

# Rachel's Environment & Health News

## #227 - The Military Toxics Scandal Deepens

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The nation's military toxics scandal deepened last week with two new revelations: (1) the Department of Defense sent a report to Congress announcing it has discovered 3081 additional chemically contaminated sites besides the 14,401 they had reported earlier; this increases the officially-reported number of poisoned military sites by 21%. (WASHINGTON POST 3/29/91, pg. A4.)

Secondly, the U.S. Environmental Protection Agency (EPA) revealed this week that the engineers who built nuclear weapons at the Hanford, Washington, reservation in the 1950s dumped 127 millions gallons of highly radioactive waste into the ground just a few miles from the Columbia, the nation's 4th largest river. (NEW YORK TIMES 3/28/91, pgs. 1, B6.) The TIMES reported that "Dirt from the reservation may be as dangerous as highly radioactive wastes stored in special tanks. But the federal government is still struggling to measure the level of contamination and has little idea of how to contain the danger. Wind, rain, birds, animals, and underground water flow can all spread the radioactivity to the Columbia River, which forms one border of the reservation, and even further afield."

### 3081 More Military Points of Blight

Summarizing the Defense Department's own report to Congress on the 3081 new contaminated military sites, the WASHINGTON POST said, "According to the report, some of the nation's worst toxic waste problems occur at military bases, where the testing, manufacture, and maintenance of weapons resulted in pollution of the local environment. Poisonous substances dumped on land have penetrated deep into underground currents of water, threatening nearby streams or drinking water wells." The report lists 1855 individual military bases (17% over last year's 1579) and installations as having contaminated sites; many installations have several contaminated sites.

### Radioactive Wastes Bulldozed into Trenches

The radioactive wastes newly discovered in the soils at Hanford contain two long-lived elements: Technetium-99, with a half-life of 212,000 years and iodine-129, with a half-life of 16 million years. The half-life of a radioactive element is the time it takes for half of it to change into a less harmful substance via natural radioactive decay. At the end of 10 halflives, only a small proportion (1/1024, or 0.09%) of the original material remains. For this reason, scientists say 10 half-lives is the duration of the hazard for any radioactive element. Thus, the soil at Hanford will remain radioactive with technetium-99 for 2.1 million years and with iodine-129 for 160 million years. Homo sapiens (modern humans) have inhabited the earth for less than 1 million years.

Radioactive iodine is a particular hazard to humans because iodine is an essential element that we all need in our diet to avoid thyroid-deficiency disease. Therefore, the human body selectively extracts iodine from food, water and air, storing it mainly in the thyroid gland. Radioactive and nonradioactive iodine are identical from a chemical viewpoint, so humans (and other living things, for that matter) are unable to differentiate one from the other, storing both kinds in the thyroid. Radioactive iodine causes fatal thyroid cancer.

Until now, nuclear engineers and scientists have said that the main engineering challenge they face is to figure out some place to stash these wastes for millions of years in a way that guarantees that future generations will not be harmed by our blunders. This week's revelations at Hanford made the problem seem even more difficult: Randall F. Smith in the DOE's regional office in Seattle said, "the technology may not exist to recover some of the wastes dumped in the dirt" at Hanford. The implications of these words are ominous; if Mr. Smith is right, the U.S. military has already set in motion the unavoidable radioactive contamination of one of the nation's major rivers.

The TIMES put this new revelation into context as follows:

"Hanford was already known to be one of the most polluted radioactive dumping grounds in the world.... More than five years after the complex began to open itself to outside scrutiny, such skeletons continue to come to light."

Critics point out that the nation's nuclear scientists today are continuing to create new "skeletons"-more of the same radioactive materials--still without any idea where to put them for safety. Most of the wastes are temporarily stored in tanks near where they are made. However, the federal Department of Energy "is still discharging chemical and radioactive wastes into the soil [at Hanford] in 27 individual streams, even as engineers try to find ways to clean up past releases," the TIMES reported last week.

Technetium-99 and iodine-129 are not the only radioactive elements dumped into the ground at Hanford. The wastes also contained strontium-90 at concentrations "thousands or tens of thousands of times higher than allowable limits for public access," according to reports written by General Electric at the time the dumping occurred in the 1950s. Strontium-90 is much more radioactive than technetium-99 or iodine-129, and therefore is more hazardous but also more short-lived, with a half-life of 28 years (meaning it will be gone in "only" about 300 years). Strontium-90 mimics calcium in the environment, entering food chains (including cows' milk) and ending up in human bones and teeth where it is a potent carcinogen.

At the time this massive dumping occurred, General Electric was running the Hanford reservation under contract to the old Atomic Energy Commission (AEC), which has since become the Department of Energy. It is not clear why government authorities have not tried to force General Electric to pay for the cleanup, rather than taxpayers. Cynics speculate that one reason may be General Electric's ownership of NBC television. Good TV coverage is essential to a successful campaign bid by any national political candidate, even a popular incumbent.

In addition to strontium, the dumping included unspecified quantities of plutonium-239, which has a half-life of 24,400 years; plutonium is among the two or three most potent carcinogens ever discovered.

According to the TIMES, the wastes began moving through the environment almost immediately after they were dumped into trenches. Secret reports unclassified two years ago, said that as early as May, 1958, workers found radioactive rabbit and coyote dung scattered over a 2000-acre area.

The TIMES reported July 31, 1990 (pgs. A1, A16), that 177 tanks on the Hanford reservation holding millions of gallons of radioactivity were in danger of exploding. The TIMES said then, "after years of secrecy and sometimes outright falsehoods in public statements, the Department of Energy has recently" acknowledged the danger of explosions.

To take action against military toxics, get: DEALING WITH MILITARY TOXICS; WHAT YOU CAN DO (Falls Church, VA: Citizen's Clearinghouse for Hazardous Waste [CCHW]; P.O. Box 8606, Falls Church, VA 22040; (703) 237-2249), 1987. \$8.50.

The address for the Radioactive Waste Campaign (whose excellent 1988 report, DEADLY DEFENSE; MILITARY RADIOACTIVE LANDFILLS, we reviewed in RHWN #124, has changed; it's now 7 West St., Warwick, NY 10990-1447; (914) 986-1116.

The National Toxic Campaign Fund's Military Toxics Network, publishers of The U.S. MILITARY'S TOXIC LEGACY (see RHWN #224, #225) has a new address: 100 South King St., Suite 410, Seattle, WA 98104; (206) 467-9558. The Network has released a new analysis of the latest DOD report, plus a press release, dated March 28, 1991.

Get: THE DEFENSE ENVIRONMENTAL RESTORATION

PROGRAM ANNUAL REPORT TO CONGRESS FOR FY 1990.  
[Document number ADA 231362.] (Springfield, VA: National  
Technical Information Service, Feb., 1991.) \$31.00. Phone (703)  
487-4600. NTIS says it will be a month before they have copies to  
distribute; they say the Defense Department hasn't yet sent them an  
original copy they can reproduce. Direct your complaints to: Kevin  
Doxey, Director of the Defense Environment Restoration Program:  
(703) 3252211. It was Mr. Doxey's office that issued the new report  
but hasn't gotten it to NTIS yet.

--Peter Montague

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Descriptor terms: military toxics; dod; nuclear weapons; hazardous  
waste; radioactive waste; groundwater; drinking water; hanford, wa;  
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