

trial innovation. Carter assured the Academy members that "I look forward to reviewing the recommendations [of the study which should be completed soon] and to acting on them." He also pointedly asked those members of the Academy who "are leaders in American business and industry" to emphasize innovation in their own companies.

As one would expect of a speech of this kind, the President was wide-ranging in what he had to say. He touched on the matter of international scientific cooperation, asking the Academy to support his proposal—passed by the House and now before the Senate—for the creation of a new Institute for Scientific and Technological Cooperation (*Science*, 27 April). He predicted that, "In the coming era, we will reap a good return on the more than \$100 billion the United States

has invested in space."

Carter closed with a discussion of nuclear issues and a plea to the scientific community to rally round the SALT II agreements, which were rumored to be on the verge of being signed as this article went to press. So far, response to the ongoing SALT II debate has been lukewarm. The President tried to arouse opinion. "We have lived too long with nuclear weapons," he said. "We have grown too accustomed to their shadowy presence in our lives. We are too apt to forget what the ultimate horror would be: the instant death of millions and the agonizing death of millions more. . . . In an all-out nuclear exchange, the victim would be nothing less than the past, the present and the future of the species." Hitting what to many scientists is a crucial element of the SALT II issue, Carter

declared that "science has given us the extraordinary means of verifying compliance with treaties governing those weapons." Not all of his listeners agreed and many are known to be unhappy with the Administration for refusing to spell out the terms of verification. But the President passed over such realities, saying that "In the great SALT II debate which has already begun, the participation of scientists will be crucial."

The estimated 500 NAS members who heard the address applauded politely as Carter left the hall for a quick visit to the monument to Albert Einstein that had been unveiled on the Academy's grounds the day before. There seemed to be a general consensus that the fact of the President's coming as a gesture of support was as important as what he had to say.—BARBARA J. CULLITON

Debate on the Future of Weapons Labs Widens

DOE carrying out its own review of UC management, critics fault study group makeup, procedures

For some years the University of California (UC) has undergone criticism and sporadic bouts of self-criticism over its role in managing the Livermore and Los Alamos nuclear weapons laboratories.* Now the Department of Energy (DOE), which owns the labs, is conducting its own review of the arrangements.

Critics of the DOE exercise charge that the study group looking at the link between UC and the labs is biased and challenge the legality of closed sessions held by the panel.

The latest round of debate on this issue began on 29 December, when DOE Secretary James R. Schlesinger announced that the department's Energy Research Advisory Board (ERAB) would examine the UC relationship with the laboratories "in the light of changing conditions to assure that the laboratories will continue effectively to carry out the missions assigned to them."

At the same time, Schlesinger said ERAB would be assisted by a special weapons labs study group headed by Solomon Buchsbaum, vice president of Bell Laboratories, who also chairs ERAB.

A report of the findings and con-

clusions of the study group will be discussed by ERAB at a meeting on 3 and 4 May in Washington. ERAB's own recommendations on the matter will then go to Schlesinger. The ERAB meeting is open to the public and the agenda includes time for comment from the public.

The DOE hierarchy has not expanded publicly on the agency's reasons for undertaking the review of the relationship beyond the allusion to "changing conditions" by Schlesinger. Middle level DOE officials suggest that the tie with UC has not been closely examined since it was established during World War II and, since a lot of attention is being given to the question of the appropriateness of the link on the university side, it makes sense for the agency to determine how well its own interests are being served.

Since DOE began its evaluation moves made by the UC administration toward modifying the university's management arrangements with the laboratories have been put in abeyance. The university administration had been seeking to implement the recommendations of a committee appointed by UC president David S. Saxon (*Science*, 31 March 1978) to study the relationship between the university and the labs. The com-

mittee recommended that the university continue to manage the labs, but only on condition that the university exercise stronger policy guidance on both weapons research and energy research at the two laboratories. Proposals by UC vice president William Fretter on practical means to alter the managerial relationship (*Science*, 22 December 1978) were overtaken by the Schlesinger initiative.

