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until a supplementary statement is produced, a process that will take about a year. The court also said that the Corps should no longer claim, for the purposes of comparing costs and benefits, that the cost of borrowing money is only 3.5 percent. As the court notes, use of a 7.5 percent interest rate—permissible under Corps rules but still distant from market rates—could drop the project "below the level of economic justification." Even under the Corps' flexible standards, it could force the project's deferral or cancellation.—R. JEFFREY SMITH

DOE Laboratories in the Spotlight

Science adviser sees likelihood of Administration review; university, industry witnesses call for a shift of resources

A large segment of the country's technical resources are deployed in the national laboratories owned by the Department of Energy (DOE). The role and performance in energy research of the federal laboratories has come under sharp criticism in recent years. At hearings held jointly by two House energy subcommittees on 29 July, one critic charged the national labs with competing unnecessarily with universities in research and another taxed the DOE labs for using research funds that would be better spent in industry. The lead witness, President's science adviser George A. Keyworth II, said that now is a "critical time to redefine the national laboratories' mission." He indicated that the Administration will undertake a review of the national laboratories with that in view. Keyworth, an alumnus of the Los Alamos nuclear weapons laboratory, said in response to questioning that he regards the fraction of energy research funds going to the DOE laboratories as "too large" and believes that DOE should find ways to transfer some of those funds to "industry and academia."

DOE has 57 government-owned, contractor-operated plants and laboratories, but the focus of the hearings was the dozen so-called multiprogram laboratories that in the 1970's undertook a broad range of energy R & D projects. These laboratories include the Livermore, Los Alamos, and Sandia weapons laboratories and the Argonne, Brookhaven, and Oak Ridge national laboratories. The multiprogram laboratories employ more than 50,000 people, about half of whom are scientists, engineers, and technicians. Their operating budgets were about $2 billion last year.

At the hearings the subcommittees gave special attention to two questions. Have the national laboratories enjoyed a privileged position that has resulted in the unfair distribution of energy R & D funds at the expense of industry and the universities? Have these laboratories been effective in transferring the technology they develop to industry?

Arthur M. Bueche, General Electric senior vice president for corporate technology and chief consultant on science and technology for the Reagan transition staff, made a bid for a substantial shift of energy R & D to universities and industry. He said that in the energy sector there is a strong private industry structure and tradition for conducting R & D and commercializing the resulting technology through operation of the market system. Federal involvement is warranted in cases of long-term projects and high-risk technology deemed important to the nation. Such activities, however, should be carried out in cooperation with universities and industry "rather than [under] unilateral direction by government alone."

Bueche objected to industry's shrinking share of federally funded energy research. He cited data that show that in 1974 some 64 percent of such research was carried out in industry but that by 1979 the industry share was down to 38 percent.

The gist of his remarks is contained in a closing comment. "In short, I think it's time we take a hard look at these laboratories and begin to think about transferring the work and people to the university campuses and industry where we can produce more of the people we need and where the work can be more expeditiously commercialized."

D. Allan Bromley, a Yale University physicist and president of the AAAS, was less specific than Bueche in recommending changes, but he also came out in favor of a shift in resources. Throughout his discussion Bromley sought to relate the national laboratories to the universities' growing difficulties in training adequate numbers in scientific and technical fields and, particularly, to the serious problem of obsolescence of scientific instrumentation in the universities.

Bromley pointed to friction at the "university-laboratory interface." According to Bromley, "Over the years, complementarity in many areas has changed to a rather unequal, and sometimes unhappy, competition in which university and national laboratory personnel have engaged in precisely the same research but wherein the latter have more time, better facilities, better technical support, fewer distractions, and essentially no competing obligations."

On the question of distribution of funding, Bromley cited figures for the fiscal year 1981 that indicate that DOE operating support for energy R & D for universities was $201 million; in contrast, $736 million went to the national laboratories. He acknowledged that some of the laboratory funds provide services to university users, but he said that his impression was that the universities had been "considerably more severely impacted by budget pressures than have the national laboratories. . . ."

Keyworth made a generally more positive estimate of the performance of the national laboratories and their future contributions, but he mixed his praise with criticism. He noted, for example, that expansion and diversification of the DOE laboratories has been accompanied by "a certain dilution and weakening of purpose and mission."

A single morning of testimony, particularly from witnesses like Bromley and Bueche with self-declared vested interests, cannot be taken as much more than straws in the wind. Nevertheless, with a new governing philosophy in the ascendant, if the review of the energy laboratories that Keyworth promises is carried through, the national laboratories could find themselves in a colder climate when DOE faces the Office of Management and Budget and asks for funds for R & D for fiscal year 1983.—JOHN WALSH

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