

=====Electronic Edition=====

RACHEL'S HAZARDOUS WASTE NEWS #283

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News and resources for environmental justice.

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WASTE WARS: THE ARMY OPENS A NEW FRONT

Here's the emerging picture of hazardous waste disposal in the U.S.:

Citizens have blocked construction of all new hazardous waste dumps. There are no new dumps on the drawing boards. EPA [U.S. Environmental Protection Agency] is aggressively promoting hazardous waste incinerators because the alternative--waste avoidance and pollution prevention--would inconvenience the generators of hazardous waste. Rather than inconvenience anyone with power and connections, EPA is promoting incinerators. It's really that simple.

Industry likes incinerators because liability for toxic waste disappears when the waste enters the incinerator. From the Superfund dump-cleanup program where they're spending billions defending themselves against lawsuits, industry knows the liability problem is serious. Incinerators solve this problem because after chemicals pass through an incinerator, there are no labels left on the barrels to identify responsible parties. Most of the waste goes up the smoke stack and can't be traced. The incinerator company--not the original waste generator--bears responsibility for the toxic ash, but in the scheme of things incinerator companies are relatively small and can declare bankruptcy when their ash dumps begin to leak, a few decades from now. EPA will then put the ash dumps on the Superfund list, and the taxpayer will bear all the costs. It's a practical system and it should work.

The only hitch is that citizens are blocking the siting of new incinerators. So EPA is cooperating with the U.S. Army and the Department of Energy (DOE) to solve this problem. The Department of Energy has announced plans to site a huge, privately-owned incinerator on the Hanford Reservation in Washington state. DOE has produced plutonium for A-bombs at Hanford for 40 years. DOE will deflect public outrage about siting the privately-owned incinerator, and Chem Waste will run it, despite Chem Waste's embarrassing record of failure running incinerators (see RHWN [#280](#) and [#281](#)). For its part, the Army has announced plans to site eight huge chemical-waste incinerators at Aberdeen, Maryland; Richmond,

Kentucky; Anniston, Alabama; Pine Bluff, Arkansas; Pueblo, Colo.; Newport, Indiana; Tooele, Utah; and Umatilla, Oregon. The Army's stated goal is to burn up old chemical warfare weapons that now aren't needed. At a public hearing at Aberdeen three weeks ago, the Army said with a straight face it will spend \$500 million building the incinerator, use it for 14 months to destroy mustard gas and then dismantle it, never burning any other defense wastes or civilian wastes. Local people don't believe it, and they fear military incinerators would be as dangerous as civilian incinerators.

But let's be fair. Maybe the private incinerator companies have bungled the job merely because they are careless and cut corners to increase profits. The army would have no such motives and could perhaps be relied upon to do a better job. What do we know about Army experience running incinerators?

The military has already built and operated a modern, state-of-the-art incinerator specifically designed to destroy left-over chemical warfare weapons. To avoid a hassle with local citizens, they built the incinerator on an island in the South Pacific--Johnston Atoll. Environmentalists and local native people opposed the facility but that did not deter the Army. During the period July 16, 1990 through February 27, 1991, the Army fed 7490 M55 rockets containing 75,000 pounds of the nerve agent GB (also known as Sarin), into the Johnston Atoll Chemical Disposal System (JACADS). GB is among the most powerful nerve poisons ever developed.

The operation of the JACADS incinerator was evaluated by MITRE Corporation (McLean, Virginia) under contract to the Army. The MITRE report has been scrutinized by chemist Pat Costner, research director for Greenpeace. Her paper, "Chemical Weapons Demilitarization and Disposal: The Army's Experience at Johnston Atoll Chemical Disposal System," contains valuable data and insights into what we can expect from the Army's path-breaking chemical-weapons incineration program.[\[1\]](#)

Here are facts Costner gleaned from the book-length MITRE report:

** During the period of operation, the JACADS incinerator functioned for 500 hours but during the same period it experienced 929 hours of down-time because of malfunctions. The "mean (average) time between failures" throughout the period was 5.6 hours.

** During the 500-hour operating period when agent GB was being burned, the network of monitors for detecting GB releases triggered 776 major process alarms, an average of 22 per day. Major process alarms are "those that are so important that agent or spent decon[tamination] processing is stopped," according to the MITRE report.

A high level of carbon monoxide (CO) in smoke-stack gases is an indication of poor burning. Of the 776 major process alarms that occurred, "the majority" were for high carbon monoxide in the stack gas--a dead give away that the incinerator was experiencing "upsets."

During upset conditions, an incinerator emits large quantities of pollutants into the environment. The EPA Science Advisory Board says, "Even relatively short-term operation of incinerators in upset

conditions can greatly increase the total incinerator-emitted loadings [pollution emissions] to the environment."

According to the MITRE report, the JACADS incinerator suffered 90 burner lockouts and 40 fuel flow shutdowns during the GB-burning campaign, further evidence of upsets. As Costner said in her report, "In other words, the [incinerator] operated in a continuous upset condition during the GB campaign."

On 32 occasions the JACADS incinerator released GB nerve agent into corridors frequented by workers. Furthermore, during 500 hours of incineration, the JACADS workforce accumulated 1944 hours of lost-time accidents. In other words, every hour of operation was accompanied by 3.9 hours of injury-related lost-time among the workers. Costner documents other serious problems with the Army's JACADS incinerator as well.

