result in salary reductions for the remainder of the year. Indeed, the revisions of new grants and grant renewals, as well as contracts and cooperative agreements, might run as deep as 10 percent of the original commitment in some cases, NSF says.

The decision to reduce the size of awards is part of NSF's effort to cut spending by 4.3 percent in fiscal year 1986, as mandated by Gramm-Rudman. Bloch has chosen to spread the pain across the board to avoid making inequitably large reductions in the size and number of research awards made after 1 March.

NSF's aim, says Sandra Toye, the agency's controller, is to maintain the balance in base programs and to protect young investigators. Bloch said in a 21 February memo to NSF staff that he wanted to avoid "causing undue harm to the research and education communities. . . . We will see that no single category of awards or type of activity carries an undue part of the burden."

A number of programs are to be completely protected from cuts under Gramm-Rudman: mathematics, efforts to increase participation in science by women and minorities, and ocean drilling. Furthermore, NSF specified to universities, colleges, and foundations that "support for students and postdoctoral associates and instrumentation and equipment is to be protected." Toye, however, says that this does not mean institutions are prohibited from reducing these accounts somewhat. Even with the paring of award sizes, the agency says there will be fewer research grants made than would have occurred had Gramm-Rudman not been passed by the Congress. ■

MARK CRAWFORD

Western Countries' Neglect of Clean Coal Research Criticized

Paris.

Western governments have been criticized by the Paris-based International Energy Agency for not spending enough money on research into ways of reducing the environmental damage caused by burning coal to produce electricity.

In a report* on the energy research policies of its 20 member-countries—which include all the major Western industrialized nations apart from France—the agency says that there is still a "substantial disparity" between the declared policy of many governments of giving greatly increased emphasis to environmentally acceptable ways of using coal, and the "relatively modest sums" devoted nationally to developing the appropriate technology.

In particular, it points out that research into the use of coal to produce energy receives about the same amount of money as research into renewable energy sources—in each case, about 9 percent of the overall energy research budget of the IEA countries—despite the great difference in the present and short- to medium-term future contributions from these two broad energy options. "Continuation of this situation is bound to erode the credibility of the recent re-endorsement by [IEA] Energy Ministers of a more vigorous drive towards the clean use of coal," the report says.

Overall, the agency notes that the decline in spending on energy research by Western nations that had been occurring since the beginning of the 1980's—caused primarily, but not solely, by reductions in the U.S. energy research budget—appears to have leveled off.

While total spending on energy research by the agency's 20 member-countries fell by 23 percent between 1980 and 1983, it remained virtually constant between 1983 and 1984, leading the agency to the conclusion that "an element of stability can, for the moment, be observed."

Although some countries, in particular the United States, West Germany, and the United Kingdom, continued to reduce spending on energy research between 1983 and 1984 (in each case by about 5 percent in real terms), this was counterbalanced by increases in other countries, in particular Canada, Italy, and Japan.

Italy's record is particularly significant. An increase of 49 percent in its energy research budget placed it for the first time in third place in overall spending after the United States and Japan, and top of the list for government spending on energy research measured as a proportion of gross national product. Italy devotes 80 percent of its energy research to nuclear power, again more than any other IEA country, divided equally between conventional and "advanced" nuclear technologies such as fast breeders and fusion.

According to the IEA, 1984 also saw an end to the decline in spending on research on renewable energy sources, with particularly significant increases occurring in spending on wind energy and solar photovoltaics. Indeed, among IEA members apart from the United States (where spending on renewable sources continued to decline) there was an increase of 13 percent in renewable energy research between 1983 and 1984, compared to a decline of a similar magnitude over the previous 2 years from a peak in 1981.

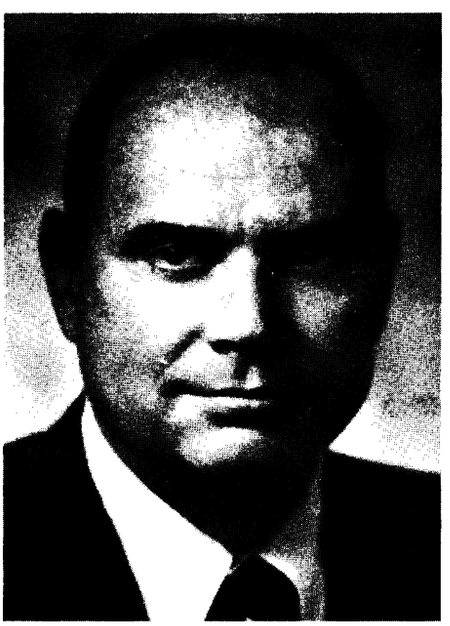
The IEA report is based on answers to a questionnaire distributed to government agencies in its member countries. In general, it says that the influence of broader economic policies on energy research and development "continued to strengthen" in 1984—compared to the previous period in which "the policy emphasis had been almost exclusively on energy security"—with a trend toward the greater use of economic criteria in energy research planning. ■

DAVID DICKSON

**Energy Research, Development and Demonstration in the IEA Countries. 1984 Review of National Programs.*

Comings and Goings

Duane Alexander, 44, has been named director of the National Institute of Child Health and Human Development, after serving as acting head of NICHHD for about a year. Alexander, an M.D., has spent



Duane Alexander

most of his career at NIH, with the exception of a 4-year stint on the staff of the President's Commission for the Protection of Human Subjects of Biomedical and Behavioral Research.

The Engineering College of the University of Missouri at Rolla, has named **Martin C. Jischke** as its new dean. Missouri president Peter Magrath says " . . . I am convinced he can enhance the university's efforts in economic development, assisting Missouri firms, large and small, whose success rests upon advances in engineering, technology, science, and related disciplines."