



# California Regional Water Quality Control Board

## Los Angeles Region



Alan C. Lloyd, Ph.D.  
Agency Secretary

Recipient of the 2001 *Environmental Leadership Award* from Keep California Beautiful

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Arnold Schwarzenegger  
Governor

December 1, 2005

Mr. Fred Hancz  
Power Gas Company  
12000 Culver Boulevard  
Culver City, CA 90066

**APPROVAL OF REMEDIAL ACTION PLAN WORKPLAN AND GENERAL WASTE DISCHARGE REQUIREMENTS COVERAGE FOR PROPOSED HYDROGEN PEROXIDE INJECTION AND OXYGEN RELEASE COMPOUND APPLICATION TO GROUNDWATER FORMER POWERGAS FACILITY, 11962 WASHINGTON BOULEVARD, CULVER CITY, CALIFORNIA (ORDER NO. R4-2005-0030, CI-8993, SERIES NUMBER NO. 032) (R-10969)**

Dear Mr. Hancz:

We have received documents entitled "Workplan for In-Situ Chemical Oxidation Injection" (Workplan), and "Application for General Waste Discharge Requirements Permit", dated October 26, 2005, submitted by your consultant, The Reynolds Group (TRG) to clean up the hydrocarbons and methyl tertiary butyl ether (MTBE) contamination in groundwater at the subject site.

The site is a former gasoline service station. In May 2000, the underground storage tank (UST) system including two 20,000-gallon USTs and two 12,000-gallon USTs, and dispensers and piping were removed. Contamination was detected in soil during the tank removal. TRG has installed four vapor extraction wells (EW1 through EW4) and two air sparging wells at the site. A soil vapor extraction (SVE) system has been operational since June 2002. An air sparging system was initiated in April 2004. The vadose zone contamination was mitigated significantly. To date, a total of 19,769 pounds of total petroleum hydrocarbons as gasoline (TPHg), 68 pounds of benzene and 948 pounds of MTBE have been removed by SVE.

Since 1998, a total of ten onsite and offsite groundwater monitoring wells have been installed. Vapor extraction and air sparging have reduced the concentrations of total petroleum hydrocarbons, aromatic hydrocarbons and fuel oxygenates including MTBE significantly. Benzene and MTBE in groundwater samples were detected up to 39 µg/L and 211 µg/L, respectively, in September 2005.

TRG's Workplan proposes to mitigate the groundwater contamination by employing onsite in-situ chemical oxidation in the saturated zone. TRG proposes to apply the modified Fenton's reagent (RegenOX manufactured by Regenesis) into eight boreholes on a pilot test scale for a possible full-scale application in the future. The Fenton's reagent will be injected into eight boreholes using direct-push technology.

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Powergas Inc.

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Within each borehole, a modified Fenton's reagent will be injected between 40 and 50 feet below ground surface (bgs) to target zones of contamination. Approximately 20 pounds of oxidant, 20 pounds of activator and up to 270 gallons of clean drinking water will be injected per foot of borehole. The modified Fenton's reagent oxidizer in solution will range between 4% to 8%, not to exceed 10%, to prevent the risk of excess reaction resulting heat and flocculation.

Regional Board staff have reviewed and approved the Workplan with one condition, that the proposed placing of oxygen release compounds in socks as proposed in the existing groundwater monitoring wells (MW5, MW7, MW9 and MW10) shall not proceed. You are required to submit a technical report documenting the results of in-situ chemical oxidation pilot test by **February 15, 2006**.

We have determined that the proposed discharge meets the conditions specified in Regional Board Order No. R4-2005-0030, "*General Waste Discharge Requirements for Groundwater Remediation at Petroleum Hydrocarbon Fuel and/or Volatile Organic Compound Impacted Sites*," adopted by this Regional Board on May 5, 2005.

Enclosed are Waste Discharge Requirements, Order No. R4-2005-0030, and Monitoring and Reporting Program No. CI-8993.

The "Monitoring and Reporting Program" requires you to implement the monitoring program on the effective date of this enrollment under Regional Board Order No. R4-2005-0030. Your first monitoring report is due to this Board two months after the injection. All monitoring reports should be sent to the Regional Board, ATTN: Information Technology Unit.

When submitting monitoring or technical reports to the Regional Board per these requirements, please include a reference to "Compliance File No. CI-8993," which will assure that the reports are directed to the appropriate file and staff. Also, please do not combine other reports with your monitoring reports. Submit each type of report as a separate document.

We are sending a copy of Order No. R4-2005-0030 only to the applicant. A copy of the Order will be furnished to anyone who requests it.

**If you have any questions, please contact Mr. Rodney Nelson at (213) 620-6119.**

Sincerely,

Jonathan A. Bishop  
Executive Officer

Enclosures

Board Order No. R4-2005-0030  
Monitoring and Reporting Program No. CI-8993

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December 1, 2005

Cc: Yvonne Shanks, State Water Resources Control Board, Underground  
Storage Tank Cleanup Fund(w/o Board Order No. R4-2005-0030)  
Tim Smith, Los Angeles County Department of Public Works, Environmental Program  
Division  
John Clearly, The Reynolds Group  
Barbara Norton, Property Owner

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