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Public to hear JPL's plan to clean up soil

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LA CANADA FLINTRIDGE -- Decades ago, JPL workers routinely poured toxic chemicals such as carbon tetrachloride and rocket fuel residue down sinks at the lab.

The chemicals drained into pits at the lab designed to allow liquid waste to seep into the surrounding soil.

"At the time, it was the most accepted practice," said Peter Robles of NASA's Management Office. "We found out later that that was a mistake, and we had to correct that."

Although the seepage pits were replaced with a sewer system during the late 1950s and early 1960s, the damage was done.

A 1990 investigation revealed the presence of volatile organic compounds, or VOCs, and the Jet Propulsion Laboratory was placed on the Environmental Protection Agency's Superfund list two years later.

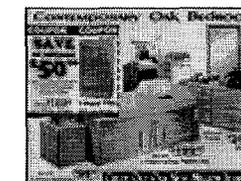


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Now the National Aeronautics and Space Administration wants to remove the compounds from the soil and on Wednesday will hold a public hearing in Altadena to present its plan.

The meeting, the last in a series of three, will be held from 6 to 9 p.m. in the auditorium of Eliot Middle School, 2184 N. Lake Ave.

Toxins in 45 acres

NASA, which owns JPL, wants to clean up soil in 45 of the lab's 176 acres, where elevated concentrations of VOCs have been detected.

The area, in the northeastern part of the lab, is used mainly for testing, storage and activities -- such as the manufacture of parts -- that support ongoing projects at the lab.

There are four chemicals in particular that have been found in the soil: carbon tetrachloride; trifluoroethane, or Freon 113; trichloroethene; and 1,1-dichloroethene.

They form a vapor plume -- a technical term for a chemical that spreads over a large area -- that ranges in depth from 50 to 200 feet.

"When the chemicals go into the soil, they volatilize to some extent and they spread out in the subsurface," said Richard Zuromski of the Naval Facilities Engineering Command. "They were dumped in certain places, and they just spread out horizontally."

No health risks

Officials insist the compounds don't pose a human health risk because they are trapped 50 feet or more below the surface. But, they say, they want to clean up the VOCs before they migrate through the soil and permeate the groundwater below.

Working with NASA are the EPA, the U.S. Navy -- which is being

contracted to do the work -- the state Department of Toxic Substances Control and the Regional Water Quality Control Board.

The agencies want to use a technique called soil vapor extraction to literally vacuum the volatile organic compounds out of the soil and trap them in an above-ground well.

Here's how soil vapor extraction works:

A pump placed on a well passes air through the compounds, vaporizing them and sucking them through the well to an above-ground canister.

The volatile organic compounds are then embedded into a carbon filter and the clean air that remains is released into the atmosphere.

The carbon is washed or steam-cleaned and reused.

Once the compounds have been removed from the soil, long-term testing will be done to ensure they haven't "rebounded," or returned.

NASA estimates it will take about five wells 200 feet deep to clean the 45 acres.

200 pounds of chemicals removed

One of the wells is already up and running as part of a pilot program started in 1998. To date, soil vapor extraction has removed about 200 pounds of chemicals from below the surface. Up to 5,040 pounds remain, according to NASA.

Zuromski said the plan will cost about \$750,000 a year for the next five years. Monitoring will cost an additional \$500,000 a year for about 20 years, after the initial cleanup.

That money will come from the \$3.8 million a year NASA has

designated for Superfund activities -- including studies and groundwater monitoring -- at JPL.

This is one of the first steps in cleanup efforts at the lab. Next year, NASA will present its plan to clean up groundwater at JPL.

Since 1990, NASA has paid the Pasadena Department of Water and Power for the operation of the Devil's Gate Groundwater Treatment Plant near JPL.

The plant strips chemicals from Arroyo Seco water near disposal sites used during the lab's earlier days, when it was operated by the U.S. Army.

NASA also pays about \$100,000 a year to the Lincoln Avenue Water Co. in Altadena to treat its water, according to Robles.

In the late 1990s, the Agency for Toxic Substances and Disease Registry -- a public health agency of the U.S. Department of Health and Human Services -- issued a report that stated that contaminated ground water and soil at JPL are not likely to present a past, present or future health risk.

Members of the ATSDR visited JPL in 1997 and determined that humans could be exposed to contaminants through groundwater or soil at the NASA site.

But the report found that risks associated with exposure were unlikely. In the case of the ground water, it was either not used for drinking or was monitored and treated to make it safe, the report stated.

As for the soils, the report concluded that exposure is also unlikely to cause any adverse health effects because of low exposure levels and/or infrequent or unlikely exposure.

However, the agency can not determine the risks associated with

exposure to perchlorate -- a solid rocket-fuel component -- in ground water before 1997. The perchlorate issue will also be addressed next year.

The issue of contamination at the lab has long been a controversial one for those living and working in and around the Arroyo Seco.

A 1997 lawsuit filed on behalf of more than 55 area claimants alleges exposure to JPL-related contamination caused cancers and other illnesses. The suit has not been resolved, said plaintiffs' attorney Gary Soter.

For more information about Wednesday's public hearing, call Peter Robles of NASA at (818) 393-2920.

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