

Health Assessment for

PRELIMINARY

HARRIS CORPORATION
CERCLIS NO. FLD000602334
BREVARD COUNTY
PALM BAY, FLORIDA

Agency for Toxic Substances and Disease Registry
U.S. Public Health Service

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PRELIMINARY HEALTH ASSESSMENT
HARRIS CORPORATION/GENERAL DEVELOPMENT UTILITIES

BREVARD COUNTY
PALM BAY, FLORIDA
OCTOBER 12, 1988

Prepared by:
State Health Office

Florida Department of Health and Rehabilitative Services (HRS)

Prepared for:
Agency for Toxic Substances and Disease Registry (ATSDR)

Background

The Harris Corporation National Priorities List (NPL) Site occupies over 500 acres in Palm Bay, Brevard County, Florida. The site consists of the Harris Corporation and the General Development Utilities, Inc. (GDU). Harris has two major operating divisions: the Semiconductor Sector and the Government System Sector. They provide a wide variety of electronic devices and components. GDU provides the water supply, treatment and disposal for at least 37,000 residents in Palm Bay. GDU's well field, consisting of 18 producing wells, is located south of the Harris complex, adjacent to and down gradient from the Harris complex. EPA found that the well field is contaminated with volatile organic compounds. Although the Florida Department of Environmental Regulation (DER) has indicated that Harris Corp. is the source of these compounds, the precise origin and cause of the contamination are unknown. The DER and Harris Corp. signed a consent agreement in December 1983 in which the company is responsible for determining the extent of ground water contamination and developing a restoration program. Harris has constructed a system to pump ground water through an air stripper to remove the volatile organic compounds. The air stripper was activated in May 1985 and is expected to operate into the 1990's to complete the cleanup.

The following documents were reviewed by Florida HRS:

1. ATSDR Site Summary - September 1988.
2. National Priorities List Site by U.S. Environmental Protection Agency/Remedial Response Program - April 1985.

Harris Corporation Ground Water Program, Palm Bay, Florida, by Post, Buckley, Schuh & Jernigan, Inc. - January 1986.

4. Building 6 Ground Water Assessment, Government Systems Harris Corporation, Palm Bay, Florida - July 1987.

Environmental Contamination and Physictal Hazards

According to the given information, the site is fenced and access is restricted. There are no unusual hazards known to exist at Harris Corporation.

Contaminants of concern and their maximum concentrations at the site consist of the following:

<u>MEDIA</u>	<u>CONTAMINANT</u>	<u>MAXIMUM CONCENTRATION</u>	<u>GUIDANCE LEVEL</u>
Surficial Aquifer (ug/L)	Trichloroethene	6290	3 ^a
	1,1-Dichloroethene	195	7 ^b
	t-1,2-dichloroethene	2350	70 ^c
	Vinyl Chloride	1960	2 ^d
	Methylene Chloride	42.5	13.4 ^e
	Chlorobenzene	14.7	2.35 ^f
	Tetrachloroethene	62	3 ^a
	Chromium	69	50 ^a
	Lead	60	50 ^a
Intermediate Aquifer (ug/L)	Trichloroethene	5090	3 ^a
	1,1-Dichloroethene	119	7 ^b
	t-1,2-Dichloroethene	659	70 ^c
	Vinyl Chloride	345	2 ^d
	Methylene Chloride	1160	2.3 ^e

^a FAC-17-22

^b EPA Health Advisory

^c Proposed Maximum Contaminant Level Goal (MCLG) (referenced from ATSDR)

^d Carcinogen Assessment Group, EPA (referenced from Health Advisory)

^e EPA Ambient Water Quality Criteria (1980)

^f National Academy of Science Potential Environmental and Human Exposure

Based on the existing condition of Harris Corporation site, the potential environmental pathways of concern are off-site migration of contaminated

ground water and windblown volatile organic compounds from the air stripper.

Potential human exposure pathways of primary concern are ingestion and dermal absorption of contaminated ground water, and inhalation of off-gassing volatiles from the air stripping system.

Demographics

The Harris Corporation (NPL) site occupies over 500 acres in Palm Bay, Brevard County, Florida. The site is surrounded in a three-mile radius by schools, nursing homes, hospitals, a small business complex, and a park. The population within the three-mile radius is approximately 27,500. The city of Palm Bay surrounds the site is about 2 miles east of the site. GDU is located adjacent to Harris Government System sector and provides potable water for residents of Palm Bay City.

Evaluation and Discussion

The August 1988 quarterly sampling report of ground water from monitoring wells indicated that the surficial aquifer and intermediate aquifer are contaminated with volatile organic compounds. The highest concentrations of contaminants are found in surficial aquifer. An air stripper (Harris Corporation Ground Water Treatment System) is located adjacent to the GDU-Port Malabar waste water treatment plant. According to the August 1988 weekly analysis of effluent from the ground water treatment system, concentrations of all contaminants of concern were reduced to below detection limits or below the level of concern.

Conclusion and Recommendations

Based on the available information, this site is considered to be of potential public health concern because of the risk to human health caused by the possibility of exposure to hazardous substances. As noted in the discussion above, there is a possibility of off-site migration of contaminated ground water. In the past, some municipal wells at GDU had been taken out of service because of contamination.

Since the GDU's well field is located down gradient from Harris site, the installation of monitoring wells at GDU's well field should be considered. Such wells would help to determine the effectiveness of the ground water treatment system at the Harris plant. Because surface water and sediments at Harris were not tested during the site investigation, additional testing of surface water and sediments at Harris site are needed. Air sampling at the Harris Corporation Ground Water Treatment System should also be considered because of the high concentrations of trichloroethene, vinyl chloride in contaminated ground water. This also for recommend for continued monitoring of ground water in to and out of air stripper.