tial hazards with genetically engineered microbes are, for the most part, the same as those for nonengineered microbes. (EPA has already regulated 13 microbial pesticides, which have not been genetically altered.) The agency is concerned, for example, about an organism's toxicity and virulence and its ability to reproduce, cause disease, and survive in the environment. Betz says, however, that genetically engineered microbes pose some additional problems and that EPA probably will require extra testing to determine safety. The additional testing would analyze, for example, the stability of the genetic material in an engineered microorganism and the traits to be expressed by the genetic alteration. As a result, EPA may require tests to evaluate these characteristics and information on the genetic engineering techniques used to produce the pesticide.

No one is questioning the agency's authority to regulate the commercial production of biological pesticides produced by genetic engineering. But EPA could land itself into controversy because—claiming authority under FIFRA—it intends to play a more active role in the oversight of the field-testing of genetically modified microbial pesticides. This is already a hotly debated area. NIH was recently sued for approving a University of California experiment that would have tested in the environment bacteria designed to prevent frost damage to plants.

The agency plans to change an existing regulation so that companies must notify the agency of their plans to field-test a genetically engineered pesticide. Currently, an application must be submitted to EPA if a pesticide is to be tested on 10 acres or more. But for genetically engineered microbes, EPA now plans to require an application no matter how small the test plot is. Betz said that the regulation is intended primarily to keep EPA informed of the testing.

EPA may already be testing the waters in this area. The Office of General Counsel recently concluded that the frost-preventing organism which University of California researchers want to test is indeed a pesticide. According to Anne Hollander, a policy analyst in the Office of Toxic Substances, the organism can be classified as a pesticide because it hinders a plant pest—its genetically nonmodified counterpart—from promoting the formation of ice crystals in plant tissue. The agency has not said whether it plans to require the California researchers to file for a permit.

Interpretation of the toxic substances act as it applies to biotechnology products is likely to be even more controversial. The act gives EPA the power to regulate new chemicals, but does this mean that the agency can regulate organisms, for example, that could be used to clean up oil spills or to aid in the mining of ores? At a recent meeting of the Industrial Biotechnology Association, David Padwa, chairman of the board of Agrigenetics, asked Clay whether recombinant DNA is a chemical. "Yes," Clay responded. Padwa then asked, "Is recombinant DNA a new chemical?" Clay replied, "I think so."

Clay is not too perturbed about the fuzziness of TSCA's authority to regulate genetic engineering products and the possibility of future lawsuits. "It doesn't upset me. If I win, I win. If I lose, then Congress can legislate new law," he said later. Clay points out that Congress created TSCA to bridge the gaps in environmental regulation, so the act is a logical candidate to govern biotechnology.

EPA's Donald R. Clay

"Companies have already promised they'll sue me."

Hollander points out that unlike pesticide law, TSCA places the burden of proof of safety on the agency, not the producers. Although companies must provide EPA with test data, the chemical's proposed uses, volume of production, worker exposure, and disposal, it is up to EPA to demonstrate that the new chemical poses an unreasonable risk.

EPA plans to rely on the expertise of the NIH advisory committee and other scientists as it sorts out its role in biotechnology. Clay says EPA is also forming a task force with other agencies to discuss the regulation of biotechnology and risk assessment related to environmental release of the microbes. Clay adds, "For a change, EPA is getting ahead of the game."—**MARJORIE SUN**

Dingell Wants Action on NIH Authorization

In an unusual action, Energy and Commerce Committee chairman John Dingell (D–Mich.) has directed members of his committee to work out a legislative compromise to reauthorize the National Institutes of Health (NIH). But whether a deal can actually be struck before Congress recesses for the year is not clear.

Dingell rarely has intervened regarding NIH reauthorization, but this year the legislation is particularly contentious. Members of Dingell's committee have sponsored two vastly different NIH reauthorization bills. Dingell wants them to settle their differences before a House vote in order to smooth the way for its passage. A committee aide said that Dingell wants to avoid "a bidding war" in which legislators' pet projects could be tacked on as amendments to a controversial bill.

Chairman of the health and environment subcommittee, Henry Waxman (D–Calif.), is the sponsor of a controversial bill that would create numerous new programs at NIH. Two Republican committee members, James Broyhill of North Carolina and Edward Madigan of Illinois, have introduced a substitute bill that is a pared-down version of Waxman's bill and is the preference of general biomedical organizations such as the Association of American Medical Colleges. Both bills, however, provide the same funding levels.

So far, the legislators have not gotten very far. A subcommittee aide to Waxman declined to comment on the issue and an aide to the minority side said, "We just haven't been able to find a happy medium."

