

ALL HAZARDOUS WASTE INCINERATORS FAIL TO MEET EPA REGULATIONS, EPA SAYS

Hazardous waste incinerators, and the web of regulations intended to make them operate safely, have come under withering criticism from government scientists, private researchers, and the *Wall Street Journal* during the last 60 days. Officials of EPA (U.S. Environmental Protection Agency) and private research scientists now admit that hazardous waste incinerators emit hundreds of times more dioxins and other toxic air pollutants than is allowed by EPA regulations, and the *Journal* revealed a record of malfunctions, including explosions and major releases of toxins, that incinerator operators have tried to cover up and that regulatory officials seem powerless to understand, much less curtail.

Scientists employed by U.S. EPA (Environmental Protection Agency) admitted last month that modern hazardous waste incinerators simply cannot comply with existing federal regulations because they cannot destroy all chemicals with 99.99% destruction/removal efficiency (DRE), which is the efficiency required by federal law. Federal law further requires that certain wastes of "special concern" such as dioxins, furans, and PCBs must be destroyed with 99.9999% DRE. EPA scientists said last month that they have known since at least 1985 that hazardous waste incinerators could not meet any of these regulatory requirements.

The story broke when Pat Costner, a chemist and research director for Greenpeace, published an independent analysis of dioxin emissions from the Jacksonville, Arkansas incinerator.¹ The Jacksonville incinerator has begun burning 16.5 million pounds of herbicides (2,4,5-T- and 2,4-D) left over from the Vietnam war. These wastes are known to be contaminated with total dioxins and furans at concentrations ranging from 3 to 40 parts per million (ppm).

Costner's analysis revealed that the Jacksonville incinerator was only achieving 99.96% destruction of the dioxins entering the incinerator, thus emitting 400 times more dioxin into the community than the law allows. An official with the Arkansas Department of Pollution Control and Ecology (DPC&E) acknowledged in telephone interviews that Costner's calculations are correct. He also said the department had no intention of shutting down the incinerator despite its continuing emissions of dioxin directly into a residential community. He said the department did not know what the total dioxin emissions

into the population of Jacksonville would be, but, he said, no matter what the total may be, it is safe.

The Jacksonville incinerator is a key demonstration project, established with the cooperation of EPA Administrator William Reilly and Arkansas Governor Bill Clinton to show that dioxin-containing wastes can be incinerated in a residential neighborhood over the objections of the community.² In a city-wide referendum in March, 1986, the people of Jacksonville voted two-to-one (1383 to 656) to stop the project but government officials simply ignored the vote and have overridden all objections ever since. Costner's analysis clearly showed that residents of Jacksonville are being exposed to levels of dioxin contamination that exceed federal health and safety standards by a wide margin. This is the first systematic dioxin experiment on humans using a residential population. Previous dioxin exposures of humans have occurred during industrial accidents and in the industrial manufacture of chemical-biological warfare agents. Dioxin is now known to cause cancer in humans and to disrupt normal growth and development of fetuses and infants at low levels of exposure.³

About 100 waste sites in the U.S. contain substantial quantities of dioxin,⁴ and the U.S. has stockpiles containing billions of pounds of chemical-biological warfare (CBW) agents the government has said it wants to incinerate. If the Jacksonville dioxin experiment can be maintained despite ethical and public health objections, government agencies will be able to claim they have a green light to incinerate just about anything just about anywhere.

However the Jacksonville experiment has brought to light information that could derail the entire U.S. incineration program. In preparing her analysis of dioxin exposure of the Jacksonville populace, Costner uncovered a government study showing that tests in 1984-85 by private researchers, under contract to EPA, revealed that hazardous waste incinerators cannot be expected to achieve 99.9999 percent destruction of wastes that occur in concentrations lower than 10,000 parts per million, and cannot be expected to achieve 99.99 percent destruction of wastes that occur in concentrations lower than 1000 ppm. EPA published the 1985 data in 1989.⁵

