PUBLIC HEALTH ASSESSMENT

Summary

Evaluation of Exposures to Contaminants from the Former Abex/Remco Hydraulics Facility, Willits, Mendocino County, California

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Prepared by

California Department of Health Services
Under Cooperative Agreement with the
Agency for Toxic Substances and Disease Registry

The Environmental Health Investigations Branch (EHIB) within the California Department of Health Services (CDHS), under cooperative agreement with the federal Agency for Toxic Substances and Disease Registry (ATSDR), is conducting a public health assessment (PHA) related to the Abex/Remco Hydraulics site in Willits, California. The PHA will include a review of existing environmental data to evaluate the potential health impact from exposures to site-related contaminants. The PHA process helps to determine what follow-up activities are needed: additional site characterization, health education, health study, or specific measures to reduce or eliminate exposure. Specifically, we will address the following exposure pathways (situations): contamination in off-site soils; site-related contamination in private wells; soil gas migration from contaminated groundwater; water and sediments in Baechtel Creek; site-related contamination in fruits and vegetables; historic air releases of volatile organic compounds (VOCs); and airborne contaminants generated/released during interim remedial activities conducted between 2000 and 2004. In 2003, CDHS completed a PHA evaluating the exposure from historic releases of airborne hexavalent chromium (Cr +6). The PHA evaluating historic air releases is available to interested individuals and will not be replicated in this document.

In June 2000, due to ongoing community health concerns about the Remco site, the U.S. Environmental Protection Agency (USEPA) requested assistance from CDHS to evaluate the potential health impact posed by the facility. Since that time, CDHS has been conducting PHA activities and working with the Willits community.

In January 2006, a public comment draft of the public health assessment was released to the public and other stakeholders for review and comment. The comments and CDHS responses are provided in Appendix E.

The Remco site is located at 934 South Main Street, in the City of Willits, in Mendocino County. Ownership of the facility changed several times in its 55-year history, with MC Industries (parent company of Remco Hydraulics, Inc.) becoming the last owner in 1988. Remco Hydraulics, Inc. and MC Industries declared bankruptcy in 1995. Whitman Corporation/Pepsi Americas, Inc. has been identified as the party responsible for funding the clean-up (remediation) activities at the site, as result of various acquisitions and/or corporate mergers. In 1997, as a result of a lawsuit filed by the City of Willits against the former owners of the site, the Federal District Court for Northern California ordered a Consent Decree[1]. In December 2000, the Consent Decree was amended, establishing the Willits Remediation Trust (henceforth referred to as the Willits Trust). The Willits Trust is responsible for site investigation and clean-up activities, as required by the "Final Amended Consent Decree". Under the Final Amended Consent Decree, site investigation and cleanup must follow the National Contingency Plan (NCP) rules (see Appendix A—

1 A Consent Decree is the legal document, approved and issued by a judge, that formalizes an agreement reached between the plaintiff and the former owners (potentially responsible parties [PRPs]) of a site, where PRPs will conduct the cleanup action; cease or correct actions or processes that are polluting the environment; or otherwise comply with initiated regulatory enforcement actions to resolve site contamination. The Consent Decree describes actions that PRPs are required to perform, that may be subject to a public comment period.

Glossary). The "Final Amended Consent Decree" also includes a provision for medical monitoring.

In addition to the Consent Decree clean-up activities, the Remco site is currently under investigation by the North Coast Regional Water Quality Control Board (RWQCB), for contamination of the soil and groundwater.

The Remco facility operated between 1940 and 1995 as an industrial machine shop, and in 1959, began manufacturing hydraulic cylinders (2). In 1963, operations were expanded to include electroplating of hydraulic cylinders, and continued until the facility closed in 1995. Various chemicals used during these operations were released to the environment. Those chemicals include solvents (VOCs) for cleaning machines and parts, metal and acids for plating operations, coolants and lubricants for milling and lathing machines, petroleum hydrocarbons for fuel, and paints for finishing parts. CDHS used environmental data to evaluate potential exposure to the community to site-related contaminants in various media (water, surface water, soil, air, and edible produce).

The PHA process includes an evaluation of existing environmental data and identification of exposure pathways to determine whether the release of contaminants (chemicals) from a hazardous waste site or industrial facility impacts or has impacted the health of people in the surrounding communities. An important element of the PHA process is documenting and responding to community health concerns. CDHS has conducted a number of community outreach activities in an effort to collect and understand health concerns that community members believe are related to operations and/or contamination from the Remco facility. Community members have expressed health concerns about various types of cancer, reproductive issues, and a number of other noncancer health effects. In this PHA, CDHS responds to these concerns by indicating whether the contaminant(s) in the exposures pathways/activities evaluated is/are associated with the health concern expressed and at levels where health effects have been seen.

