Cleanup and Abatement Order, and could be re-considered and revised by the Water Board if needed to accommodate remediation goals.

#### Uranium Soil Monitoring and Action Plan Requirements

The tentative WDRs required yearly uranium soil monitoring only where uranium concentrations in irrigation water exceeded the maximum contaminant level of 20 picoCuries per liter (the maximum contaminant level for uranium). The proposed WDRs require twice-yearly monitoring of uranium in soils at all ATUs, regardless of uranium concentrations. Because no data on uranium concentrations in soil exist for the Project, it is important to establish baseline concentrations and investigate if uranium in irrigation water, even if below the MCL, may result in accumulation in soils.

Also, in response to Water Board member comments, a requirement for an action plan for uranium in soil was included in the proposed WDRs (Orders Section III). This action plan is required if soil monitoring results indicate an increasing trend in uranium concentrations. The action plan will compare increasing trends to baseline conditions and US EPA's Regional Screening Levels for uranium in soils. If increases in uranium approach screening levels, the action plan will be implemented to limit increases of uranium in soils, such as changes in source of irrigation water, blending of irrigation water to reduce uranium concentrations applied to fields, or fallowing of fields.

Receiving Water Limits for Nitrate and Uranium Added

In certain portions of the Project Area, water quality objectives are already exceeded for nitrate and uranium, as well as total dissolved solids. TDS limits in receiving waters were outlined in the tentative WDRs, but no such limits were specified for nitrate and uranium. The proposed WDRs now contain limits on increases for both nitrates and uranium in receiving waters (based on criteria specified in the EIR mitigation measure WTR-MM-6 for nitrates, and also applied to uranium) and require submittal of an action plan if such increases are noted.

Agronomic Rate Requirement Revised

Staff revised requirements in the WDRs (Orders Section C, Discharge Limitations) regarding agronomic rates, recognizing that water may need to be applied to fields at greater than agronomic rates in certain situations for a limited duration. However, application of water at greater than agronomic rates is only allowed as an interim measure, and not as a long-term approach for remediation.

**RECOMMENDATION:**

Adopt the WDRs as proposed.

**ENCLOSURE:**

<b>Enclosure</b>	<b>Item</b>	<b>Bates Number</b>
<b>1</b>	Board Order R6V-2014-Proposed	<b>7-7</b>
<b>Proposed Board Order Attachments</b>		
	A. Map of Project Area and Location of Operable Units	<b>7-44</b>
	B. Map of Existing Agricultural Treatment Units	<b>7-46</b>
	C. Standard Provisions for Waste Discharge Requirements	<b>7-48</b>
	D. General Provisions for Monitoring and Reporting	<b>7-53</b>
	E. WDRs Monitoring, Modeling and Reporting Program	<b>7-57</b>
	F. EIR Mitigation Monitoring and Reporting Program	<b>7-78</b>
	G. State Water Board Resolution 68-16 Analysis	<b>7-188</b>
	H. Findings of Fact and Statement of Overriding Considerations	<b>7-205</b>
<b>Water Board Staff Response to Comments</b>		
<b>2</b>	Response to Comments Table	<b>7-289</b>
	<ul style="list-style-type: none"> <li>• Attachment 1: Response to PG&amp;E's Attachment B Table 1.</li> </ul>	<b>7-323</b>
<b>Comment Letters Received</b>		
<b>3</b>	Comment Letter A: Hinkley CAC and IRP Manager	<b>7-327</b>
	Comment Letter B: Pacific Gas and Electric Company	<b>7-334</b>
	<ul style="list-style-type: none"> <li>• Attachment A: Comments Summary</li> </ul>	<b>7-336</b>
	<ul style="list-style-type: none"> <li>• Attachment B: Proposed Revisions to Groundwater Monitoring</li> </ul>	<b>7-353</b>
	Comment Email C/D: Water Board Advisory Team and Water Board members	<b>7-385</b>