



California Regional Water Quality Control Board

Los Angeles Region



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

Linda S. Adams
Agency Secretary

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Arnold Schwarzenegger
Governor

August 8, 2006

Mr. Michael T. Martin
Northrop Grumman Corporation
One Hornet Way, M/S PA13/W5
El Segundo, CA 90245-2804

Dear Mr. Martin:

COVERAGE UNDER GENERAL WASTE DISCHARGE PERMIT ORDER NO. R4-2005-0030 AND MONITORING AND REPORTING PROGRAM NO. CI-9067 - PARAPLAST AREA, FORMER NORTHROP GRUMMAN FACILITY, 1515 RANCHO CONEJO BOULEVARD, NEWBURY PARK, CALIFORNIA (SLIC NO. 0252)

The Los Angeles Regional Water Quality Control Board (Regional Board) staff have completed our review of your application for a permit to implement In-Situ Chemical Oxidation (ISCO) for field demonstration and later use as a full-scale application for groundwater impacted by volatile organic compounds (VOCs) in the Paraplast Area at the above-referenced site.

The former Paraplast Area is one of three areas of approximately 100 acres site, which was formerly owned by Northrop for manufacturing aircraft subassemblies, is impacted with chlorinated VOCs, including trichloroethene (TCE). The former Paraplast Area is located in the western portion of the site on Parcels 8 and 9. Several investigations and groundwater monitoring have been performed in this area. Groundwater analytical data from existing wells indicate the presence of TCE at concentrations up to 9,000 micrograms per liter ($\mu\text{g/L}$) (Well No. PPIRZ-04) in the uppermost groundwater unit, which consists predominately of fine-grained alluvium. Unconfined groundwater occurs at depths ranging from approximately 33 and 76 feet below ground surface (bgs). Groundwater flow direction has been reported as flowing to the west-northwest in the western portion of the site and towards the northwest in the northern portion of the site.

In-Situ Reactive Zone (IRZ) pilot test study was performed from May 30, 2001, to February 14, 2002, using carbohydrate solution consisting of molasses. Results of the pilot test demonstrated that TCE was reduced in injection well IRZ-11 from 280 to $<10 \mu\text{g/L}$. However, based on the pilot test duration, no significant reduction on TCE was observed in observation wells, IRZ-M1, IRZ-M2 and IRZ-M3. Potassium bromide was also added into the injection well IRZ-11. An increase of bromide concentration (0.094 to 0.72 milligrams per liter (mg/L)) was detected in the observation well IRZ-M1, a closet observation well to IRZ-11.

Work Plan for In-Situ Chemical Oxidation (ISCO) Field Demonstration in the Former Paraplast Area (Work Plan), dated December 28, 2005, using permanganate for treatment of TCE in the groundwater, was submitted to the Regional Board for approval. On July 28, 2006, the Regional Board approved the Work Plan and May 31, 2006, response letter. The ISCO field demonstration

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will inject approximately 5,200 gallons of potassium permanganate solution (maximum concentration will not exceed 10 percent permanganate) initially into each of the four injection wells and dependent upon the results, sodium permanganate solution may be used to provide greater flexibility in injection concentrations due to the higher solubility of sodium permanganate. This pilot test study is to evaluate the effectiveness of the remedial technology, develop a site-specific understanding of secondary effects of permanganate treatment, and develop design parameters for full-scale applications. Upon reviewing of the results of the injection test and the ISCO effectiveness observed in this pilot test study, an expansion of the injection system for full-scale application to treat the remainder of the Paraplast Area where VOCs exceed 100 µg/L is proposed under this WDR.

The groundwater monitoring program shall include a complete network to cover the injection area, up and down gradient monitoring points. Total of four injection wells and seven groundwater monitoring wells will be used during the field demonstration. Up to two injection events are proposed in the Work Plan. The second injection event will be determined based upon the evaluation of monitoring results of the first event. Injection activities are approximately 12 days per event. Total of seven sampling events will be performed including baseline, periodical sampling at one, two, four, eight, twelve, and sixteen weeks, after the injection process is complete. In addition, semi-annual and annual sampling program will be continued to verify that remediation is complete and that "rebound" of chlorinated VOCs is not occurring.

Any potential adverse water quality impacts, that may result, shall be localized, of short-term duration and shall not impact any existing or prospective uses of groundwater. Groundwater quality shall be monitored to verify no long-term adverse impact to water quality. Northrop Grumman is located at N34° 12' 01", Longitude W118° 55' 41" in Newbury Park. The quantities of permanganate solution injected shall be documented per Monitoring and Program No. CI-9067.

Regional Board staff have reviewed the information provided and have determined that the proposed discharge meets the conditions specified in Regional Board Order No. R4-2005-0030, *Revised General Waste Discharge Requirements for Groundwater Remediation at Petroleum Hydrocarbon Fuel and/or Volatile Organic Compound Impacted Sites (File No. 01-116)*, adopted by this Regional Board on May 5, 2005.

Enclosed are your Waste Discharge Requirements, consisting of Fact Sheet, Regional Board Order No. R4-2005-0030, and Monitoring and Reporting Program No. CI-9067. Please note that the discharge limits listed on Table 3-10 of this Order No. R4-2005-0030, DWR Basin No. 4-10, Conejo Valley, are applicable to your discharge.

The "Monitoring and Reporting Program" requires you to implement the monitoring program on the effective date of this enrollment (August 8, 2006) under Regional Board Order No. R4-2005-0030. All monitoring reports shall 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-9067", which will assure that the reports are directed to the appropriate file and staff. Submit each type of report as a separate document. Please do not combine other reports with your monitoring reports.

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Board Order No. R4-2005-0030 can be obtained at our web site address:
http://www.swrcb.ca.gov/~rwqcb4/html/permits/general_permits.html.

Should you have any questions, please contact Ms. Thizar Tintut-Williams at (213) 576-6723 or Dr. Rebecca Chou at (213) 576-6733.

Sincerely,

Jonathan S. Bishop
Executive Officer

Enclosures: Fact Sheet
WDR Board Order No. R4-2005-0030
Standard Provisions Applicable to WDR
Monitoring and Reporting Program No. CI-9067

cc: Mr. Robert Sams, Office of Chief Counsel, State Water Resources Control Board
Mr. Mike Floyd, State Water Resources Control Board, Division of Water Quality
Mr. Russhawn Aldridge, Office of Environmental Health Hazard Assessment
Mr. Vu T. Nguyen, Department of Toxic Substance Control, Region 3 – Glendale
Department of Interior, U.S. Fish and Wildlife Service
Department of Fish and Games, Region 5
Mr. Kurt Souzas – California Department of Health Services
Mr. Chris Nagler, Water Master, California Department of Water Resources
Ms. Katsumi Keeler, South Coast Air Quality Management District
Ms. Shahin Nourishad, LA County Fire Department-Health Hazardous Material Division
Ms. DeAnn Johnson, County of Los Angeles, Community Development Commission
Mr. Patrick Nejadian, Los Angeles County, Water and Sewerage Program
Mr. Eric H. Wiebe, Equipoise Corporation
Mr. Harry Van Den Berg, ARCADIS

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