CDHS evaluated the possible exposure pathways/activities (past, current, and future) from Remco-related contaminants. On the basis of available data, CDHS concludes that the following pathways/activities pose no apparent public health hazard:

- private well usage for irrigation purposes (past, current);
- exposure from breathing VOCs in indoor air from soil gas (past, current);
- swimming or wading in Baechtel Creek (current and future);
- contact with sediment in Baechtel Creek (past, current, and future);
- playing or coming into contact with off-site soil (except on Franklin Avenue), including Baechtel Grove School, Blosser Lane Elementary School and the future Boys and Girls Club (past, current, and future);
- eating blackberries and fruit from trees grown in areas near the Remco site and other areas in the community (past, current, and future);
- breathing VOCs released during Remco operations between 1988 and 1991;
- breathing contaminants from interim remedial activities completed at the Remco site (2000–2003); and
- soil contact in the Willits community (past, current, and future).

Four timeframes within an exposure pathway could not be evaluated due to insufficient data or a potential exposure pathway exists in the future. As a result, CDHS concludes that the following activities pose an indeterminate public health hazard:

- breathing VOCs released during Remco operations (past – prior to 1988);
- swimming or wading in Baechtel Creek (past);
- private well usage for consumption or irrigation purposes (future) and;
- exposure from breathing VOCs in indoor air from soil gas migration/vapor intrusion (future).

One exposure pathway, air releases of hexavalent chromium, was the focus of an earlier PHA and is not replicated in this document (3). CDHS used air modeling data to evaluate exposure to airborne hexavalent chromium (released during chromium plating) because there were no actual samples taken during the time period Remco conducted chrome plating (1963–1995). Exposure to hexavalent chromium is currently known to cause both cancer and noncancer health effects.

Noncancer health effects include asthma, bloody nose, nasal septum scarring and perforation, runny nose, mild decreased lung function, bronchitis, gastric irritation, and subtle changes in kidney function (affects primarily the proximal tubule). Lung cancer is the primary cancer associated with hexavalent chromium exposure; other cancers (nasal and stomach) have been suggested, but are not well studied. (Exposure to hexavalent chromium is not the only cause of these cancer and noncancer health effects.) On the basis of air modeling data, CDHS concludes that residents and workers could have experienced noncancer health effects and some increased risk of cancer (primarily lung) from breathing hexavalent chromium over a large area of Willits (3). As a result, CDHS classifies the site as posing a public health hazard in the past (1963–1995), from exposure to airborne hexavalent chromium.

Since 1988, the California Cancer Registry has collected information on the number of people who get cancer. In order to evaluate cancer occurrence in Willits, CDHS reviewed the number of cancer cases for lung and other cancers between 1988 and 2000 (the years data are available). The review showed that the number of cancer cases in Willits during those years was not higher than expected for that population. The number of lung cancer cases was somewhat higher, although not statistically greater, than expected. Due to limitations with this type of data, the cancer review is not an effective tool for studying and characterizing how exposure to site-related contaminants, primarily hexavalent chromium, increased the risk of cancer in the Willits community. Thus, CDHS concludes that community members experienced some increase in their risk of developing cancer.

On the basis of these findings CDHS and ATSDR recommend the following actions:

- Remediation of the groundwater to prevent future impacts to private wells and prevent exposure from breathing VOCs in indoor air from soil gas migration/vapor intrusion.

- Mendocino County Department of Environmental Health work with the California Regional Water Quality Control Board to provide education to the citizens of Willits, notifying people of areas where contamination sources have been identified.
- The feasibility of medical monitoring/clinical evaluations should be considered for Willits residents and people who worked in Willits, who may have been exposed to air releases of hexavalent chromium from Remco between 1963 and 1995. If medical monitoring is undertaken, CDHS recommends that an expert work group with community representation be established to develop a protocol for medical monitoring/clinical services, including criteria for participation and an overall implementation plan. These activities could fall under the medical monitoring provision of the Consent Decree.
- Counseling and stress support services should be considered for impacted residents and workers, as needed. These activities could fall under the medical monitoring provision of the Consent Decree.
- The Willits Trust should implement adequate measures to mitigate resuspension of hexavalent chromium-contaminated dusts or soil that could be generated during remedial activities at the site. This should be conducted in conjunction with air monitoring, using detection limits adequate to protect public health.