

equivalent authority and reports directly to the secretary.

For the federally owned and operated research centers (AR), the memo recommends that more emphasis be put on long-range national problems, and that rigorous peer review be used to strengthen AR programs. Specifically, it suggests that all AR facilities undergo regular reviews at 5-year intervals, conducted by scientists from outside, and that "work judged to be least meritorious" be ended to help finance more innovative projects.

In the extramural area—including the state-run Cooperative Research program, special grants, and competitive grants—the memo stresses the need for peer review by outside scientists, a desire to phase out mediocre work, and a goal of putting "teeth" into the existing 5-year reviews of state agricultural research programs. It also recommends that more sabbaticals and leaves be given to encourage communication between agricultural researchers and other scientists in related fields.

Some of these suggestions are being implemented now; others may take years to accomplish. It will be particularly difficult to tinker with the special grants category, as Prager explained, because it is a "favorite of the congressional committees." Representative Whitten, chairman of the House Appropriations Committee and the subcommittee on agriculture, "simply does not believe in the competitive approach," Prager said. He thought it misleading to call special grants a peer-reviewed program, for this category includes awards specified by Congress, awards made by administrative decision at USDA, and others made by an informal process of peer review conducted by the director of the special grants office. Members of the review panels are chosen on an ad hoc basis by the USDA staff and may include USDA scientists, including those who, if they were not administering the grants, might be interested in applying for them. There are no standing committees of reviewers. The system is said to work efficiently, but is generally regarded as less rigorous than the one developed by the USDA for reviewing competitive grants. It is not clear why the department should maintain two peer review systems when one would do.

Politics plays at least as important a role as science in deciding how some of these funds are dispensed, as the fiscal 1980 budget reveals at a glance. (Keep in mind that the chairman of the relevant House subcommittee is from Mississippi; the Senate chairman, from Missouri.) The House appropriation bill this year

includes special grants of \$25,000 for "dried bean research in North Dakota," \$250,000 for "soybean cyst nematode research in Missouri," \$50,000 for "bean and beet research in Michigan," \$150,000 for "aquaculture at Stoneville, Mississippi," and so on. In hearings before the House appropriations subcommittee last March, Representative J. Kenneth Robinson (R-Va.) revealed how he and perhaps some of his colleagues regard USDA's research operation. He pointed out to the department witness, Talcott Edminster, that "English boxwood is a landscaping plant of traditional and historic prominence in Virginia and many other states." The Virginia Polytechnic Institute (VPI) was looking into organisms associated with boxwood decline. "Would it not be appropriate to earmark a modest measure of support" for this line of research at VPI and elsewhere? Robinson asked. Edminster declined, saying there were well over 1000 species of woody trees and shrubs classified as landscape plants, and the USDA could not worry about them all.

No substantial changes are planned for the competitive grants program, according to SEA director Bertrand. However, he says that for administrative reasons, it will soon lose its independent status and be moved into the office that manages the Cooperative Research (CR) program jointly with the state schools.

Although Bertrand says the move is being made in order to concentrate the management of all extramural grants in one office, some of the defenders of the competitive program are worried that the shift may weaken its integrity. State research directors, who have long dominated the policies of CR, may not be interested in helping this orphan program grow and thrive. Prager has expressed this concern, as has Lawrence Bogorad, a professor of plant sciences at Harvard University and a member of the USDA's Joint Council on Food and Agricultural Sciences. S. H. Wittwer, director of the Michigan State University agricultural experiment station, says he regrets that the competitive grants program will be moved "one step further away from the secretary," but this may have no significance, "as long as it's properly administered." He had hoped that the program would seem important enough to USDA that it would be kept in an independent office.

Changes in the cooperative program will be handled with great care, in part because the state participants in this federation have not fully recovered from the

(Continued on page 310)

Tories Prefer Nukes

Britain's Secretary of State for Energy, David Howell, told an audience in Washington, D.C., on 2 October that the new Conservative government has no qualms about developing nuclear power as a source of energy and plans to expand the nuclear program inherited from the Labor government. Speaking at a luncheon given by the Women's Economic Roundtable, Howell said his reaction to the accident at Three Mile Island was a feeling of reassurance: "It showed that when some stupid errors were made, and the system was put under great stress, safety was still maintained."

Howell was in town for informal meetings with American energy officials and was not prepared to reveal the details of the government's new energy policy. These will be spelled out in a white paper due for delivery in a month or two. He did indicate, however, that construction of nuclear plants—including fast breeder reactors—will be the first priority. Britain now derives 13 percent of its electricity from nuclear power. Plants under construction will increase that figure to 20 percent by the early 1980's. And the conservatives would like to move even faster. As part of that program, the government is expected to propose the construction of a pressurized water reactor under license from an American firm.

Howell does not plan to launch a new energy conservation program, he said, because "this is an area where the state must not attempt to mastermind idealistic schemes. We do far better to rely on the commonsense incentive to save energy." The high price of OPEC oil, he argued, is an adequate incentive. Britain will not increase its investment in synthetic fuel factories, Howell said, because the economics are not right. Furthermore, the new government intends to reduce its involvement in oil operations in the North Sea both by administrative action and by selling off shares of the national oil company.

