



February 10, 2014

Ms. Lisa Dernbach
Senior Engineering Geologist (Specialist)
Lahontan Regional Water Quality Control Board
2501 Lake Tahoe Boulevard
South Lake Tahoe, California 96150-7704

Re: Fourth Quarter 2013 Hinkley School Supplemental Environmental Project Progress Report

Dear Ms. Dernbach:

Pacific Gas and Electric (PG&E) submits the following Fourth Quarter 2013 (October 1, 2013 to December 31, 2013) Hinkley School Supplemental Environmental Project (SEP) Progress Report in compliance with Settlement Agreement and Stipulation for Entry of Administrative Civil Liability Order No. R6V-2012-0013 (the "Order"), issued March 14, 2012. The schematic in Exhibit 1 illustrates the work completed during the reporting period, as well as ongoing work planned for 2014.

Because the SEP has reached the 90 percent design milestone, this quarterly report includes an expanded discussion of progress to-date for the Water Board's reference, along with an update on schedule and cost expenditures.

Actions Taken During Fourth Quarter 2013

School Pipeline Connection

In December 2013 construction of the pipeline connecting the PG&E freshwater system to the Hinkley School's existing water supply pipeline was completed. This construction included approximately 3,100 feet of new piping on PG&E property and along Santa Fe Road. The pipeline connection at the Hinkley School property is equipped with flow and pressure sensing instrumentation to ensure that the School will be adequately supplied, along with a new backflow preventer (BP). This connection is not active and will remain valved-off pending the completion of construction and water system commissioning, which will include sanitizing prior to being placed into service.

Pictures of the Hinkley School pipeline construction are shown in Exhibit 2, and include the upstream connection vault at the end of the existing PG&E freshwater pipeline, including flow and pressure instrumentation, as well as the connection pipeline installation work along Santa Fe

Road, and the completed BP where the new pipeline connection terminates at the school's piping.

Backflow Preventer Piping Installation

In addition to the BP installed at the connection to the Hinkley School water system, BP connection piping was also installed along the existing PG&E freshwater pipeline both where it branches toward the northwest freshwater injection (NWFI) wells and where it connects to the Desert View Dairy (DVD) supply tanks. These two additional BP devices will isolate the NWFI system and DVD tanks from the Hinkley School drinking water system. The locations of these BP devices are shown in Exhibit 1. PG&E has already procured the BPs and will install them during drinking water system commissioning. With the connection piping already in place, BP installation will only require bolting the devices into place. Neither NWFI nor DVD water supply operations will be interrupted.

FW-01 and FW-02 Well Head Plumbing Retrofit

The well head plumbing at PG&E freshwater supply wells FW-01 and FW-02 were retrofitted to meet San Bernardino County Department of Environmental Health Services (County EHS) requirements for reclassification for drinking water supply. The following improvements were made:

1. All above-ground piping and fittings were replaced with galvanized steel in accordance with American Water Works Association (AWWA) standards.
2. All existing valves were replaced with new valves with National Sanitation Foundation NSF-61 certification for use in potable water applications.
3. A new sample port was installed between the well head and initial check valve.
4. A waste discharge line was installed to allow the well to pump to waste upstream of the distribution pipeline.

New Supply Well Construction and Water Supply System Design

Because the arsenic treatment system precluded freshwater supply well PGE-14 from being re-permitted for potable use, PG&E began installation of new drinking water supply wells FW-03 and FW-04. The wells were sited, and a test boring was completed in November 2013. The test boring was installed to collect both detailed lithology data for well design and a water sample for evaluation and comparison to drinking water quality standards. Water quality data from samples collected from the test boring are provided in Exhibit 3.

In addition, PG&E began the engineering and design of the new drinking water supply infrastructure, including wells and surveys of potential pipeline routes to connect the new supply to the Hinkley School. In conjunction with the design process, PG&E met with utility representatives, initiated the permitting process, and began operations planning.