Saxon himself is on record as favoring continuation of UC management. In a statement to the study group on 2 February he repeated his view that UC management of the labs "serves the best interests of the nation." The UC regents, the ultimate university authority in the matter, have so far taken no formal position on the issue.

Sentiment in favor of maintaining the UC connection appears to be strong within the laboratories' staff. For example, at a meeting held by the study group at Livermore on 1 March to hear comment by lab staff members and the local public, the university tie was, with few exceptions, given firm backing over other possible management arrangements.

On the other hand, sentiment for severance was expressed in equally strong terms at a similar meeting held by the study group the next day in Berkeley.

*Livermore is located about 35 miles west of Berkeley and Los Alamos is in north central New Mexico.

Criticism of the UC management role has come most forcefully from San Francisco Bay area peace organizations working through a coalition called the UC Nuclear Weapons Labs Conversion Project. The coalition was formed in 1976 at a time when extension of the UC operating contract for the labs was being negotiated with DOE. Until recently, the Conversion Project's policy had been to advocate that the university continue to manage the labs but should exert much closer administrative control and ensure that the public be better informed on the

labs' programs. In the last few months, the coalition concluded that the university would not provide effective public oversight of the sort it favored and now works for severance of the tie.

In the criticism of the weapons labs study group, the lead has been taken by Berkeley physics professor Charles Schwartz, who has based his objections to the panel's activities primarily on what he claims are violations of the Federal Advisory Committee Act (FACA), which is designed to ensure public access to the proceedings of committees

that provide advice to federal policy-making officials.

Schwartz has established a reputation as an activist in a succession of campus conflicts since the 1960's. He has a trenchant style of writing and speaking and a knack for interesting the news media in his views. In respect to the study group he has sought to make his case in public hearings and in correspondence with Schlesinger, which up to now has been one-sided. Schwartz had no direct response to his letters until recently when he received a letter from the DOE counsel's office replying to Schwartz's earlier letters to Schlesinger and providing a fuller statement of the agency's legal position on FACA.

Schwartz's fundamental argument against the study group is that members of the panel do not represent a fair range of opinion on the main issues involved as required by FACA, and that therefore the group should be dismissed.

DOE officials point to a ruling from the agency counsel's office that FACA rules do not apply in this case because the study group is not giving advice directly to Schlesinger or his top aides, but rather is performing a fact-finding job for ERAB which in turn will advise Schlesinger and is covered by FACA. In effect the study group is an advisory panel to an advisory panel.

Schwartz argues that members of the study group were picked by Schlesinger and Buchsbaum and not by the committee at large and therefore FACA should apply. (Members of ERAB said in response to questions by *Science* that the board as a whole was not consulted on the membership of the study group and that the composition of the panel was not discussed at the ERAB meeting following Schlesinger's announcement. Schwartz says that the letter he received recently from DOE states that the study group's members were selected by Buchsbaum.) Schwartz goes on to charge that the panel is biased because it is "composed overwhelmingly of persons whose careers have been intimately tied to LLL [Lawrence Livermore Laboratory] and LASL [Los Alamos Scientific Laboratory] and their parent and affiliated organizations." He points out that Buchsbaum is a former vice president of the Sandia Corporation—a Bell subsidiary whose mission is the "weaponization" of nuclear ordnance.

Members of the group include two former weapons lab directors, Harold Agnew who retired on 1 March after long service as LASL director, and Michael May, a former director and now an assistant director at Livermore. Other

Radiation Responsibilities

A White House task force report released last month says leadership in research on the health effects of radiation should be in the hands of the National Institutes of Health (NIH), not in the Department of Energy (DOE), which is currently responsible for most such research.

The report on "institutional arrangements" discusses how better coordination can be achieved in federal radiation research and in promulgating regulations to protect workers and the general public. It is the sixth and final draft report prepared by the Interagency Task Force on Ionizing Radiation, headed by Peter Libassi, general counsel of the Department of Health, Education, and Welfare (HEW).

