

STATE OF CALIFORNIA

REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT (Keith Roberson)

MEETING DATE: May 19, 2004

ITEM: 5.G

SUBJECT: **United Technologies Corporation, for the property located at 600 Metcalf Road, Santa Clara County** – Revision of Final Site Cleanup Requirements

CHRONOLOGY: 1994 – Final Site Cleanup Requirements (SCR) adopted for Operable

Unit 1

1995 – SCR adopted for Operable Unit 2

1998 – Revised SCR adopted for Operable Unit 2

DISCUSSION: United Technologies Corporation (UTC) owns and occupies a large (>5,000 acre) property in the hills southeast of San Jose, where it has operated a solid rocket motor research, development, and production facility since 1959. The site is situated about a quarter-mile upstream from Anderson Reservoir (the largest drinking water reservoir in Santa Clara County), and three creeks that pass through the site drain into the reservoir. Site investigations initiated in the 1980s revealed that large amounts of organic solvents and other chemicals used and stored on site had been released to the environment and had impacted soil and groundwater beneath the site.

The extent of contamination has generally been established, and contamination is largely contained within the property boundaries. UTC has performed extensive soil and groundwater remediation at the site. These remedial efforts generally have been focused on maintaining hydraulic control and preventing off-site migration of solvent plumes through groundwater extraction. While a significant amount of chemical mass has been removed and site conditions have improved through remediation, solvent concentrations in several portions of the site remain highly elevated above cleanup goals. Groundwater extraction must be continued to maintain plume control and prevent solvent migration.

Perchlorate is now a greater environmental concern than solvents at the UTC site. Ammonium perchlorate is used extensively at the UTC facility as the oxidizing agent in solid rocket fuel, and the presence of perchlorate in soil and groundwater at the site has long been known. Investigations begun in 1998 have largely established the extent of perchlorate contamination at the facility. Several perchlorate source areas and groundwater plumes have been identified, and some areas have very high concentrations. Because perchlorate is completely soluble in water and does not bind to soils, perchlorate is more mobile than solvents and more likely to migrate across property boundaries. Off-site migration of perchlorate in groundwater plumes has been limited by extensive groundwater extraction at the downgradient UTC property boundary.

Perhaps the greatest concern at UTC is the amount of perchlorate discharging into the creeks from groundwater and stormwater runoff. Perchlorate is routinely detected at on-site creek sampling locations during the wet winter months, but because of dilution, perchlorate is rarely detected at off-site locations and perchlorate has never been detected in Anderson Reservoir. Nonetheless, the large mass of perchlorate present in soil and groundwater at UTC, coupled with perchlorate's mobility, pose a threat to water quality in Anderson Reservoir. This threat must be reduced by more aggressive remedial action.

The Tentative Order (Appendix A) will accomplish the following objectives:

1. Combine the two existing site cleanup orders into one that covers the entire site;
2. Rescind a Water Reclamation Requirements order issued in 1991 that allowed offsite use of treated groundwater;

3. Establish cleanup standards for perchlorate and 1,4-dioxane, and revise cleanup standards for chemicals for which drinking water standards have changed;
4. Require submittal of a remedial action plan supplement for cleanup of perchlorate from groundwater and soil;
5. Require improved stormwater runoff monitoring in streams and drainages on-site, and require the development of remedial measures to eliminate discharge of perchlorate into streams;
6. Require enhanced monitoring of groundwater and surface water quality along Las Animas Creek between the site boundary and Anderson Reservoir.

The Staff Report (Appendix B) explains the major changes to UTC's SCRs and provides the rationale behind the changes. The Santa Clara Valley Water District submitted written comments in support of the Tentative Order (Appendix C). We expect the Tentative Order to remain uncontested.

RECOMMENDATION: Adopt the Tentative Order.

File No.: 43S0286 (KER)

Appendices: A. Tentative Order

B. Staff Report

C. Correspondence

D. Location Map