Planned Actions for the First Quarter 2014 and Beyond

During the first quarter 2014 (January 1, 2014 through March 31, 2013), PG&E will primarily focus on developing a new drinking water supply and upgrading Hinkley School infrastructure. These activities and the corresponding project schedule are described below.

Development of a New Drinking Water Supply

During the first quarter 2014, PG&E will drill two new drinking water supply wells, FW-03 and FW-04. From initial well tests, each should be capable of producing up to 500 gpm of drinking water. The existing arsenic treatment system for PGE-14 cannot be re-permitted for drinking water use, and existing wells FW-01 and FW-02 do not produce sufficient yield to meet the combined demand of the Hinkley School, NWFII system, and DVD with the highest capacity well (FW-01) out service, as required by the County EHS. Thus, FW-03 and FW-04 are necessary to supply the required redundancy.

The wells are sited near the Mojave River to provide a productive, stable, and high-quality drinking water supply. Because wells in this area are highly productive, FW-03 and FW-04 will enable the existing freshwater system to be expanded to accommodate the Hinkley School and the Hinkley Compressor Station (HCS), both of which have existing potable wells that have been declining in quality. Combining the water supply infrastructure to serve these multiple demands results in a more sustainable and efficient system, with improved redundancy that benefits all end users.

The expansion and upgrade of the freshwater system, including the new wells, is expected to be finished by the end of the third quarter 2014 in accordance with the previously reported SEP completion schedule. As detailed in the "SEP Financial Update" (see below), the cost of the project far exceeds the \$1.8 million SEP settlement, and no SEP funding will be allocated to new infrastructure dedicated to the HCS, NWFII system, or DVD.

Water System Permitting and Operation

The wells and all piping and appurtenances to convey drinking water to the Hinkley School's existing system will be incorporated into the existing HCS water system permit, thus minimizing the operational responsibility of the Barstow Unified School District (BUSD). Accordingly, PG&E will be responsible for operating and maintaining the water system infrastructure up to the point of connection with the existing Hinkley School system, including all associated costs. The Hinkley School's water system permit will continue to encompass only the School's existing water system owned by the BUSD, albeit updated to include an interconnect with the HCS system. This will allow the School's water system permit compliance and operational obligations to remain unchanged. During the first quarter 2014, PG&E will continue to work closely with County EHS to update the School's water system permit to include the new drinking water interconnect.

School Water Infrastructure

In the second quarter of 2014 PG&E will install valving at the inlet of the School's existing water tanks to allow the new supply connection to fill the tanks. After full system commissioning in the third quarter of 2014, PG&E will review water supply operations with Hinkley School personnel and evaluate the need for additional school site water equipment changes to allow the PG&E system to fill the Hinkley School's tanks as designed.

Schedule

PG&E anticipates completing the School tank valving installation, the new drinking water supply wells, associated conveyance piping in the third quarter of 2014, along with subsequent water system disinfection, start-up, shakedown, and commissioning. After start-up, PG&E will coordinate with School personnel to conduct training on the use of their upgraded system. PG&E will also provide as-needed technical support to the Hinkley School as required during the first two years of operation of the updated school water supply. A summary schedule of the remaining work to be complete on the project is included as Exhibit 4.

SEP Financial Update

Tables summarizing SEP costs are included in Exhibit 5. Table 1 provides an estimate of SEP expenditures through 2013, including permitting, reporting, stakeholder engagement, engineering design, and installation of the Hinkley School pipeline connection, retrofit of wells FW-01 and FW-02, and installation of new supply wells FW-03 and FW-04. Table 2 provides an estimate of future SEP expenditures required to complete infrastructure installation and commissioning, along with follow-up training and support associated with the new Hinkley School water supply.

Table 3 summarizes PG&E expenditures associated with the freshwater system upgrades and the HCS system that are *not* allocated to the SEP. Note that because the new infrastructure for the new upgraded water supply system will serve both the HCS and the Hinkley School, PG&E is *not* allocating these expenditures to the SEP. This information is being provided to clearly distinguish these costs.

