

American Association for the Advancement of Science — New York

# Administration hints at clampdown on biotechnology exports

AMID charges from the Department of Defense (DoD) and US intelligence agencies that the Soviet Union is applying biotechnology to biological warfare research, the Reagan Administration is beginning to suggest that biotechnology may have to be brought under export control regulations designed to halt the flow of "militarily critical technologies" to potential adversaries.

The Reagan Administration's interpretation of the export control rules has been the subject of controversy, particularly in the crackdown on exports of computer components and in DoD's recent efforts to shut out foreign nationals — even those from NATO countries — from scientific meetings held under its sponsorship.

At the AAAS meeting here, John Birkner of the Defense Intelligence Agency predicted that "dual use" biotechnology — items with both peaceful and military applications — would sooner or later have to be restricted. He asked scientists in industry and at universities to help DoD learn "how our technology may be turned against us" so that a "prudent" list of militarily critical technologies can be compiled for biotechnology.

Items listed as militarily critical can be exported only with a licence issued by the Department of Commerce. To qualify for the list, a technology must not already be possessed by "principal adversaries" nor available to them from a third party. Birkner said that specialized polymers, synthetic elastomers and detectors for chemical and biological warfare agents would all be likely candidates for inclusion on the list.

The charges that the Soviet Union is already exploiting biotechnology for biological warfare have emerged in recent weeks from official DoD sources, the Central Intelligence Agency and a series of articles in the *Wall Street Journal*. DoD's recent report on Soviet military power asserts that the Soviets have an active research and development programme to investigate the utility of biological weapons; Birkner said that "there are at least seven biological warfare centres in the Soviet Union that are under strict military control" and which are applying "selected aspects of genetic engineering to their work". The *Wall Street Journal* articles made similar accusations, and in turn have been sharply criticized by many US researchers for imputing sinister motives to research activities that are indistinguishable from US efforts in biotechnology and basic genetic engineering.

The putative activities of the Soviet Union would constitute a violation of the

1975 convention banning the possession or development of biological weapons. The United States had earlier accused the Soviets of violating the treaty (and the 1925 chemical warfare treaty) by using toxin and chemical weapons in Afghanistan and South-East Asia.

Meanwhile, some new light has been shed on the US military's own programme of recombinant DNA and hybridoma research. Thomas Dashiell of the Office of the Secretary of Defense appeared at the meeting here with a list of 43 biotechnology research projects funded by DoD as of 30 April. The bulk of the projects deal with development of vaccines against disease endemic in areas where US troops might be sent or against possible biological warfare agents, such as anthrax. Other projects are aimed at developing enzymes to decontaminate chemical warfare agents and at producing materials such as epoxies, lubricant stabilizers, biofuels and marine anti-fouling agents.

The research, which is divided between in-house efforts (mainly at Fort Detrick in Frederick, Maryland — the former biological warfare research establishment) and sponsored research at universities (among them Massachusetts Institute of Technology, Texas A&M University, Rockefeller University, Purdue University and the Universities of California, Massachusetts, and Maryland), is all unclassified. Dashiell suggested, however, that if the research moves beyond the basic stage — which he says is not likely to happen for eight years at least — some of the development work may be subject to secrecy restrictions.

**Stephen Budiansky**

**Peter David adds:** In Washington meanwhile, Congress received an unexpected signal last week that the Reagan Administration may be softening its stance on the control and publication of research findings. Dr Edith Martin, Deputy Under-Secretary of Defense for research and engineering, announced during a hearing of the House Science and Technology Committee that the administration intended to rely on formal classification procedures to keep sensitive research out of the hands of foreign nations.

Apparently reading from the still-unpublished report of a senior interagency group examining technology transfer, Dr Martin said it was the policy of the administration that "no restrictions may be placed on the conduct or reporting of research that has not received national security classification".

Although the statement referred specifically to "fundamental" research, it was taken by observers at the AAAS meeting to

imply that the Department of Defense (DoD) had dropped a controversial plan to restrict the publication of applied research that was sensitive but not formally classified. Drafted as part of a wide-ranging review of the Pentagon's approach to international technology transfer, the plan would have insisted that DoD contracts for work that was both "applied" and "sensitive" should in future give the Pentagon the right to prevent publication of the resulting findings.

In meetings with universities in recent months, Dr Martin had argued that total reliance on classification, in which it would be necessary to show that publication of the research would constitute a direct threat to national security, was too inflexible. But her proposal to create a new category of sensitive research whose publication would be controlled by DoD was fiercely opposed. Three universities — Stanford and the California and Massachusetts Institutes of Technology — wrote to DoD and to the White House science office claiming it would prevent them from undertaking certain categories of research for DoD. □

## Europe uneasy at CERN rival

DR Herwig Schopper, director general of the European Organization for Nuclear Research (CERN), is sowing seeds of dissent to the ambitious US plan for a massive new particle accelerator. Speaking here at the AAAS meeting, Schopper suggested that the tunnel now being completed for LEP, CERN's 100-GeV electron positron collider, could be used for a future proton machine with capabilities approaching those of the US design, and at substantially lower cost.

While careful to stress the importance of "complementarity" between European and US efforts in high-energy physics, Schopper clearly implied that the United States could find itself competing with CERN for the claim to the next large accelerator.

The United States made an initial commitment to its proton collider, known formally as the Superconducting Super Collider (SSC) (and earlier known as the "Desertron"), last year when the High Energy Physics Advisory Panel endorsed the concept. The panel, which represents the particle physics research community and which makes recommendations to the Department of Energy (DoE), at the same time voted to abandon Brookhaven ►