

would conflict with the fundamental precepts that define the role and operation of the American university system, they say. Strict interpretation, coupled with the severe criminal penalties that they contain, would be even more restrictive than direct classification of the research.

In response to the letter, whose addressees also include Mr Malcolm Baldrige, the Secretary of Commerce, the three federal agencies involved have apparently told the universities that they are looking closely at the problems raised, but it is expected to be several weeks before a formal reply is agreed upon.

The potential impact of the export control regulations on the academic community is already being discussed by an *ad hoc* committee set up last month by the National Academy of Science's Committee on Science and Public Policy.

The rules are also being closely studied by the National Science Foundation. Dr Donald Langenburg, the Deputy Director, says the foundation is "deeply concerned" about the potential impact of export controls on research, adding that it is "critical" to the freedom of scientific exchange that these are kept to a minimum consistent with foreign policy and national security objectives.

The growing tension between the academic community and the federal agencies over the interpretation of export restrictions is precisely the type of problem for a presidential science adviser, still absent from the White House. **David Dickson**

DNA research guidelines

Dutch get tough

Brussels

The publication by an *ad hoc* committee of revised safety rules for recombinant DNA research has raised some grumbles in Dutch industrial circles. By and large the new guidelines, the conclusions of a year's study of the risks of gene manipulation, follow closely those set by the National Institutes of Health in the United States. But while other European countries are moving towards a relaxation of the rules, the Dutch have tightened up the restrictions on research with pathogenic microorganisms.

Companies such as Unilever and Gest-Brocades, which are carrying out research into the industrial applications of bioengineering are, however, more frustrated about the administrative checks on research. In the Netherlands, DNA research is first vetted by the *ad hoc* committee, although there is no legal obligation to register the research. Local authorities then have the last word over individual experiments and any new research laboratories.

It is up to the committee, the local authority and university advisory groups to interpret the guidelines as they see fit. Industry complains that it is unnecessarily

restrictive to ask permission to carry out each individual experiment. Unilever has taken some of its projects to Belgium and Gest-Brocades has switched some of its resources to its UK laboratories. In the meantime both expect to wait at least a year for approval on new laboratories. The companies feel that local government authorities are much harder on industry than on universities.

The Netherlands is now thought to have the toughest rules in the world. Public distrust of DNA research caused four members of the *ad hoc* committee to abstain from the final vote on the new guidelines on the grounds that there should be a study of the impact of genetic engineering on society as a whole.

The European Community's Economic and Social Committee is taking the same option. Last July the European Commission brought out its own recommendation on the registration of DNA research, which stressed that over the past three years it had become clear that DNA research is not as dangerous as was originally thought. However, before agreement is reached between the Economic and Social Committee and the European Parliament, a public workshop is to be held in May that will bring together representatives from a cross-section of society to discuss the economic, social and ethical implications of such research.

The Commission's recommendation, if it is adopted, would do little more than establish common definitions and provide the basis for a consensus on registration procedures. However, many researchers increasingly feel that arguments about risk assessments are academic. The bulk of research is carried out in the lowest risk class and very rarely in PIII containment conditions. Thus, the slightly stricter rules proposed by the Dutch are expected to have little impact. **Jasper Becker**

Solar Polar mission

Joint project saved?

The European Space Agency (ESA) is "cautiously optimistic" that something will be salvaged from the International Solar Polar Mission, although in a less ambitious form than originally envisaged. The two-spacecraft mission to study the polar regions of the Sun was threatened last month when the US National Aeronautics and Space Administration (NASA) announced that, to meet budget cuts, it would not be building its spacecraft.

Although it is unlikely that NASA will restore the mission to its original status, angry protests and diplomatic pressure by European embassies in Washington seem to have prompted a compromise. According to ESA, that might involve NASA building a cheaper spacecraft — costing \$40 million rather than the \$100 million originally planned.

Under such a scheme, NASA's space-

Congress redispenses

Washington

A congressional subcommittee has now prepared the ground for restoring the United States half of the Solar Polar Mission. Last week, the space science subcommittee of the House of Representatives Science and Technology Committee voted to make cuts elsewhere in the National Aeronautics and Space Administration's (NASA's) budget for the fiscal year 1982; these cuts made it possible for the subcommittee to restore money for projects such as the Solar Polar Mission (which was given an additional \$15 million) without exceeding the total for the NASA budget of \$6,700 million proposed by Mr Reagan. Since the rearranged budget package will not incur additional costs, House Democrats are hopeful that the pro-space science subcommittee of the Senate Commerce Committee, which votes later this month on NASA's authorization, can also be persuaded to accept reinstatement of the solar spacecraft, perhaps on a smaller scale. **David Dickson**

craft, which would lose a de-spun platform carrying a solar coronagraph for direct imaging of the Sun, would be almost identical with ESA's. Two similar spacecraft would allow measurements of spatially and temporally resolved dynamic phenomena, which would not be possible with only one.

ESA's dismay at NASA's decision to abandon its part of the mission was largely due to the fact that it had already spent most of the money for its spacecraft in European industry. NASA, on the other hand, had delayed building its craft after the planned launch date of the mission was put back last year. If NASA is willing to compromise, ESA will agree to a further launch delay to 1986, even though it would increase the costs. The precise details of the compromise will have to wait until Dr James Beggs, NASA's new director, is installed. **Judy Redfearn**

Biotechnology

Canada takes stock

Washington

After six months of intensive study, a task force set up last summer to look at the development of biotechnology in Canada has recommended that the Canadian government should establish a ten-year National Biotechnology Development Plan, with a budget that would rise to about \$50 million a year. Most of this money would go on research and training; exploitation would remain for the private sector, which the task force recommends should receive significant tax incentives.

The task force was set up by Canada's Minister of State for Science and Technology, Mr John Roberts, and was