Note that the information provided in Exhibit 5 is intended only to update to the Water Board on SEP cost expenditures and projections; it does not serve as the formal expenditure certification as described in Section 12.g.1 of Board Order R6V-2012-0013. A formal certification satisfying this requirement will be provided upon project completion. PG&E will continue to provide the Water Board with annual financial updates as part of future fourth quarter SEP progress reports through project completion.

I hereby certify that I have examined this report, and based on my examination and my inquiries of those individuals who assisted in the preparation of the report, I believe the report to be true, complete, and accurate.

Please do not hesitate to contact me if you have any questions regarding this report or if you need additional information.

Sincerely,



Danielle N. Starring, P.E.
Project Manager

Attachments:

- Exhibit 1 Project Schematic Figure
- Exhibit 2 Photos
- Exhibit 3 New Supply Well Test Boring Water Quality Data
- Exhibit 4 Summary Schedule
- Exhibit 5 Cost Update

cc: Lauri Kemper, RWQCB Lahontan Region, South Lake Tahoe Office
Wael Elatar, Chief Business Official, Barstow Unified School District
Jeff Malan, Superintendent, Barstow Unified School District



Exhibit 1

Hinkley Groundwater Remediation Program Supplemental Environmental Project

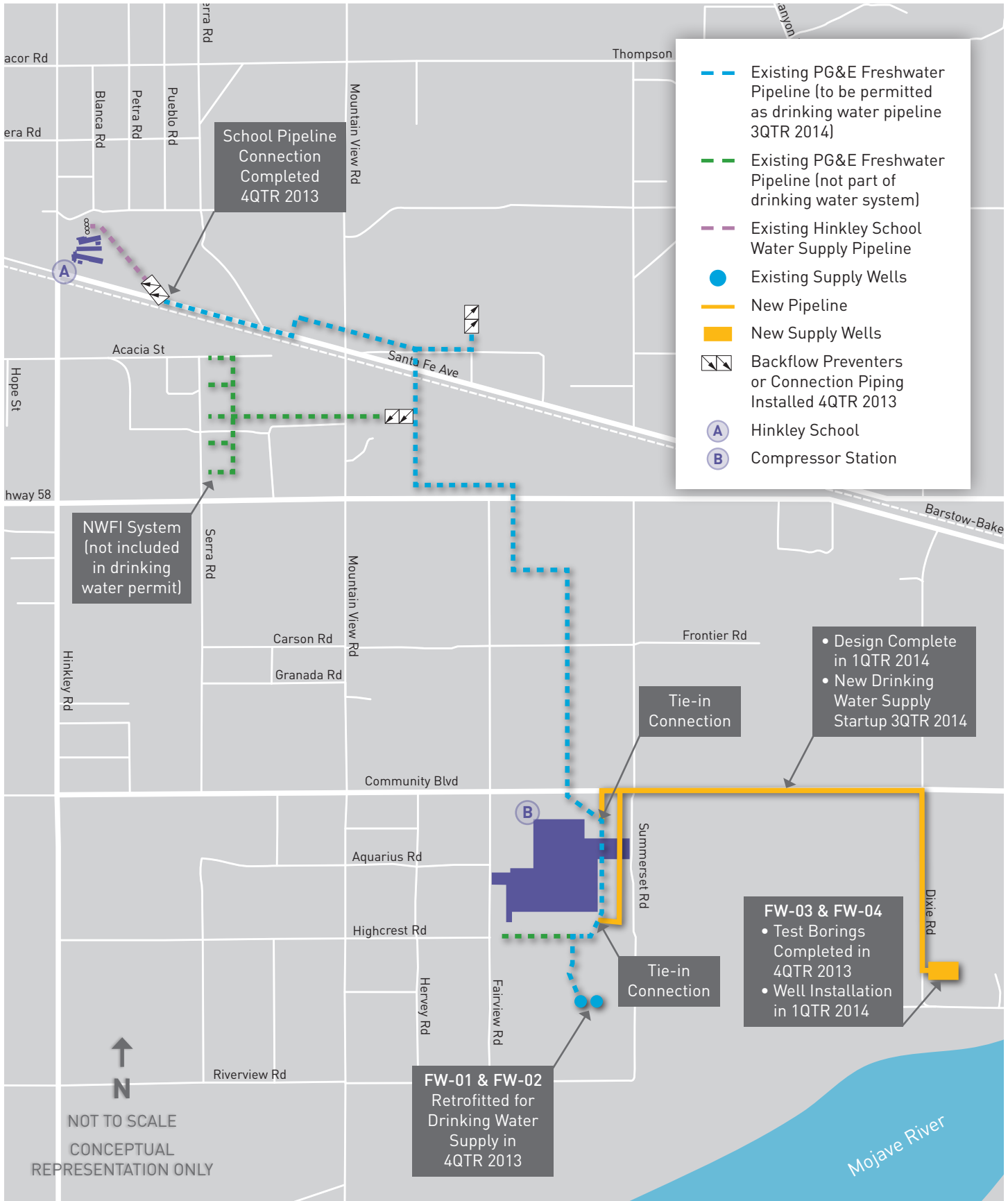


Exhibit 2
Photos
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PG&E Hinkley Supplemental Environmental Project
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Figure 1: Upstream Pipeline Connection



Figure 2: Pipeline Installation Along Santa Fe Road



Figure 3: BP at Hinkley School Connection Point

Exhibit 3

New Water Supply Well Test Boring Sample Data