The report notes that federal involvement in radiation-related activities has vastly outstripped the original framework supplied by the old Atomic Energy Commission. As a result, responsibilities are fragmented, overlapping, and uncoordinated.

Now, says the task force, it is time for the government to pull its socks up. First of all, "the lead responsibility for coordinating a radiation health effects research program should be exercised by an agency that specializes in health-related research"—namely, the NIH.

The task force proposes the formation of twin interagency committees, one on research and one on radiation protection. An interagency radiation research committee, chaired by NIH, would set priorities and put together a government-wide research agenda (in collaboration with HEW, which has already been directed by Congress to do just that). The report notes that "tension exists" between the DOE's roles as primary sponsor of research, as developer and promoter of nuclear energy, and as employer of radiation workers. It suggests that more balance could be achieved by raising the radiation research budgets of other agencies and expanding the number of scientists and institutions involved in the research. Alternatively, it suggests transferring some DOE money to NIH and other agencies over the next few years—an idea DOE heartily resists.

As for rules governing human exposure to radiation, the report addresses the much-discussed idea of making the Environmental Protection Agency (EPA) the lead agency. But it observes that reaction to this is generally negative, mainly because radiation-related programs are too broad and varied. It seems to prefer the idea of an interagency radiation protection committee that might be chaired by the EPA.

As for overall coordination between the two committees, the task force discusses the possibility of setting up a radiation coordinating council modeled along the lines of the old Federal Radiation Council (subsumed by EPA in 1970). Such a body could resolve disputes and deal with matters that fall between the cracks, such as radiation-related liability claims.

The comment period for this report is up on 18 May. Then all six reports will be submitted to the White House. In view of the ongoing radiation furor, this is one document that is unlikely to end up moldering in the President's desk drawer.—C.H.

members are Norman Hackerman, president of Rice University and chairman of the National Science Board; Charles Hitch, president of Resources for the Future and former president of the University of California; Thomas Reed, president of Quaker Hill Development Corporation and a former Secretary of the Air Force and onetime LLL staff member; and Gerald Tape, president of Associated Universities, Inc., which operates Brookhaven National Laboratory for DOE, and a former Atomic Energy Commission commissioner.

In a letter to Schlesinger, Schwartz said, "I find it difficult to escape the conclusion that you have attempted to stack the deck: the study group (all reliable members of the 'old boy network') was selected by you to guarantee a very narrow range of likely recommendations; and the full ERAB (which has a noticeably more diverse membership) will be pressed to rubber-stamp the study group's report."

Schlesinger's original announcement had said that ERAB was being asked to report to him by 1 May. ERAB's regular meeting was not scheduled until 3 and 4 May. Schwartz made this point in his first letter to Schlesinger in late February, but DOE says that by this time it had recognized the conflict in dates and Buchsbaum has requested that the deadline for reporting be put forward to 17 May.

Schwartz, however, sticks to his complaint that the study group report will not be in the hands of ERAB in time to give adequate opportunity to study it or receive comments from the public. The study group staff director Donald C.

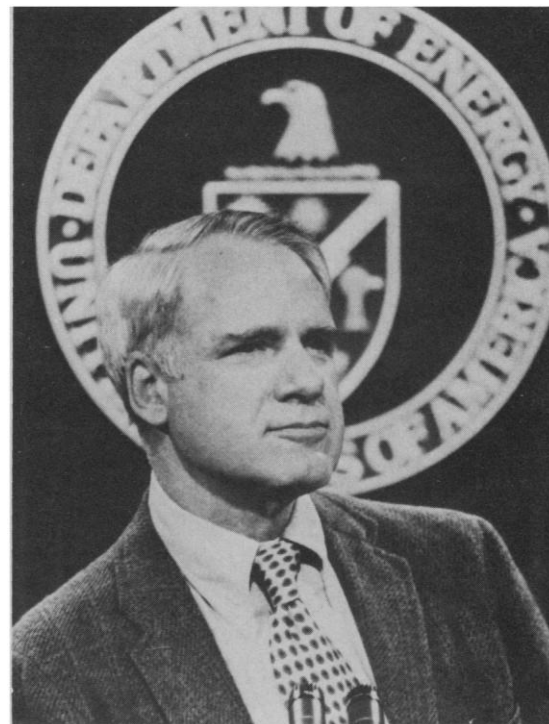
are actually moving toward severance.

