fall, but, at the direction of DOE Secretary John Herrington, researchers fed the jumble of preliminary information into a data bank this year and sorted it using a computer model known as MEPAS. MEPAS weighed the potency of each pollutant, its dissipation rates, and its potential impact on humans at each site. After juggling these factors, MEPAS ranked the sites on a logarithmic scale, similar to the Richter scale for earthquake severity, running from 9 in the worst case to 0 for "problems that are not projected to reach receptors." The Colorado and Texas spills were ranked 9 and 8, respectively. Twenty-six others were ranked at 7 and 6, and the rest fell below 5, which DOE considers the cut-off point for active concern.

It is not clear yet how these rankings will be used. DOE claims the only purpose of the study is to identify gaps in its data and focus research on the most important sites. But the states that want DOE to get started on cleaning the dump sites are worried that the list may be used as method of choosing who will and will not get funded.

DOE can anticipate a barrage of criticism from political and technical kibitzers. In Congress, there are already complaints that the survey elevated "easy" problems to a high priority and postponed the truly difficult tasks—such as emptying the corroded waste tanks at the Savannah River Plant and Hanford. Senator John Glenn (D–OH) has asked the General Accounting Office to review the computer ranking methodology.

DOE may be criticized as well for giving a false impression that it has a firm grasp on the health risks at each site. While the executive summary dismisses "a majority" of the cases as posing "a very low potential for risk to the public," the body of the report warns that the conclusions are based on "very initial investigations" and should not be used to project absolute health risk. In fact, many of the spills involve a mixed broth of organic chemicals and radionuclides whose behavior in soil and water has never been well studied.

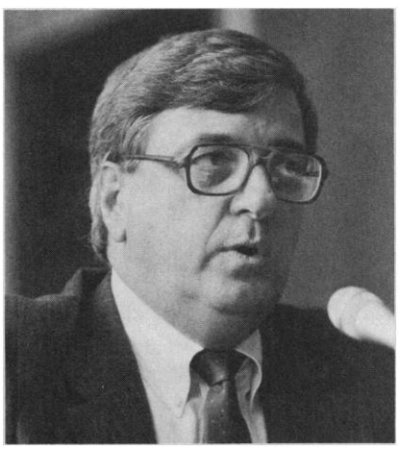
Dan Reicher, an attorney for the Natural Resources Defense Council, argues that DOE is to be faulted for ignoring regulatory and political issues in this report. The computer list is interesting, he says, but it may bear no resemblance to the priorities established by law. He estimates that DOE has already signed 30 agreements to clean sites around the country. Many include deadlines for action. Because DOE is not likely to get a large budget increase for this work, it is possible that the available clean-up funds have already been spoken for, and that the actual agenda will look very different from this list of technical priorities.

■ ELIOT MARSHALL

Furor in Fusion Labs

The new director of the Department of Energy's Office of Energy Research has created an uproar in the fusion research community with a proposal to shift up to $23 million away from ongoing experiments this year. Although it is not clear what Robert O. Hunter, Jr., wants to do with these funds, he plans to spend part of it to expand basic research on energy confinement in tokamaks, a reactor concept that some day may be used to produce electricity. His plan, however, is encountering strong opposition from ranking legislators on the House Science, Space, and Technology Committee.

The unexpected action has angered many in the magnetic confinement fusion research community because the program changes are being imposed after the start of the new budget year, which began 1 October. Although Hunter first advised top DOE management in August that he wanted to make changes, fusion laboratories were not informed of the revised plan until mid-November. The decision to implement these changes in fiscal year 1989, instead of next year, is having a severe effect on some fusion research programs.



Robert O. Hunter. *Wants to shift funds.*

The Princeton Plasma Physics Laboratory, for example, had to dismiss 120 contract workers that were making repairs to the Tokamak Fusion Test Reactor (TFTR). The lab took the action on 17 November in response to DOE's order for Princeton to shave $12.5 million from its $73.5-million fusion research budget. The funding loss for Princeton may actually be higher than it appears because the laboratory could have to pay millions of dollars in contract penalties resulting from the stop-work orders. Oak Ridge National Laboratory also may have to cut $6 million from its $16-million fusion budget and Los Alamos National Laboratory some $3 million. Another $1.5 million is slated to be taken from other scattered fusion programs.

Hunter wants to use part of these savings to expand research that will broaden understanding of confinement laws affecting the heating and behavior of plasmas within the doughnut-shaped tokamak. He told the DOE's Magnetic Fusion Advisory Committee (MFAC) on 6 December that it was now the policy of his office "to give highest priority [in the fusion program] to developing a predictive understanding of confinement in tokamaks." This could allow the program to build advanced experimental reactors more cheaply, he says.

The need to increase research on energy confinement in tokamaks was highlighted by MFAC this summer and Hunter cites this as a justification for reordering part of DOE's $350-million magnetic confinement fusion research program. Not all of the funds will be used for this purpose, however. Some $4 million has been earmarked for a contingency fund. Another $4 million may go to assess the state of laser-driven inertial-confinement fusion.

Congress, however, may not go along with Hunter's restructuring plan. Representative Robert Roe (D–NJ), chairman of the House Science Committee, and Representative Marilyn Lloyd (D–TN), chairman of the Subcommittee on Energy Research and Production, have indicated that they are against making changes in the research program this year. Traditionally, budget reprogrammings have been dropped when the House Science Committee has opposed them.

At press time, it appeared that Hunter might modify or abandon his proposal in light of protests filed by legislators, lobbyists, and the scientific community. Even if Hunter withdraws, the experimental schedules at Princeton's TFTR and Oak Ridge's Advanced Toroidal Facility still will suffer because DOE pulled back budget funds from the laboratories in November. As a result, research agendas had to be scaled back until Congress makes a decision, and that is not likely to occur before late January.

■ MARK CRAWFORD