Howell declined to criticize America's energy policy, other than to say, "All Europeans wonder at what stage your love affair with the gigantic car will pall." He suggested that it is difficult to take American conservation proposals seriously as long as the

government keeps gasoline prices as low as they are. "We are all living on a knife-edge," he concluded, "until we reduce our dependence on Middle Eastern oil."

H-Bomb Secrets: More to Come?

Although the government has dropped its injunction barring the *Progressive* magazine from publishing an article on the H-bomb (*Science*, 5 October), the legal questions raised by that alleged breach of security are far from being resolved. The crisis of the moment turns on the disposition of a hot document known as UCRL 4725, one that was introduced as part of the court record in the *Progressive* case, but which many people feel should not be released to the public.

Dimitri Rotow, an amateur weapons expert and sometime Harvard College student, took a copy of UCRL 4725 from the open shelves of the Los Alamos Scientific Library last May for use in the *Progressive's* defense. Rotow says the document is a progress report issued in 1956 on recent improvements in thermonuclear bombs, giving a detailed account of the successful adaptation of a "huge technological advance" in design. It describes how the fourth generation of nuclear bombs came to life, and gives a number of other details on weapons-making during that critical era of experimentation. "There are things in the report," Rotow says, "which I wish were not made general knowledge." Another expert who has read UCRL 4725 says it would be much more useful to a weapons builder than the *Progressive* article because it describes what one ought not to do as well as what one ought to do in making an H-bomb. Furthermore, he says, we know that the weapon described in UCRL 4725 will work.

Rotow was an unpaid consultant for the American Civil Liberties Union (ACLU) last spring when he went to Los Alamos looking for evidence that would support the *Progressive's* contention that the information in its article could be obtained from unclassified sources. Within 5 minutes after he had walked into the library, Rotow

claims, he put his hands on UCRL 4725, which was then unclassified. He made photocopies of it and sent them to the ACLU, two newspapers, and a number of interested experts.

Rotow refuses to tell the government who received these copies, because the recipients have asked that their names not be made public. Meanwhile, the government has reclassified the document as secret. Rotow says he has collected a photocopy from each person who received one, and these have been returned to the Department of Energy (DOE). There are two exceptions. The ACLU and the attorney for the author of the *Progressive* article each have a copy locked in alarm-rigged safes, as approved by DOE. These have been kept sealed under order of the court.

Now that the litigation is drawing to a close, DOE and Justice Department attorneys would like to seal the court proceedings permanently, for they argue that many of the briefs contain secret information not available in the *Progressive* article. The ACLU is pushing in the other direction. According to ACLU attorney Mark Lynch, "We insist that everything we came up with on our own must be released." Lynch includes UCRL 4725 in this category on grounds that it is relevant to arguments used in defense of the *Progressive's* case. Wouldn't the release of the document help spread weapons technology? "If the government could make that case," Lynch says, "we might be sympathetic. But there's no way they can, given that the report was lying on public library shelves for 5 years." Lynch says he would change his position if the government proved that UCRL 4725 had not been used by any library visitors between 1975 and 1979.

While ACLU attorneys were seeking the release of UCRL 4725, Senator John Glenn (D-Ohio) was demanding to know how it slipped through the government's security net in the first place. In hearings on 2 October before the governmental affairs subcommittee on energy, nuclear proliferation, and federal services, Glenn disclosed that eight "highly sensitive" documents dealing with nuclear weapons have been wrongly declassified by the Los Alamos Scientific Library since 1971. He also found that 19 documents had disappeared and were presumed destroyed; 238 others

of less importance were wrongly declassified and then made secret again following a special review.

Glenn's investigation, prompted by Rotow's rummaging in the files, concluded that the government used "hurried, slipshod" methods of declassification in the early 1970's. Between 1971 and 1976, the former custodian of these documents, the Atomic Energy Commission, undertook a program to thin out its secret files. In the process, it reviewed 2.8 million documents and declassified 1.5 million. The commission took some shortcuts in its review, and as a result, some secrets leaked out.

The lesson, Glenn's report concluded, is that "a viable non-proliferation policy must proceed from the realistic assumption that scientific or technological information cannot be narrowly contained for any significantly long period of time." Because there will always be leaks, Glenn argued, the government must put a greater emphasis on controlling materials used in nuclear weapons.

Paul Gray to Head MIT

The Massachusetts Institute of Technology (MIT) did not stray far from home in choosing a new president on 5 October. He will be Paul E. Gray, chancellor of the institute since 1971.

Gray, 47, has been at MIT continuously since 1950, when he enrolled as a freshman. He was absent for only 2 years (1955 to 1957) to serve in the military. He holds three degrees from MIT in electrical engineering, a bachelor's, a master's, and a doctor of science degree. He is regarded as an authority on electrical circuitry and semiconductors.

Gray has worked closely for at least a decade with the man he is to replace, outgoing president Jerome Wiesner. The shift in authority may be less than earthshaking. When Wiesner was made provost in the late 1960's, Gray served as his assistant. For the last 8 years, Gray has served as the chief administrative officer at MIT under Wiesner's presidency. Wiesner, due to retire next May, plans to continue teaching and doing research at the institute.

Eliot Marshall