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Constituent and Units		Sample Date		Drinking Water Standard ¹
		11/15/2013	12/23/2013	
Anions				
Chloride	mg/L	48	NS	none
Fluoride	mg/L	0.59	NS	none
Nitrate as Nitrogen	mg/L	0.74	0.5	45
Sulfate	mg/L	54	NS	none
Inorganics				
Alkalinity, Total as CaCO ₃	mg/L	110	NS	none
Hardness, Total as CaCO ₃	mg/L	130	NS	none
Total Dissolved Solids	mg/L	300	NS	500 (secondary ²)
pH (field results)	-	7.69	NS	6.5-8.5 (secondary)
Oxidation-Reduction Potential (field results)	mV	45.2	NS	none
Specific Conductance (field results)	µS/cm	0.678	NS	none
Soluble silica	mg/L	22.6	NS	none
Sodium, Dissolved	mg/L	54	NS	none
Metals				
Antimony, Dissolved	mg/L	ND (0.0005)	NS	0.006
Arsenic, Dissolved	µg/L	3.7	5.3	10
Barium, Dissolved	mg/L	0.077	NS	1
Beryllium, Dissolved	mg/L	ND (0.0005)	NS	0.004
Cadmium, Dissolved	mg/L	ND (0.0005)	NS	0.005
Calcium, Dissolved	mg/L	40	NS	none
Cobalt, Dissolved	µg/L	ND (0.5)	NS	none
Copper, Dissolved	mg/L	ND (0.001)	NS	1.3 (action level ³)
Chromium, Hexavalent	µg/L	0.34	0.72	none
Chromium, Total	µg/L	ND (1)	ND (1)	50
Lead, Dissolved	mg/L	ND (0.001)	NS	0.015 (action level)
Magnesium, Dissolved	mg/L	6.6	NS	none
Mercury, Dissolved	µg/L	ND (0.2)	NS	2
Molybdenum, Dissolved	mg/L	0.0035	NS	none
Nickel, Dissolved	mg/L	ND (0.001)	NS	0.1
Potassium, Dissolved	mg/L	2.7	NS	none
Selenium, Dissolved	mg/L	ND (0.0005)	NS	0.05
Silver, Dissolved	mg/L	ND (0.0005)	NS	0.1 (secondary)
Thallium, Dissolved	mg/L	ND (0.0005)	NS	0.002
Vanadium, Dissolved	mg/L	0.0055J	NS	none
Zinc, Dissolved	mg/L	ND (0.01)	NS	5
Anions				
Gross Alpha	pCi/L	4.89	NS	15
Gross Beta	pCi/L	ND (4)	NS	4 (mrem/year)
Radium 226	pCi/L	ND (1)	NS	5 ⁴
Radium 228	pCi/L	ND (1)	NS	
Radon	pCi/L	417	NS	none
Uranium, Dissolved	pCi/L	1.94	NS	20

