

Rachel's Environment & Health News

#325 - A Sea Of Troubles Engulfs Incineration

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The incineration industry has suffered a series of major setbacks in recent weeks. The federal government's showcase dioxin-burning incinerator in Jacksonville, Arkansas--to which Bill Clinton personally gave a green light one week before he was elected President (see RHWN #311)--was shut down last week by a federal judge. Lawyers for EPA (U.S. Environmental Protection Agency) admitted to U.S. District Judge Stephen Reasoner in Little Rock that the Jacksonville incinerator could not destroy 99.9999% of the dioxin fed into it, as is required by EPA regulations, whereupon the judge ordered the plant shut.

It was a stunning victory for Greenpeace chemist Pat Costner, who had been the first to reveal that incinerators could not achieve 99.9999% destruction (see RHWN #312 and #280), and for local activist-citizens like Sharon Golgan in Jacksonville who had fought the incinerator proposal for at least six years.

The nation's other showcase incinerator--built by Waste Technologies Industries (WTI) on the banks of the Ohio River in East Liverpool, Ohio--was fighting for its life in federal court in Cleveland earlier this week. Local citizens there have been opposing the WTI incinerator proposal for 12 years. EPA's Region 5 office in Chicago and Ohio state officials bent the rules, and even broke a few, to give WTI a permit to start burning wastes (see RHWN #287). The state of West Virginia, local citizens, and Greenpeace filed a lawsuit January 13 asking a federal judge to prevent WTI from conducting a "test burn." [1] As soon as a test burn is completed, the WTI incinerator can begin commercial operation for up to a year while EPA evaluates the test results. (Vice-President Al Gore said December 7, 1992, that he and Mr. Clinton would stop WTI from proceeding until a study was completed of all health issues, and all legal issues surrounding EPA's issuance of a permit [see RHWN #315]--but it now appears that Mr. Gore has changed his mind.) Federal Judge Ann Aldrich in Cleveland issued a temporary restraining order against WTI January 15 and set February 16 as the day she would decide whether to issue a preliminary injunction, which would prevent WTI from conducting the trial burn until a full court trial could be held. [2]

As we go to press, it is not clear how this phase of the battle will come out. However, secret EPA documents that came to light during in court have raised serious health questions about every incinerator in the country, including solid waste incinerators.

Background

At issue in every instance is dioxin, which is created as an unwanted byproduct of incineration (and as a byproduct of other industrial processes, such as pulp and paper manufacture, and the manufacture of some pesticides). In April, 1991, EPA began a major "scientific reassessment" of dioxin and discovered that effects of dioxin can be observed in human cells at the levels of exposure now present in the environment. In other words, there's already sufficient dioxin in the environment to produce observable effects in humans. The Clinton/Gore administration knows this is a problem because a December, 1992, briefing document prepared by the EPA Transition Team says, "This [EPA's dioxin reassessment] is likely to be an extremely controversial document as there are new findings indicating adverse reproductive effects at existing environmental levels."

A Secret Risk Assessment and a Leaked Memo

EPA's position throughout the 1980s has been that incineration is safe, even though every incinerator is known to produce dioxin. To "prove" the safety of incinerators, EPA has used a technique called "risk assessment." A risk assessment estimates the amount of dioxin being released, estimates various pathways it might travel through the environment, and calculates the resulting exposures of humans. Finally, a risk assessment estimates the health effects resulting from the calculated exposures.

In the case of dioxin, over the years EPA's "standard" risk assessment has assumed that airborne dioxin only enters humans through their lungs. Dioxin that falls to the ground and is then incorporated into the food chain and eaten has always been ignored in EPA risk assessments.

However, the EPA's team of scientists conducting the official "reassessment" of dioxin's toxicity published a draft report last summer called, ESTIMATING EXPOSURE TO DIOXIN-LIKE COMPOUNDS in which they clearly stated that a proper risk assessment for an incinerator must include all routes of exposure for dioxin, not merely via the lungs. [3] It is well known that dioxins accumulate in the food chain, and that meat, milk and fish are the major sources of dioxin exposure for humans. [4]

When Greenpeace researcher Joe Thornton did his own risk assessment on the WTI incinerator, using the technique recommended in EPA's draft report, including dioxins in beef and milk, he found that WTI posed risks 10000 times higher than EPA had calculated. To counter Thornton, EPA did its own food-chain risk assessment, which was not released to the public, but which came to light in court. [5] The EPA's secret risk assessment concludes that dioxin from WTI is 1000 times more dangerous than the "official" published EPA risk assessment says it is.

Leaving aside the serious ethical issue of EPA refusing to publish important health and safety information about WTI, an internal memo from Richard Guimond, acting chief of EPA's Office of Solid Waste and Emergency Response, dated January 22, 1993, leaked to Greenpeace, says, "There are very serious implications associated with adopting risk assessment procedures based on indirect exposure routes for air emission sources." [6] Translation: if food-chain exposures are now to be counted in incinerator risk assessments, many incinerators will be found to be unacceptably dangerous.

