

STATE OF CALIFORNIA  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION

RESOLUTION NO. R06-017

APPROVING THE ENVIRONMENTAL CHECKLIST AND  
ADOPTING A MITIGATED NEGATIVE DECLARATION FOR  
PILOT TESTS TO EVALUATE IN-SITU BIOREMEDIATION OF VOLATILE ORGANIC  
COMPOUNDS IN SHALLOW AND MID-DEPTH GROUNDWATER  
NORTHROP GRUMMAN SYSTEMS CORPORATION, EAST COMPLEX  
HAWTHORNE, CALIFORNIA  
(FILE NO. 06-089)

**WHEREAS, the California Regional Water Quality Control Board, Los Angeles Region finds that:**

1. California Water Code (CWC) section 13260(a)(1) requires that any person discharging wastes, or proposing to discharge wastes other than into a community wastewater collection system, which could affect the quality of the waters of the State, shall file a report of waste discharge (ROWD) with the Regional Water Quality Control Board (Regional Board) exercising jurisdiction in the area, and that Regional Board shall then prescribe requirements for the discharge or proposed discharge of wastes.
2. The Site encompasses approximately 40 acres of land and is located at One Northrop Avenue in the City of Hawthorne, Los Angeles County, California (Latitude 118.3293W, Longitude 33.9214N). The facility has been used between approximately 1940 to 2000, for the manufacture, design and testing of subassemblies for military aircraft and skin assemblies for commercial aircraft, including Boeing 747. Vought Aircraft Industries, Inc. owns the land and the Site.
3. The industrial activities at the Site included the use of a variety of products such as fuels (including gasoline, diesel and jet fuel), solvents including isopropanol, 1,1,1-trichloroethane (TCA) and tetrachloroethene (PCE), acid sludge, fluorescent dye and hydraulic oil. Site investigations indicated that soil and groundwater were contaminated with volatile organic compounds (VOCs). The groundwater was impacted with VOCs including total petroleum hydrocarbons (TPH), PCE, trichloroethene (TCE), cis-1,2-dichloroethene (DCE), 1,1-dichloroethane, 1,1-DCE, chloroform, carbon tetrachloride, and benzene. However, TPH was not detected in the soil and groundwater at the pilot test area.
4. The Discharger submitted a pilot test work plan, "Enhanced In Situ Bioremediation Work Plan", dated November 2004, and its addenda, dated July 19, and August 27, 2006, prepared by GeoSyntec Consultants & ENSR International. The Work Plan proposes a pilot test to evaluate the performance of enhanced in situ bioremediation (EISB) to remediate VOCs in shallow and mid-depth groundwater (Bellflower Horizons A and B) at the Site by injecting a carbohydrate solution consists of emulsified soybean oil (Newman Zone) and dehalorespiring microorganisms (KB-1™ culture) into a limited area. The Work Plan and its addenda were approved by the Executive Officer on July 24, and August 28, 2006.

5. Carbohydrate solutions are being used to induce in-situ bioremediation in a number of similar remediation efforts throughout this Region. Therefore, on January 24, 2002, This Regional Board adopted Order No. R4-2002-0030 "General Waste Discharge Requirements for Groundwater Remediation at Petroleum Hydrocarbon Fuel and/or Volatile Organic Compound Impacted Sites" (General WDR).
6. The Discharger has filed a Report of Waste Discharge and applied for Site-Specific Waste Discharge Requirements to use carbohydrate solution with KB-1™ at this Facility. The General WDR allows the injection of carbohydrate solution, but does not specifically provide for the addition of KB-1™. Site-Specific WDR have been developed for the addition of KB-1™ at this Facility.
7. Shallow groundwater beneath the Site is first encountered at approximately 50 feet below ground surface. Three separate groundwater zones or horizons have been identified within the Bellflower Aquitard at the site. Bellflower Horizons A, B, and C correspond to depths of 50 to 60, 70 to 85, and greater than 95 feet below ground surface (ft. bgs), respectively. These horizons are separated by semi-continuous layers of clay, silt-clay, and clayey-silt that vary in thickness from five to 20 ft. The Gage Aquifer underlies the Site at an approximate depth of 110 ft. The groundwater flow direction is toward South. The Discharger shall monitor the presence and concentration of injection solution and contaminants and evaluate flow conditions and any potential for migration of contaminants outside the remediation areas. As specified in the Waste Discharge Requirements and Notice of Preparation of Mitigated Negative Declaration, the Discharger will provide hydraulic control, if necessary, to prevent any offsite migration. Monitoring of groundwater quality and flow conditions across the entire Facility is required by a comprehensive separate Facility-wide groundwater monitoring program.
8. The injection of the carbohydrate solution with KB-1™ to the groundwater is a discharge of waste pursuant to section 13260 of the California Water Code. However, the discharge of the carbohydrate solution with KB-1™ is intended to provide more efficient remediation of VOC-contaminated groundwater and is anticipated to reduce cleanup time and costs.
9. The Water Quality Control Plan (Basin Plan) for the Los Angeles Region designates the beneficial uses of groundwater in the Central Basin for municipal and domestic supply, industrial process supply, industrial service supply, and agricultural supply.
10. The permitted discharge is consistent with the anti-degradation provisions of State Water Resources Control Board Resolution No. 68-16 (Anti-degradation Policy). The discharge may result in some localized exceedance of background concentrations of constituents such as total organic carbon, VOCs, and total dissolved solids (TDS), but this is not anticipated to result in any long-term groundwater degradation.
11. The Regional Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations. The Regional Board, in a public meeting on September 14, 2006, heard and considered all comments pertaining to the discharge and to the tentative requirements.

12. This Regional Board has assumed lead agency role for this project under the California Environmental Quality Act (Public Resources Code section 21000 et seq.) and has conducted an Initial Study (in the format of an expanded Environmental Checklist) in accordance with title 14, California Code of Regulations, section 15063, titled Guidelines for Implementation of the California Environmental Quality Act. Based on the Initial Study, Regional Board prepared a Mitigated Negative Declaration that the project will not have a significant adverse effect on the environment.
13. Copies of the Environmental Checklist and proposed Mitigated Negative Declaration were transmitted to the State Clearing House, all agencies and interested parties. All comments received have been addressed by Regional Board staff. The Regional Board considered all testimony and evidence at a public hearing held on September 14, 2006, at the Metropolitan Water District of Southern California, Board Room, 700 North Alameda, Los Angeles, California, and good cause was found to approve the Environmental Checklist and adopt a Mitigated Negative Declaration.
14. The Regional Board has reviewed the Initial Study and Mitigated Negative Declaration concerning this Resolution prepared by staff in compliance with the California Environmental Quality Act (Public Resources Code section 21000 et seq.). The Regional Board concurs with the staff findings that a Mitigated Negative Declaration should be adopted. The Initial Study and Mitigated Negative Declaration were circulated for public review and comment.

THEREFORE, BE IT RESOLVED that the Regional Board:

1. Adopts the Environmental Checklist, Initial Study and Mitigated Negative Declaration and directs the Executive Officer to file a Notice of Determination with the State Clearinghouse within 30 days as required by the California Code of Regulations.
2. Directs that a copy of this Resolution shall be forwarded to the State Water Resources Control Board and all interested parties.
3. Directs that the discharge of amendments and microorganisms into the soil and groundwater shall conform with all the requirements, conditions, and provisions set forth in A. "*Discharge Limits*" and B. "*Discharge Specifications*" of the Order No. R4-2006-0071.

#### CERTIFICATION

I, Jonathan S. Bishop, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Los Angeles Region on September 14, 2006.

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Jonathan S. Bishop  
Executive Officer