

Major chemical-dump settlement

After years of litigation, a tentative settlement for the cleanup of a toxic-wastes dump in Niagara Falls, N.Y. has been reached between Occidental Chemical Corp. and the Justice Department (representing the Environmental Protection Agency). Known as the S-Area landfill, the site is one of four in or near the city that Hooker Chemical Co. used for the storage of its chemical wastes. Occidental purchased Hooker in 1968.

More than 70,000 tons of chemical wastes lay buried at the leaking landfill, which is three times the size of the Love Canal dump. The settlement Occidental signed agrees to pay for measures to halt the migration of chemicals from the landfill. Considered by EPA officials to be a more important victory, the settlement holds Occidental responsible for not only monitoring chemical contamination of city-water supplies with pollutants but also for treating the water if pollution is found anytime within the next 35 years. While Occidental expects the settlement will cost it \$30 million, it has agreed to pay actual costs, whatever they total.

News briefs

- For her conviction of lying under oath (SN: 12/17/83, p. 393), the Environmental Protection Agency's former "Superfund" administrator, Rita Lavelle, was sentenced on Jan. 9 to six months in prison, a \$10,000 fine and community service. Her perjury, committed in testimony before a congressional committee last year, involved a denial that she knew before June 17, 1982, that her former employer was among companies that had dumped hazardous wastes at a California site.
- The Soviets proposed banning both the use and stockpiling of chemical weapons (SN: 6/11/83, p. 375) on Jan. 10. In a proposal handed to officials of NATO (the North Atlantic Treaty Organization) in Moscow, the Kremlin suggested chemical-arms reduction begin in Europe because of the likelihood that region would become an early battleground for any major East-West confrontation in the future. Western analysts have criticized the offer's sincerity because it ignores the problem of verification, an issue that killed earlier chemical-arms talks.
- About 130 of the world's more than 300 test-tube babies have been born in Australia. This experience has brought with it some thorny questions about the legal rights of involved parties—including the child. But the government of Victoria, Australia's second most populous state (with 4 million citizens), announced trailblazing legislation on Dec. 13 for clarifying the status of children, parents and donors of ova or sperm: A child born by the artificial insemination of a donor or by use of donated gametes or embryos will be presumed the child of the "social parents," not the ova/sperm donor(s). Written consent of all adult parties will be required and records of donors and "social parents" will be kept by the state government.

Revised 'Baby Doe' rule is born

Last April, a U.S. District Court threw out the administration's "Baby Doe" rule (SN: 4/30/83, p. 286)—a law prohibiting hospitals and physicians from withholding medical treatment or life support from severely handicapped newborns. In July, the Department of Health and Human Services (HHS) proposed a revised version and asked for comments. It got 17,000 and HHS says all were considered before its final rule was issued Jan. 9. The new law prohibits withholding beneficial treatment on the basis of an infant's anticipated impairment. However, withholding treatment that is "clearly futile and will only prolong the act of dying" is "ethically and legally justified" under the law. The law also recommends hospitals form committees to review and police the HHS statute. Where these committees exist, HHS will let them investigate suspected abuse of the new regulations.

Haze layer heats Arctic at faster rate

Last spring when airborne scientists traversed the Arctic, they expected to see layers of sooty haze, but the magnitude and height of the particle layers surpassed anything they imagined. "We couldn't believe it. The haze was so thick, especially on the Scandinavian side, that in the afternoon it was hard to see the sun," says Francisco P. J. Valero, one of the scientists on board. Valero, Thomas P. Ackerman and Warren J. Y. Gore, all of NASA Ames Research Center in Moffett Field, Calif., conducted one of the many experiments that make up the Arctic haze investigation headed by the National Oceanic and Atmospheric Administration (SN: 1/29/83, p. 69; 4/9/83, p. 229).

The NASA team's initial findings, reported in the December 1983 *GEOPHYSICAL RESEARCH LETTERS*, show that the carbon soot layers are even more efficient at absorbing incoming solar radiation than models predicted. They found that the solar heating of the atmosphere amounted to 1.1° to 1.5°C per day, a rate of heating two to three times greater than heating in the absence of the haze. The measurements strengthen the concern that the haze may affect climate and temperatures in the sensitive Arctic region.

The heating occurs because the black carbon particles, believed to originate largely in the industrialized regions of the Soviet Union and central Europe, absorb solar radiation and reduce the amount of energy reflected back to space. The effect is particularly pronounced in the Arctic, Valero says, because the white polar ice acts as a mirror, reflecting 80 percent of the light that touches it. (Water reflects only 5 to 15 percent.) The reflected light passes through the haze a second time, enhancing the warming effect as even more energy is retained by the soot. Russell Schnell, who led the NOAA program, says that the heating measured is roughly equivalent to that expected to result from the global buildup of atmospheric carbon dioxide. If that warming occurs, the Arctic will receive a double dose, he says. Another series of test flights is slated for 1985, again during March and April, when the pollutant haze is most dense.

Curbing energy use may slow CO₂ rise

A new report to the National Science Foundation suggests that the projected rate of increase in atmospheric carbon dioxide (CO₂) can be slowed substantially through more efficient use of energy—particularly the combustion of fossil fuels—on a global scale. Economists and engineers from the Massachusetts Institute of Technology and from Stanford University recommend "carbon dioxide-benign" strategies that can cut global energy use in half in the next 50 years. The approach outlines ways in which burning of fossil fuels, the main source for the buildup of atmospheric CO₂, also can be reduced through development of nuclear power, wind power, solar energy, and in particular, electrical power.

The authors, David J. Rose and Marvin M. Miller, both of MIT, and Carson Agnew of Stanford, write that "it will be impossible to develop a global consensus for any one simple set of energy options because of different stages of industrialization, different available resources, different perceptions of climatological or economic winning or losing." Nonetheless, they say the CO₂ debate should proceed on a global basis, similar to those discussions underway regarding acid rain and other "transboundary pollutants." The report notes that through long term improvements in technology and replacement of systems, the cost of energy consumption, in constant dollars, could be reduced at the rate of about one percent per year without adverse economic effects. The authors believe that this improvement may be "achievable in all regions and sectors" and may be the "most important single opportunity to ameliorate CO₂ buildup, and appears attractive in its own right, both economically and environmentally."