

EPA Launches Major Dioxin Attack

The Environmental Protection Agency (EPA) has announced a comprehensive plan to do battle with dioxin. Calling dioxin "one of the most perplexing and potentially dangerous chemicals to pollute the environment," EPA deputy administrator Alvin Alm recently described a complex program that will attempt to determine the extent of dioxin contamination across the nation, assess the risks of human exposure, define ways to limit exposure, and also develop methods for cleanup. The program will draw upon the resources of at least four administrative branches in EPA.

The program does not encompass any new research efforts, but it is the first time EPA has developed a systematic plan to coordinate the multitude of activities associated with broad contamination by a single pollutant. Alm said that EPA in the past has responded in "a piecemeal" fashion to pollution problems involving chemicals such as Kepone, polychlorinated biphenyls, or polyvinyl chlorides. The new management plan for dioxin can serve as a model for response to these kinds of problems in the future, he said.

Since the discovery last year of widespread dioxin pollution at Times Beach, Missouri, and many other sites, public and congressional concern about the chemical has deepened enormously. Congress went so far as to appropriate \$4 million to EPA in fiscal year 1984, directing the agency to develop a proposal to test for dioxin contamination at sites across the country. The recently announced program is an outgrowth of the congressional request.

EPA will conduct a massive sampling campaign, concentrating its efforts on the most toxic of the 75 dioxin isomers—2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD). This isomer was a contaminant produced during the manufacture of various herbicides such as Agent Orange. (The production of these herbicides is now banned in the United States.) The agency believes that 80 to 95 percent of 2,3,7,8-TCDD produced in this country will be found at the production and disposal sites of the herbicidal component, 2,4,5-trichlorophenol. These

places, which total about 20, will be given priority in the list of areas to be sampled.

Although these sites may prove to have the highest levels of contamination, the agency will have much more sampling to carry out. EPA has defined six other categories of potentially polluted sites and ranked them according to importance. EPA estimates that in one mid-level category, which includes combustion sources such as incinerators of hazardous and municipal waste, the number of potential sites to be tested may run into the millions. The lack of laboratories to handle the load of samples may prove to be a problem.

Alm said that EPA will decide whether people should be evacuated from an area if sampling shows a concentration of one part per billion or more. This is the cutoff level set by the Centers for Disease Control but, as yet, the effects of low-level exposure to humans is unclear. EPA will continue to work with agencies to determine the long-term health effects.

According to the program, EPA will also conduct research to assess the toxicity of other isomers, determine their specific properties, evaluate their fate in the environment, and develop risk assessments.—**MARJORIE SUN**

DOE Selects Nuclear Neophyte for Oak Ridge

The Department of Energy has selected the Martin Marietta Corporation to run a complex of nuclear research, enrichment, and weapons facilities at Oak Ridge, Tennessee, and Paducah, Kentucky. Martin Marietta beat Westinghouse and Rockwell International in a close contest for the contract to run the \$2-billion-a-year operations, which are currently being managed by the Union Carbide Corporation. Union Carbide touched off a scramble when it announced last year that it wanted to withdraw as operating contractor for the facilities.

Martin Marietta will run the Oak Ridge National Laboratory; the Y-12 Plant in Oak Ridge, which produces weapons components and works on weapons design; and gaseous diffusion plants for enriching uranium at Oak Ridge and Paducah. The 5-year

contract will cover the costs of operating the facilities plus a fee.

The choice of Martin Marietta is somewhat surprising because the company has no previous experience in nuclear programs or in operating government facilities. According to a report in *Energy Daily*, a DOE selection board made Westinghouse its first choice, followed by Rockwell. Martin Marietta ranked third. But DOE's assistant secretary for management and administration, Martha Hesse, overturned the board's recommendation because she believed Martin Marietta has the strongest management team.—**COLIN NORMAN**

OTA Memo Critical of NRC Cancer Study

Last summer, the National Research Council (NRC) issued a report saying there is no evidence that veterans stationed near Hiroshima and Nagasaki in 1945 have suffered a higher than normal incidence of multiple myeloma.

The study was promptly criticized for its poor methodology, including an inappropriate control group and reliance on too small a sample (*Science*, 19 August 1983, p. 733).

Now the Office of Technology Assessment (OTA) has issued a staff memorandum reiterating the criticisms. The OTA suggests that the procedures used by the NRC committee could have resulted both in overestimates of the normal number of cases one might expect and underestimates of actual ones. Therefore, the conclusion that no excess cases occurred "is not supported by the analysis," the OTA said.

The purpose of the NRC study was to assess the need for an elaborate epidemiological survey of exposed veterans, an idea suggested by veterans' groups but resisted by the Pentagon. If an excess of multiple myeloma was apparent among a small, select group of veterans, then a full-scale study might be conducted. Because no increased risks were detected in the select group, NRC panel members and staff concluded that the elaborate epidemiological survey was unnecessary.