In part, this view may have been encouraged by the fact that the study group was told to consider a wide range of options; this may have generated rumors. In addition, the lab administration has also been discussing contingency plans which may also have contributed to the talk.

There also have been suggestions that DOE is beginning to lose patience with the nonstop soul-searching within the university about its management role and is in the process of deciding that the practical thing to do is to end the relationship, which, in the view of some, has already shown signs of attenuation during the last decade.

All of this is speculative, at this point, but Duane Sewell, DOE's assistant secretary for defense programs and former deputy director at Livermore, in a statement to the study committee that was cautiously worded in the extreme, did give the impression that DOE is not foreclosing the possibility of significant change at the laboratories. Any such change, however, would come only after "careful consultation involving senior concerned members of the Administration and the Congress, the board of Regents, the University Administration and the laboratory directors," said Sewell.

Livermore staff say they are reluctant to see the links with UC cut for reasons which range from worries about pension rights to fears of a decline in the prestige of the labs. As professionals, staff members are anxious to defend the opportunity to follow promising research leads. Scope for doing basic research has always been limited at Livermore, but it



James Schlesinger

severance as no particular victory. The aim of the Conversion Project all along has been to reduce and ultimately to end weapons work at the laboratories. Not only are the labs the source of all new U.S. nuclear weapons, but they also supervise nuclear testing and are responsible for keeping the nuclear arsenal in working order. Involvement of the coalition in the debate over UC management of the laboratories has at least partly obscured the group's main aim of seeing the labs converted from doing military work.

As if to underline its priorities, the coalition has embarked on a program of antinuclear activities culminating in a "conversion day" at Livermore on 5 May. A rally at the lab will be followed by a "conversion fair" at a site adjacent to the laboratory. The next day, the coalition will sponsor a day-long session on "a nuclear free future" on the Berkeley campus. During the preceding week the coalition members plan to engage in fasts and vigils at the lab gates and to carry out leafletting and to hold forums and home meetings in the Livermore area.

The coalition is also seeking to exert pressure on the UC regents to address the issue of lab management. The regents experienced a first, full-scale public exposure to the issue on 17 February at a meeting of the board's special research projects committee in Los Angeles, which was also attended by several regents not on the committee. Several long-time critics of the UC management role spoke at the open meeting, which was described in the press as highly emotional, as did Saxon and other advocates

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Shapero says that the report is not yet complete and will be mailed to ERAB members a few days before the meeting; it will be available to the public and press at the meeting.

Whatever the orientation of the study panel, few people on either side of the issue seem to be assuming that the study group will suggest, ERAB will recommend, and Schlesinger will decide for preservation of some version of the status quo. Among Livermore lab staff, as a matter of fact, there is a fairly widely held view that DOE and the university

has been possible to follow up new ideas, which can be construed as contributing to the lab's mission, and staff members see this "freedom" endangered by a change in management, particularly if an industrial contractor should take over. It is widely assumed at the lab that if the UC tie is broken, a nonprofit umbrella organization to operate the labs would be created with a board of directors sufficiently distinguished to preserve the labs' scientific standing.

As for the antinuclear activists represented in the coalition, they would see

of continuing the relationship. Several of the regents at the meeting were reported to have applauded statements by opponents of the university role, the first overt sign of a questioning attitude on the board to the 36-year-old relationship. Several of the regents also met on 2 March in Berkeley with the weapons labs study group. This meeting was one of two closed meetings held by the study group in California about which Schwartz complained in charging violations of FACA. No action on the issue is scheduled at the regents' mid-May meeting, which is the last of the academic

year, but coalition activists are seeking to have it placed on the agenda.