The new understanding of dioxin--that it's already present in the environment at levels that affect humans--plus the inclusion of food-chain exposures in risk assessments, plus the failure of incinerators to achieve the destruction efficiencies required by regulations--all seem to add up to a mushrooming debacle for the incineration industry.

What are the alternatives to incineration?

Jacksonville holds the key

EPA scientists have known since 1985 that incinerators cannot achieve 99.9999% efficiency in destroying wastes present in low concentrations (see RHWN #280 and #312.), but EPA officials have stated at hundreds of public presentations since 1985 that 99.9999% could be achieved. Lying to the public carries no penalty, but lying to a judge is a different matter. At the hearing in Little Rock February 12, EPA was represented by U.S. Justice Department lawyer Ron Spritzer. Judge Reasoner said to Spritzer, "Indulge me for a moment. If I asked you to prove that you could achieve a six 9 DRE [99.9999% destruction and removal efficiency] on dioxin, could you physically produce technological data that shows that?"

"No sir, we could not," said Mr. Spritzer. [7]

That damaging admission was sufficient for the judge. He ordered the plant shut. EPA is considering appealing the judge's verdict, but they do not appear to have a strong case. In all likelihood, the Jacksonville incinerator is shut for good.

The Jacksonville incinerator was in considerable trouble even before Judge Reasoner's decision. On January 22, an Arkansas state official revealed that the incinerator was producing a larger volume of hazardous waste than it was destroying. The machine had been set up in a residential neighborhood of Jacksonville to "destroy"

30,000 drums of hazardous liquids left over from a defunct chemical factory that had made chemical warfare agents on the site for many years (most recently, herbicides for Vietnam). Local citizens had recommended moving the waste out of town by rail, or simply building a concrete mausoleum on the site to contain the waste safely until someone found a way to detoxify it. But Arkansas and federal EPA officials insisted that incineration was the safest, cheapest solution to the problem. They convinced then-Governor Bill Clinton to put up \$10.7 million of state money to build and operate the incinerator.

At the end of a year's burning, 9,600 drums of waste had been "destroyed" by the Jacksonville incinerator, but in the process the incinerator had created 12,000 drums of salt and another 1730 drums of ash (13,730 drums total) for a net gain of 43% in the volume of waste. Furthermore, the salt and the ash are so laced with dioxin that they are legally a "hazardous waste" and thus cannot be taken off the site.

"We did not anticipate this," said Doug Szenher, a spokesperson for the Arkansas state department of Pollution Control and Ecology. "The whole idea was that the salt and ash was to have been de-listed [declared non-hazardous] and taken to a landfill site. It just didn't work out that way," he said.[8]

So after spending \$7 million burning chemicals fruitlessly for a year, EPA is now spending \$400,000 to build a 30,000-square-foot building on the site, to store the hazardous salt and ash until someone can figure out how to detoxify it. So far as we know, this is the first above-ground mausoleum built to store hazardous waste. (See RHWN #260.) In Jacksonville, above-ground concrete storage will soon be a real, demonstrated alternative to incineration.

--Peter Montague

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[1] GREENWIRE staff, "WTI Incinerator: Foes File Suit in Effort to Block Test," GREENWIRE Vol. 2 No. 171 (January 14, [1993].) GREENWIRE is "the daily executive briefing on the environment" available on-line; phone (703) 237-5130.

[2] GREENWIRE staff, "Incinerator: WTI Counters with Suit of its Own," GREENWIRE Vol. 2 No. 172 (January 15, 1993). GREENWIRE is "the daily executive briefing on the environment" available on-line; phone (703) 237-5130.

[3] U.S. Environmental Protection Agency, ESTIMATING EXPOSURE TO DIOXIN-LIKE COMPOUNDS [EPA/600/6-88/005B] WORKSHOP REVIEW DRAFT (Washington, D.C.: U.S. Environmental Protection Agency, August, 1992).

[4] U.S. Environmental Protection Agency, cited above, Appendix B.

[5] Memo from William Farland, director of EPA's Office of Health and Environmental Assessment, to Brian Grant, U.S. Department of Justice, "WTI Screening Level Analysis," dated Feb. 8, 1993, attaching a 21-page risk assessment called "Screening Level Analysis of Impacts From WTI Facility," dated Feb. 5, 1993.

[6] Memo from Richard Guimond, Acting Assistant Administrator, Office of Solid Waste and Emergency response, to EPA Administrator Carol Browner, "WTI Incinerator Issues," dated January 22, 1993. 2 pgs.

[7] Sandy Davis, "Judge Halts Dioxin Burn at Vertac," ARKANSAS DEMOCRAT GAZETTE February 13, 1993, pgs. 1A, 13A.

[8] Sandy Davis, "At vertac, more waste rolls out than in," ARKANSAS DEMOCRAT GAZETTE January 24, 1993, pg. 12A.

Descriptor terms: incineration; epa; oh; risk assessment; ar; dioxin; wti; hazardous waste; health; jacksonville, ar; east liverpool, oh; waste disposal technologies; waste treatment technologies;