Exhibit 3

New Water Supply Well Test Boring Sample Data

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Others				
Orthophosphate, Dissolved	mg/L	ND (0.1)	NS	none

Notes

- ¹ - Drinking Water Standard shown is the California Department of Public Health Services (CDPH) primary drinking water Maximum Contaminant Limit (MCL) unless otherwise noted.
- ² - EPA Secondary MCL, non-mandatory, concerning taste, odor, or aesthetics.
- ³ - Copper and Lead regulated as Action Levels, per CDPH
- ⁴ - The MCL for the sum of Radium 226 and Radium concentrations is 5 pCi/L

Abbreviations

mg/L - milligrams per liter

mV - millivolts

μS/cm - microsiemens per centimeter

μg/L - micrograms per liter

pCi/L - picocuries per liter

ND (x) - not detected at reporting limit shown

NS - not sampled

Exhibit 5
 SEP Cost Update
 Fourth Quarter 2013 Progress Report
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Table 1: SEP Spend Through 2013

Category/Item	Cost
Engineering, Reporting, Community Relations, Management	
Hinkley School Existing System Evaluations, Permit Technical Report, Stakeholder Reporting	\$34,723
Preliminary Engineering, Alternatives Analysis, 10% Design	\$82,200
School Pipeline Construction Final Design, Permitting, Construction Prep	\$99,982
Subtotal	\$216,905
School Water System Construction	
Mobilization, Biological, Stormwater Protections	\$83,200
Construction and Project Management	\$28,738
Pipeline Installation, including connections to School and PG&E	\$342,093
Backflow Protection at School and Existing Infrastructure	\$46,096
Instrumentation and Controls	\$27,112
Subtotal	\$527,239
Water Supply and Well Design and Construction	
FW-01 and FW-02 Wellhead Retrofits	\$73,926
FW-03 and FW-04 Installation and Testing	\$1,377,142
New Water Supply System Design	\$250,000
Subtotal	\$1,701,068
Total SEP Spend Through 2013	\$2,445,212

Exhibit 5
 SEP Cost Update
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Table 2: Estimated Future SEP Spend Through School Commissioning

Category/Item	Estimated Cost
Engineering, Reporting, Community Relations, Management	
Permitting, Regulatory and Stakeholder Reporting and Support	\$83,752
School Water System Repermitting Fees	\$5,000
Subtotal	\$88,752
School Water System Construction	
School-Site Tank Valving Changes	\$11,900
Subtotal	\$11,900
School System Startup and Operational Support	
System Disinfection, Startup, Sampling, Commissioning	\$106,568
Operations Manual and Documentation	\$54,000
Two-Year Technical Support After Handover to School	\$133,326
Subtotal	\$293,894
Total Additional Projected/Estimated SEP Spend Through Completion	\$394,546

Table 3: Non-SEP PG&E Water Supply Estimated Costs

Category/Item	Estimated Cost
Engineering, Reporting, Community Relations, Management	
New Water System Permitting, Project Management, Stakeholder Reporting	\$75,000
Subtotal	\$75,000
Water System Construction	
Civil Construction (control building, tanks, foundations)	\$200,000
Pipeline Construction (FW-03/-04 to existing pipelines)	\$1,300,000
Mechanical Construction (Well pumps, well head plumbing)	\$140,000
Electrical, Instrumentation, and Controls	\$500,000
Subtotal	\$2,140,000
Water System Startup and Operational Support	
System Disinfection, Startup, Sampling, Commissioning, Documentation	\$150,000
Subtotal	\$150,000
Total Associated, Non-SEP PG&E Water System Costs	\$2,365,000