trators at ERDA, most noticeably where the weapons labs are concerned. Cited as an illustration was Starbird's recommendation accepted by then ERDA Administrator Robert C. Seamans, Jr., last summer that negotiations be opened on a noncompetitive basis for extension of the contracts.

Members of the consortium continued to get a sympathetic reception from officials on the civilian side of ERDA, and they interpreted this to mean that a proposal to take over management might be favorably received. At a meeting on 31 January, General Giller disabused them of any doubts about the views of the national security division on such proposals. Those who attended the meeting understood that Starbird's attitude was that rather than see the lab operated by another contractor, he would prefer that it be cut back to performing weapons work only.

According to ERDA officials, the ERDA view is based on a feeling that Los Alamos has operated successfully for a long time under UC management and there is no reason to change so long as the university is willing to continue. They say that ERDA procedures call for a move to "recompete" only when it is clearly to the advantage of the government. The officials say that among the advantages of the UC relationship is that the university has been willing to operate the lab "without great profit." (UC gets a management fee of something over $3 million a year for managing the laboratories.) The weapons labs have also been able to tap the resources of the universities to avoid the costs of crash programs at Los Alamos.

Observers say that the rapid buildup of energy research at the weapons labs has probably ended. The surge of energy R & D funding which occurred after the energy crisis of 1973–1974 came at time of a slump in funding of the weapons program so that the energy projects were welcomed by the national security side of ERDA. Now, say observers, Starbird and others are concerned that the proportion of energy R & D at the lab has grown too large. A new review process aimed at coordinating the military and civilian work of LASL and Livermore has been instituted. And ERDA officials say that the weapons labs are no longer getting energy projects as easily as they did.

A prime target of criticism from nongovernment researchers is the ERDA practice of assigning research projects to its laboratories† under the so-called "form 189" system. The name derives from the forms used by the labs in requesting permission and funding for R & D projects. The critics claim that ERDA labs have received preferential treatment from headquarters. They say that the decisions are made by a small group of ERDA officials who are not necessarily well qualified to judge particular projects and that there is no adequate peer review process or mechanism for evaluating the work done.

Behind the criticism is a feeling that ERDA has a policy of funneling R & D funds to its own labs at the expense of other research organizations, both public and private, which might be better qualified to perform particular projects.

The critics suggest that ERDA in managing energy research is perpetuating a system developed by the AEC for nuclear research in an era when such research was either classified on national security grounds or required knowledge or facilities often found only in federal laboratories. ERDA figures show that during the period of very rapid growth in federal energy research funds, a large number of projects did flow to federal labs. In fiscal year 1976, for example, of a total $2 billion in ERDA R & D funds, about $1.1 billion went to ERDA labs and plants and $867 million to outside contractors. But in 1977, of a total $2.9 billion, about $1.5 billion was earmarked for ERDA facilities and about $1.4 billion went elsewhere.

The trend, in other words may be away from in-house R & D. And there are signs that ERDA is taking a serious look at its policies. The form-189 system, for example, is said to be under review. And ERDA officials are actively seeking ways to make the best use of industry and universities and other nonprofit research competence in energy R & D.

ERDA's rationale for its initial heavy reliance on its own laboratories is indicated in a General Accounting Office report on management and funding aspects of three nonnuclear projects which was undertaken at the request of Senator Frank Church (D–Idaho), chairman of a Committee on Natural Resources and Energy subcommittee. GAO reported that ERDA officials said they made extensive use of the agency laboratories because of "their unique capabilities and experience," because of the labs' responsiveness to ERDA headquarters direction and control, because of the pressure of time in the emergency atmosphere of the energy crisis, and because of the laboratories' willingness to make substantial use of outside contractors. The subject is now undergoing more extensive examination by GAO and interest in Congress seems to be growing. The matter is a complex one, for what is involved is the perennial question about the federal laboratories in general—of how to sustain a national resource without fostering a system of closed-circuit science.

The now superseded Joint Committee on Atomic Energy in its latter years was not disposed to examine such questions closely. So it is not surprising that the weapons labs, which long led a sequestered existence, are now getting special attention.—JOHN WALSH

†ERDA operates eight major "multiprogram laboratories" in addition to nearly twoscore other plants and more specialized laboratories. The multiprogram labs are Los Alamos and Livermore, Argonne, Brookhaven, Lawrence Berkeley Laboratory, Oak Ridge, Pacific Northwest Laboratories, and Sandia Laboratories (a third weapons laboratory, which specializes in the "weaponization of nuclear ordnance," and has been operated for ERDA by Western Electric since 1949).

RECENT DEATHS

Douglas D. Bond, 65; former dean, Case Western Reserve School of Medicine; 30 October.

Rayman W. Bortner, 49; professor of human development, Pennsylvania State University; 30 October.

Edward A. Boyden, 90; former chairman of anatomy, University of Minnesota; 27 October.

John C. Cassel, 55; professor of epidemiology, School of Public Health, University of North Carolina, Chapel Hill; 24 October.

Donald S. Clark, 69; professor emeritus of metallurgy, California Institute of Technology; 2 October.

Alfred E. Emerson, 79; professor emeritus of zoology, University of Chicago; 3 October.

Herold C. Hunt, 74; professor emeritus of education, Harvard University; 17 October.

John E. Lauritzen, Jr., 50; physicist and senior scientist, Institute for Materials Research, National Bureau of Standards; 11 October.

Milton Levy, 73; former chairman biochemistry department, Dental School, New York University; 30 October.

Erratum: The salary figures quoted on page 281 in the 15 April story on Stevens Institute of Technology were for average compensation, plus countable fringe benefits, and should have been so identified.

Erratum: The picture of Paul Erdös that appeared on page 144 in the 8 April issue should be credited to J. A. Bondy at the University of Waterloo, Canada.

Erratum: Due to an editing error, the capacities of two nuclear plants were incorrectly described in the 25 March issue, p. 1312. The Millstone 1 plant has a capacity of 630, not 830 megawatts, and Millstone 3 will have a capacity of 1150, not 1000 megawatts.
—D.S.