

NSF unwilling to count its chickens after last year's cuts

Washington

BOTH houses of Congress have now passed authorization bills for the National Science Foundation (NSF), and the House of Representatives has passed an appropriations bill, with the Senate soon to do the same. In normal years, this would make NSF confident about its 1989 budget. But after last year's last-minute cuts, nobody is counting on anything until the various money bills become law.

An authorization bill gives NSF permission to spend money in various ways, but it does not actually provide the cash. That comes from the appropriations bill. At the moment, the House version of the appropriations bill, passed last week on

Ministers encouraged by EUREKA success

Paris

IF European industry is to present a united front in the international high-technology market, it must make unification of standards a priority from the outset of research and development. This was one of the main resolutions of the fifth ministerial meeting of the Commission of the European Communities' EUREKA high technology research and development programme, held in Copenhagen on 15–16 June.

EUREKA was started in 1985 as a non-military alternative to participation in the US Strategic Defense Initiative programme. Last week's approval of 54 new projects reflects the consistent annual increase in proposals from industry and brings the total number of active projects to 213, worth 4,756.2 million ECU (1 ECU = £0.69).

Ministers were able to see three projects near completion — the high-definition television (HDTV), a modular assembly-line applicable to different industries (FAMOS) and EUROTRAC, a project to monitor and deal with atmospheric and marine pollution. EUROTRAC is one of the few examples of a non-commercial application of EUREKA funds and, to be effective, has meant that Eastern bloc countries have been asked to take part.

French research minister Hubert Curien said that agreement on standards is essential if European industry is to compete with US and Japanese manufacturers. The "stupid" incompatibility of electricity mains frequencies between Europe, the United States and Japan is greatly complicating development of products, he said.

Having initiated EUREKA, France remains its most active supporter, with involvement in 102 projects, an investment of 1,374.8 million ECU. Peter Coles

the floor of the House, gives NSF \$1,885 million, about 10 per cent more than last year, but well below the 19 per cent increase that the administration is seeking. In the Senate, the appropriations bill has emerged from committee at \$1,880 million, with action on the floor expected soon.

Normally, with such close agreement between the two appropriations bills, NSF could expect a final funding level somewhere between the two figures. But last year NSF began to make plans based on similar early signs, only to find that all budgets changed at the last minute after a 'budget summit' between Congress and the White House fixed spending levels.

Congress does not accept all NSF's plans and seems unwilling to accept a request for full five-year funding for the new science and technology centres made in the president's 1989 budget. NSF had been seeking \$150 million for these centres, but the Senate has offered \$30 million for 1989 whereas the House only agrees to \$20 million.

The decision not to provide full funding for the centres put Congress in the unusual position of suddenly having an extra \$120–\$130 million to allocate without exceeding the president's budget request. The House and Senate took slightly different routes with this 'new' money. Both gave money for university facilities, but the Senate version contains provisions encouraging NSF to spend more on poorer universities, undergraduate education and university–industry cooperation.

The House version of the authorization contains a provision so noxious to the Reagan administration that it has threatened to veto the bill if it is included in the final version. The provision requires that a new ice-breaker being sought for NSF's Antarctic programme be built in the United States. Unfortunately, the only US bid is nearly double the \$100 million needed for a ship built overseas. House and Senate staff are now working over the two versions of the bill before a formal conference committee meeting.

With a presidential election coming up, NSF has joined the list of groups anxious to offer policy advice to a new administration. Frank Press, president of the National Academy of Sciences, has indicated his intention to set budget agendas that can be used by congressional committees in determining their spending priorities for science. Now the National Science Board, under its new chairman Mary Good, will also be picking topics on which it can offer well-informed opinions. The question is, as Good concedes, with all the voices clamouring to be heard, who will be doing the listening? Joseph Palca

Superconductor pessimism in US

Washington

THE failure, real or perceived, of American industry to engage fully their Japanese counterparts in the battle to develop commercial uses of the new high-temperature superconductors has contributed to a general perception of the inadequacy of the US research and development enterprise. This week the Congressional Office of Technology Assessment (OTA) has added its voice to the debate with a mostly pessimistic report* on the relative standing of the United States and Japan.

Although the US government intends to spend \$95 million on superconductivity research during this fiscal year, most of this amount has been diverted from other programmes. Because superconductor development is necessarily multidisciplinary, involving chemistry, materials science and electronic engineering among others, redirecting funds from these areas may dilute the research effort.

Furthermore, the report notes, half of the superconductor money is going to the Department of Defense, whose track-record in commercially advantageous research is undistinguished, and another quarter is for the Department of Energy, whose forte is large projects with specific goals rather than small-scale, flexible research. OTA argues that better use would be made of federal funds if a greater proportion went to the National Science Foundation (NSF), which at present has been allocated only \$14.5 million for fiscal 1988.

The OTA report also repeats the familiar complaint that US industry is too short-sighted in its pursuit of technological development. A few large companies — AT&T, DuPont and IBM — are spending large amounts on superconductor research, but there are no US equivalents to the numerous and diverse Japanese manufacturers whose leaders evidently see long-term profits in superconductors. One remedy is for the US government to get directly involved in industrial research by sharing costs with industries willing to support basic research.

The report concludes that adherence to the traditional *laissez-faire* approach to technology transfer will concede the advantage to the Japanese, and argues that the US government must actively push the research priorities it deems essential. This might be done, it says, through the creation of a new federal agency devoted to civilian technology, to support research which is too speculative for industry but too "unglamorous" for the existing agencies. David Lindley

*Commercializing High-Temperature Superconductivity: OTA-ITE-388; June 1988.