—**MARJORIE SUN**

House Report Blasts DOE on Oak Ridge Pollution

A strongly worded report released by the House Science and Technology Committee on 3 November takes the Department of Energy (DOE) to task for mishandling a big mercury spill and related problems at an aging

weapons plant in Oak Ridge, Tennessee. The report notes that a preoccupation with national defense may have diverted attention from these problems in the early years. But it concludes that "DOE exercised poor judgment and did not act responsibly" between 1977 and 1982 when top agency officials must have known that there was a potentially severe ground water contamination problem which they did not study or correct. Furthermore, the report says, "DOE released incomplete and misleading information about mercury to the public and to other governmental agencies and failed to cooperate" with outside inquiries.

These are among the harshest findings of an investigation conducted jointly by Representative Albert Gore's subcommittee on investigations and oversight and Representative Marilyn Lloyd's subcommittee on energy research and production. Both chairpersons are Democrats from Tennessee, and the federal facilities in question—the Oak Ridge National Laboratory (ORNL) and the Y-12 hydrogen bomb fuel plant—fall within Lloyd's district. They held a public hearing on the controversy in Oak Ridge on 11 June, for which this report is the summary.

The committees came up with two encouraging but tentative findings: (i) none of the mercury or other pollutants appears to have entered the drinking water or local food sources, and (ii) "DOE has recently acknowledged its shortcomings and has made increased efforts to become a good environmental neighbor." However, the study recommends that a new group of outside scientists be established to oversee future monitoring and cleanup efforts, a panel that might be chosen by the National Academy of Sciences or a "similarly prestigious" outfit.

These problems began to make their way into public view in 1982 when a staff environmental scientist at ORNL, Stephen Gough, began working during free time on a survey of mercury pollution in a local creek. He was reprimanded for this and left the lab under a cloud (*Science*, 8 July 1983, p. 130). When Gough left, the laboratory staff began an intense but brief survey into mercury pollution on its own. The House report backs the opinion of several witnesses at the hearing who said that the "DOE was only stirred into action in 1982 by the impending possibility that the public might become aware" of Gough's work.

A local newspaper learned of the mercury problems and, through a freedom of information request, obtained a censored version of a secret 1977 study reporting that as many as 2.4 million pounds of mercury had been lost in spills at Oak Ridge. Another report in 1977 done by a staff scientist found significant mercury pollution in fish and recommended follow-up studies. That report was made secret, too. There was no follow-up until 1982. "These two documents," the House report says, "leave no doubt that the responsible persons at DOE and UCND [Union Carbide, which ran the laboratory] knew or should have known that a potentially serious mercury problem existed." It goes on to say that the secrecy label on the 1977 environmental study "provided a convenient shield behind which the nonsensitive but politically volatile data on the quantity of mercury releases could be buried and obscured."

Perhaps the most damning new information in the report is the fact that, at the same time these reports were being hidden, DOE was requesting and receiving from Congress funds to build a new central pollution control facility. Yet, according to the report, DOE officials "reprogrammed" money appropriated for this purpose for other uses.—ELIOT MARSHALL

Revision of Pesticide Law Put on Hold

Congress has been pressured this year to reform the laws governing pesticide testing and licensing, but now it is clear that the proposals will not make it to the floor in this session. Neither Congress nor the Administration seems ready to act.

"There is no official Administration position as yet," said William Ruckelshaus, administrator of the Environmental Protection Agency (EPA). He was speaking on 2 November before the House agriculture subcommittee on department operations, research, and foreign agriculture, which is considering several reform proposals. One (HR 3818) would increase the EPA's power to control domestic pesticides and another (HR 3254) would focus on exports.

The subcommittee was meeting to begin marking up legislation, but chairman George Brown (D–Calif.) announced at the outset that he did not really expect a bill to get to the floor until next spring at the earliest. This reading of the situation jibed with Ruckelshaus' view, for he said he had not even had time to analyze the proposed reforms, but would submit comments in writing, if asked. "Do you want us to mark up a bill now, or do you want us to wait?" one congressman asked in exasperation. "My own preference," Ruckelshaus replied, "would be to wait until we get the administrative changes in place," and until the Supreme Court has ruled on the public's right to see company pesticide data in the Monsanto case (*Science*, 28 October, p. 401).

This news was not a total surprise; indeed, the National Coalition Against the Misuse of Pesticides had already scheduled a press conference to protest the delay.

Most of Ruckelshaus' talk was aimed at defusing the criticism that has built up over the last 3 years and proving to a skeptical audience that the EPA's new managers are sincerely trying to make amends. The EPA chief listed several steps the agency has taken to improve pesticide regulation, including one he endorsed just the day before he testified. This was his decision to sign into law some "good laboratory practices" rules which have been pending approval for years. These rules require that labs testing pesticides meet some general quality standards which were first conceived in 1978 (and were put into effect that year at the Food and Drug Administration) following discovery of a major testing fraud in Chicago.

In addition, Ruckelshaus said the agency is increasing the number of staffers auditing test data, seeking more advice from the Food and Drug Administration and the National Toxicology Program, planning a public review of its policy of granting emergency exemptions for pesticide use, and considering a new, broad ban on certain pesticides in areas where ground water could be affected.

—ELIOT MARSHALL