When this information came to light, a news reporter from the *Arkansas Democrat-Gazette*, Sandy Davis, interviewed Bob Hall, chief of the EPA's Combustion Research Branch in Research Triangle, North Carolina, and he confirmed what the EPA report had shown. "The fact is that you run into problems with your DRE [destruction/removal

efficiency] when a low concentration of wastes is fed into the incinerator," Hall said. "Our data clearly shows that," he said. Davis asked Hall why EPA hasn't changed its regulations since it knows existing incinerators cannot comply with the regulations. Hall said, "I don't know why that hasn't been changed. It's a regulatory issue. I'm in research."⁶

Costner uncovered a second EPA report,⁷ published in 1984 but never widely circulated, showing that, among eight major hazardous waste incinerators studied, none could achieve 99.99% DRE. Sandy Davis interviewed the author of that report, Drew Trenholm of the Midwest Research Institute in Research Triangle, North Carolina, who said incinerators simply cannot achieve the DRE required by federal law. "The trend is very strong in the data that this is the case," Trenholm told Davis.

At public hearings over the past decade, dozens of EPA officials have stated for the record that incinerators can achieve the legally-required DREs, in what appears to be a coverup of public health information of astonishing proportions.

Many of the most dangerous toxins such as dioxins, furans, and PCBs occur in wastes at low concentrations. If low-concentration chemicals cannot be destroyed effectively, this means all sludge incinerators, all contaminated-soil burners, and all wood-treatment-waste incinerators will fail to meet federal regulations and will emit illegal quantities of potent toxins into surrounding air.

Ongoing failure to achieve the required destruction efficiencies is not all that plagues incinerators. *Wall Street Journal* reporter Jeff Bailey pointed out March 20 that federal, state and local regulatory officials pay close attention to hazardous waste incinerators but they can't be everywhere at the same time and they often learn about accidents, explosions and violations from tips phoned to them anonymously by insiders.⁸ For example, Chem Waste, the nation's largest hazardous waste hauler, is not considered a fly-by-night operator. According to Joan Bernstein, vice-president for environmental

policy and ethical standards at Chem Waste, "Environmental compliance is what drives this company."

If this is true, then Chem Waste's ongoing record of accidents, explosions, leaks, releases and coverups involving their incinerators must mean that even the wealthiest companies that have written down their best intentions on a piece of paper still cannot operate hazardous waste incinerators in a fashion that any reasonable person would call safe.

[To be continued.]

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¹Pat Costner, *The Incineration of Dioxin in Jacksonville, Arkansas: A Review of Trial Burns and Related Air Monitoring at Veriac Site Contractors Incinerator, Jacksonville, AR* (Washington, DC: Greenpeace Toxics Campaign, January 29, 1992).

²Stephanie Arbanel and others, "Toxic Nightmare on Main Street," *Family Circle* August 14, 1990, pgs. 77-80, 120-128.

³Karen F. Schmidt, "Puzzling Over a Poison; On closer inspection, the ubiquitous pollutant dioxin appears more dangerous than ever," *U.S. News & World Report* April 6, 1992, pgs. 60-61.

⁴Peter A. Johnson and others, *Dioxin Treatment Technologies: Background Paper* [OTA-BP-O-93] (Washington, DC: U.S. Government Printing Office, 1991). 80 pages. \$4.00 from U.S. Government Printing Office, P.O. Box 371954, Pittsburgh, PA 15250-7954 or phone your order to (202) 783-3238.

⁵John C. Kramlich and others, *Experimental Investigation of Critical Fundamental Issues in Hazardous Waste Incineration* (Springfield, VA: National Technical Information Service [NTIS], September, 1989.) This is EPA document No. EPA/600/2-89/048 available from NTIS for \$26.00; phone (800) 553-6847 and request NTIS document No. PB90-108507.

⁶Sandy Davis, "Incinerator can't do job, engineer says," *Arkansas Democrat-Gazette* March 14, 1992, pgs. 1A, 15A.

⁷A. Trenholm and others, *Performance Evaluation of Full-Scale Hazardous Waste Incinerators. Vol. I. Executive Summary*. [EPA/600/2-84/181A]. (Washington, DC: U.S. Environmental Protection Agency, 1984). Available from NTIS as document No. PB 85-129500. \$17.00. Phone 800/553-6847.

⁸Jeff Bailey, "Concerns Mount Over Operating Methods Of Plants That Incinerate Toxic Waste," *Wall Street Journal* March 20, 1992, pgs. B1, B5.

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