The OTA memo (which has not

been approved by the Technology Assessment Board) observes, however, that excess risks would be "difficult, if not impossible" to detect without actually doing the epidemiological survey, unless the excess was overwhelming. As a result, the OTA memo said, the NRC report is not helpful in deciding whether the survey should be performed.

The Veterans Administration has recently been directed by law to assess the need for a full-scale study of atomic veterans.

—CONSTANCE HOLDEN

NIH to Review Policy of DNA Committee

The National Institutes of Health (NIH) is undertaking a review of the policy guidelines that govern operation of its Recombinant DNA Advisory Committee (RAC). Questions about what RAC should or should not do crystallized several months ago when the committee met in closed session to consider two industry requests for permission to conduct certain experiments in genetic engineering (*Science*, 7 October, p. 35). It was the first time the RAC has shut its doors to the public. Justification of the closed meeting was made on grounds that proprietary data were being reviewed. NIH leaders are worried that the committee's credibility, which rests in large part on the fact that all its deliberations have been open, will be damaged if it decides to meet in secret again.

"The RAC is becoming de facto a regulatory body," NIH director James B. Wyngaarden said in an interview with *Science*. Technically, the RAC's guidelines for recombinant DNA research are mandatory only for laboratories that receive NIH funding but, in a spirit of cooperation mixed with self-interest, industry has agreed to voluntarily follow them as well. Thus, the RAC finds itself asked to review proposals from companies that want to conduct new experiments while also protecting trade secrets.

Wyngaarden has asked the RAC members to "study what its perimeter ought to be" in preparation for an open discussion of the issues at its

meeting next month. One option is to limit RAC review to proposals from NIH grantees. Wyngaarden is leaning toward that idea. However, its implementation, he notes, could lead to a proliferation of recombinant DNA committees in other federal agencies, including Agriculture and the Environmental Protection Administration. Whether such a proliferation would be desirable is among the questions that need to be debated. Also up for discussion is the possibility of establishing a recombinant DNA committee at a high level in the Department of Health and Human Services or of creating an interagency, government-wide RAC.—BARBARA J. CULLITON

Radioactive Seaweed Stirs U.K. Low-Level Waste Fight

The chairman of the company responsible for the operation of Britain's principal nuclear-fueled reprocessing facility admitted recently that "management misunderstandings" were responsible for the accidental discharge of radioactive solvent into the Irish Sea, and the subsequent contamination of 25 miles of coastline.

The admission by Con Allbay, chairman of British Nuclear Fuels, Ltd., came shortly after the British government announced that its scientists had discovered levels of radioactivity between 100 and 1000 times higher than normal in samples of seaweed taken from the coastline adjacent to the reprocessing plant at Sellafield (previously known as Windscale) in Cumbria.

In revealing these findings, the spokesman for the British Department of Environment in London added that, even though the public was being advised to avoid using the beach "for the time being," the risk of contamination from the seaweed was "extremely low" and that the levels of radioactivity were within safety limits.

Nevertheless, the evidence of higher than normal radioactivity has come at a particularly sensitive time, since the procedures used by the Windscale management to dispose of low-level radioactive waste from the plant are already being closely scrutinized by the British government. In particu-

lar, the Department of Environment is carrying out a formal investigation into the circumstances surrounding an incident in November, when a 200-meter stretch of the coastline had to be closed after a discharge of radioactive solvent, intended to be carried out into the Irish Sea, was washed ashore by an unexpected change in the current.

Pressure on the government to take increased security measures in the area around the Windscale plant had already been growing after a television program had claimed that the incidence of leukemia among young children in a village less than 2 miles from the plant was ten times higher than average. The program also claimed that similar excesses could be found in other villages nearby, even though no excess has been registered either for the total region, or for workers inside the plant.

The television program has reignited a fierce debate over the potential hazards of low-level waste disposal. Officials at BNFL claim that, given the company's adherence to international safety guidelines and the close monitoring of the local environment carried out by the National Radiological Protection Board, the fears raised by the television program were unjustified.

The charges made in the television program, as well as more general concerns about safety procedures at the reprocessing plant, have helped prompt several separate inquiries in addition to that announced by the Minister of Environment. These include one by the Ministry of Agriculture, Food and Fisheries, and another being carried out by an independent team headed by a former president of the Royal College of Physicians.

Meanwhile, British Environment Minister Patrick Jenkins has ordered a separate scientific investigation into the safety of dumping low-level radioactive waste at sea, and has promised to suspend all attempts at such dumping until the results of the investigation become available. Jenkins' action was taken in response to growing opposition to sea dumping of wastes from Britain's labor unions, aided by environmentalist groups such as Greenpeace, which have so far successfully prevented any such dumping from being carried out. The government's report on the incident is expected to be released shortly.

—DAVID DICKSON