

US technology controls

Curbs on conference membership advocated

Washington

FREEDOM of scientific communication with foreign nationals may be severely restricted by draft export administration regulations now being circulated within the US Government by the Department of Commerce. If the draft is approved, universities will have to obtain a validated export licence for any academic conferences attended by foreign nationals, and possibly even for undergraduate classes. The new proposals remove the existing general authorization to export educational material and information "not directly and significantly" related to industrial processes.

The Commerce Department is going to unusual lengths to keep the draft confidential. A version circulated a year ago had to be abandoned after it was widely leaked and opposed from all quarters. Since then there have been two revisions, chiefly affecting business interests, but the key elements remain unaltered.

It is unlikely that the Commerce Department's ideas will go unchallenged. A special inter-agency working group on scientific communication and export controls this week begins a "crucial" series of meetings to decide how to revise the regulations without unduly restricting scientific progress. The working group, under the chairmanship of Andrew Pettifor of the Office of Science and Technology Policy, includes representatives from the State Department, the Department of Defense and the National Science Foundation. Mr Charles Herz, general counsel of the foundation, said last week he was "hopeful" that satisfactory compromises could be found — "the aim is to ensure we don't shoot ourselves in the foot by introducing inappropriate controls". A study planned by the National Academy of Sciences of how export controls affect science will be too late to have an impact, however; the working group hopes to have reached conclusions by the end of August.

The Department of Defense recently announced that it had given up the idea of introducing a "grey area" of sensitive but unclassified research, for which scientists would be required to check with the department before publishing research results (see *Nature* 31 May, p.389). Instead, contracts would be used to impose restrictions on federally-funded research with security implications, on an all-or-nothing basis. That decision was credited to Dr Richard DeLauer, Under Secretary of Defense for Research and Engineering and a moderate on regulation.

The new Commerce Department

proposals, in contrast, are thought to owe much to the Pentagon's international security policy division, which takes a markedly different line. The use of the export administration regulations to control scientific communication, which the National Academy of Sciences two years ago considered to be the least desirable option, may lead to more far-reaching controls.

The new export regulations are being drawn up in response to a congressional mandate to include in the "commodity control list" of restricted exports a category of critical technology based on the Commerce Department's internal "militarily critical technology" list. This internal list runs to some 17 volumes and the department is apparently having some difficulty in reducing it to a manageable size and sanitizing it for publication. Although the intention of Congress in making the instruction was to avoid unnecessary restrictions on communication, there seems to be a danger it will have the opposite effect.

In parallel with the executive moves, Congress is painfully trying to revise the Export Administration Act — formally lapsed but extended under emergency powers. However, the Senate and the House of Representatives have produced incompatible bills and a conference committee has so far been unable to reconcile the two.

A requirement that universities and other educational institutions report to the government what are called "agreements to export technical data" — communication of results to foreigners — is just one area where the two houses have been unable to agree. While the House of Representatives would maintain in law the existing general export authorization for such institutions, the Senate would require reporting for technology identified by the Pentagon as "militarily critical". These reporting requirements would facilitate the regulatory changes now being aired by the Commerce Department. The conference committee will make another attempt to resolve the issue on 26 July.

Sceptics argue that the legal provisions are largely irrelevant, since it is their interpretation by the enforcement divisions that will matter. Despite the existing privileges, more and more conferences are being required to restrict access to US nationals or to restrict content. At a 1985 conference on metal matrix composites to be held by the American Society for Testing and Materials, delegates will have to exercise their ingenuity to avoid talking about "design, manufacturing, fabrication

methods, production technology or end use of the materials".

The impasse on Capitol Hill may quite possibly signal the end of the Export Administration Act. In a presidential election year, the normal rules of politics are suspended, and the act could be one casualty. Provisions to encode in statute a boycott against South Africa, pushed hard by Democrats in the House of Representatives, may be intended as much to attract a presidential veto as for humanistic reasons. The administration, however, is keen to get the act on the statute book, fearing legal challenges to the present interim provisions.

Tim Beardsley

Japanese biotechnology

Search begins for superbugs

Tokyo

A FIVE-year project is about to be launched in Japan to search the world's more bizarre environments for microorganisms that thrive under conditions of extreme pH, temperature, salinity and pressure and to try, in the long term, to use their unique properties to establish a "new biotechnology". The "Superbugs" project, as it has been officially called, is the latest addition to the innovative ERATO programme and is expected to be backed with funds of around 1,500 million yen (£4.63 million).

ERATO is run by the Science and Technology Agency's Research Development Agency (see *Nature* 305, 373; 1983) and has always sought out original — some would say downright eccentric — research themes. Six projects, including those on bioinformation transfer and biholonics, are already under way, and a new project is being added each year.

All run under a set of rules designed to provoke unconventional enquiry: the 20–30 researchers in each project must all be under 35 years of age, they must be drawn in equal numbers from universities, government research institutes and industry to ensure diversity of background and they must work in a specially set up independent laboratory where there is no possibility that they will be contaminated by the inflexible thinking of the outside world. Or so at least the story goes. In fact a good element of hardheaded thinking goes into projects that are essentially too risky for industry to carry out but in which there is reasonable chance of long-term industrial application.

The Superbugs project leader, Professor Koki Horikoshi of the Institute of Physical and Chemical Research (RIKEN), is a pioneer in the study of microorganisms from extreme environments. During the 1970s, he discovered a whole new world of alkalophilic microorganisms, isolating several thousand strains — including even