This is not good news. It means the Army's 8 proposed state-side incinerators will do no better--perhaps considerably worse--than civilian hazardous waste incinerators, which are poor indeed.

Inside their furnaces, incinerators destroy some chemicals, but in the process they create many new toxic by-products that did not exist before, all of which they emit into the environment partly via the smoke stack and partly via the ash, which is buried temporarily in a landfill until it leaks out. Among the most toxic of those chemicals are dioxins and furans. On January 27, 1992, EPA staff presented their latest findings about dioxins and furans to EPA chief William Reilly. RHWN has obtained a set of 24 acetate transparencies prepared by EPA staff for chief Reilly. They contain important new information about dioxin:

EPA's transparency 17 says:

RECENT SCIENTIFIC RESULTS AND CONCLUSIONS:

* DIOXIN DOES CAUSE CANCER IN HUMANS.

* CANCER MAY NOT BE THE MOST SENSITIVE TOXIC RESPONSE RESULTING FROM DIOXIN EXPOSURE. IMMUNOTOXICITY AND REPRODUCTIVE EFFECTS APPEAR TO OCCUR AT BODY BURDENS THAT ARE APPROXIMATELY 100 TIMES LOWER THAN THOSE ASSOCIATED WITH CANCER.

* RECENT DATA INDICATE THAT THERE MAY NOT BE A THRESHOLD FOR CERTAIN RESPONSES TO DIOXIN. HOWEVER, THE IMPLICATIONS FOR SPECIFIC RISK ASSESSMENTS, SUCH AS FOR CANCER, ARE NOT YET CLEAR.

* RECENT EVIDENCE HAS STRENGTHENED THE CONCLUSION THAT THE SENSITIVITY OF HUMANS IS SIMILAR TO THAT OF EXPERIMENTAL ANIMALS (CANCER, IMMUNOTOXICITY, AH RECEPTOR BINDING, ETC.).

EPA's transparency 18 says:

NEW SCIENCE AND CONCLUSIONS.....CONTINUED.

* CURRENT EXPOSURE LEVELS TO DIOXIN AND RELATED COMPOUNDS APPEAR TO PLACE PEOPLE AT OR NEAR THE BODY BURDEN WHEN SENSITIVE RESPONSES MAY OCCUR, ESPECIALLY FOR SUBPOPULATIONS AT HIGH-END EXPOSURE, E.G., NURSING INFANTS, RECREATIONAL AND SUBSISTENCE ANGLERS.

* CONTINUING RESEARCH INTO THE RISK FROM DIOXIN EXPOSURE SHOULD RESULT IN A CONTINUING PROCESS OF REASSESSMENT AS NEW DATA BECOME AVAILABLE AND ARE INCORPORATED INTO A NEW, MORE FLEXIBLE MODEL.

* ORD [EPA's Office of Research and Development] SCIENTISTS HAVE REACHED THE TENTATIVE CONCLUSION THAT DIOXIN EXPOSURE MAY HAVE BEEN RESPONSIBLE FOR THE DECLINE OF LAKE TROUT IN LAKE ONTARIO AS A RESULT OF THE REPRODUCTIVE TOXICITY OF DIOXIN.

Let's review briefly what EPA has said here:

One. Dioxin causes cancer in humans, but cancer is not the most sensitive indicator of damage from dioxin; damage to the immune system, and reproductive damage, are the most sensitive indicators.

Two. Animals and humans are about equally sensitive to damage from dioxin.

Three. The amount of dioxin presently in our food ("current exposure levels," EPA calls it) puts humans at or near the body-burden of dioxin at which "sensitive responses" [immune system damage, and damage to the reproductive system] may occur. Those at greatest risk are infants who drink their mother's breast milk, or people who eat more-than-average amounts of fish because fish accumulate these poisons in their tissues.

Four. In fact, it appears that because fish accumulate these poisons in the fat tissues of their bodies, and because fish eggs have a high fat content and therefore a high dioxin content, Lake Trout in the Great Lakes are not able to thrive. Evidently humans are not the only species endangered by dioxin.

The logical conclusion from EPA's data is that Americans cannot afford to increase the amount of dioxins and furans in their bodies--they are already at or near the levels where immune system damage and reproductive system damage occurs, especially babies. Thus all plans to build new incinerators in the U.S. stand in direct conflict with public health priorities. New incinerators (and uses of chlorine) should be banned, old ones phased out.

--Peter Montague, Ph.D.

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[1] Pat Costner, "Chemical Weapons Demilitarization and Disposal: The Army's Experience at Johnston Atoll Chemical Disposal System." (Washington, DC: Greenpeace, April 11, 1992). Available for \$5.00 from Greenpeace, 1436 U St., NW, Washington, DC 20009. Telephone (202) 462-1177 and ask for Sanjay. There's a growing network of activists fighting all 9 of the Army's proposed incinerators; contact: Craig Williams, Kentucky Environmental Foundation, P.O. Box 467, Berea, KY [40403;] phone (606) 986-7840.

Descriptor terms: epa; doe; army; mitre; pat costner; nerve gas; johnston atoll; dioxin; cwmi; cbw; incineration; jacads;

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