UC faculty have not been notably active during this round of the debate, but an effort is reportedly being made by a group of faculty members from campuses throughout the system to put together a statement to the regents favoring severance. A noteworthy break in administration ranks did occur at the 17 February meeting when UC Santa Cruz chancellor Robert Sinsheimer asked the regents to end the universities management role because it "stands in inherent contradiction to our high and lofty prin-

ciples" and "spawns cynicism and distrust in our students."

The next major move in the matter, however, must be made by DOE. The general impression up to now has been that DOE and the Defense Department were satisfied with the UC relationship and were standing pat. That may still prove to be the case. But DOE's evaluation acknowledges the debate and, thereby, widens it. And by Washington standards the issue is being taken seriously since, in bureaucratic jargon, it is being considered at the "Secretarial level."

—JOHN WALSH

Rodent Repellers Attract EPA Strictures

Repellers snare some prominent businessmen and journalists, but repulse few pests

One of the hottest items in the pest control field these days is the electromagnetic insect and rodent repeller. Literally billed as the better mousetrap, the electromagnetic repeller weaves patterns in the earth's magnetic field that are profoundly disturbing to all pests. Rats, mice, gophers, and ground squirrels within its range are simply too confused to eat, drink, or reproduce. Even the hardy cockroach is laid waste. Most pests stumble around as if in a house of mirrors, withering away. Termed "nature's equalizer" by one manufacturer, these miraculous devices vex only harmful animals and insects; earthworms, ladybugs, and game birds, for example, are unaffected. And only one small unit may be enough to cover 30 acres.

It is, in short, the answer to an exterminator's prayers, the fulfillment of the commercial businessman's needs, and the fruition of an entrepreneur's dreams.

Sound believable? It did to one of the world's largest grain dealers, the Cargill Corporation, which has more than 75 of the devices in place at its operations throughout the United States. It did to the superintendent of the U.S. Senate office buildings in Washington, D.C., who purchased six of the repellers last year. It did to the manager of the National Press Club in Washington, who also purchased several of the repellers. It also seemed believable to the Port of New Orleans, the Los Angeles Arboretum, and the Hay-Adams Hotel in Washing-

ton; each has one or more of the devices in place.

But it seemed too great to be true to officials of the federal Environmental Protection Agency (EPA). The EPA has jurisdiction over claims made by makers of pest control devices, so agency officials a year and a half ago ordered \$100,000 worth of laboratory and field tests on five of the repellers. The verdict recently came in: the repellers do not work as claimed, which is to say that they do not work at all. Three have been taken off the market by EPA order, and

people—that otherwise shrewd businessmen have been convinced the repellers actually operate as promised. Some remain convinced even in the wake of EPA's action. Cargill remains effusive about its repellers, for example. A corporate spokesman says that "although we don't want to get in a spitting contest with EPA, we find our repellers to be a valuable tool in minimizing pest problems." In locations where the units have not performed as expected, the spokesman says, the manufacturer cheerfully provided replacements. Similarly, the

"We're not soft-shoe boys or snake-oil salesmen," says one manufacturer.

"Our product makes rats shrivel up and just bump into each other."

ten other models may soon follow. Because none of the devices had any effect on insects and rodents, the EPA has concluded that the entire concept of electromagnetic repellency at low levels may safely be dismissed.

In light of the nigh-impossible claims made about the devices, as well as the paucity of objective data supplied by the manufacturers, this action is hardly surprising. What is surprising is that this particular birdlime caught so many

superintendent of Descanso Gardens in Los Angeles (part of the Arboretum) reports that since he purchased one such device, known as the Nature Shield, 2 years ago, "I haven't seen any ground squirrels in the area that the repeller is patrolling, er, radiating." The only time squirrels appear, he says, is when the repeller unit needs new batteries.

The repeller unit at the Hay-Adams Hotel remains in place, in a compartment just off the Preamble dining