

## Unwise export controls can hurt

**F**or the past year and a half the federal government has been increasing its efforts to control the interchange of unclassified scientific and technical information with foreign nationals. These attempts began at the February 1980 International Conference on bubble memory, when the American Vacuum Society was instructed it would have to obtain an export license before admitting Communist-bloc scientists to the meeting; such actions have since become widespread on a variety of scientific fronts. A recent news story in *PHYSICS TODAY* (June, page 55) has reviewed these developments. Some idea of their scope—and of the tenor of the government's thinking—can be gleaned from the fact that university physics departments that have admitted mainland Chinese graduate students have been receiving letters from the State Department requesting—under the alleged authority of export regulations—completion of a questionnaire that asks what professional trips the student might be taking, what major subject areas—including specific research problems and experiments—will be involved in the student's program, and what contact the student will have with the host institution's industrial or government contracts.

Preventing the spread of high technology that could make a significant contribution to the military potential of unfriendly nations appears to be the US government's main objective in strengthening export controls. Traditionally the government has accomplished this objective by classifying military "secrets" and by controlling the export of military hardware—aircraft, for example. The new approach extends export controls from military hardware to information about certain high technologies, thereby creating a vast new category of unclassified yet restricted information, open to all American citizens but closed to foreigners without federal authorization. Forbidden are both oral and written communications to foreign nationals.

Without quarreling with the aforementioned objective, American scientists legitimately can question whether the government's new approach can achieve its goal without highly counterproductive and deleterious effects on the current structure of our research institutions, both industrial and academic. Effective enforcement of controls on the newly characterized exports seems impossible without expensive and stultifying expansions of paperwork, bureaucracies and measures that will greatly impede the free exchange of information between our own nationals; these measures will be a source of possible harassment to seminar speakers and university lecturers, and they may endanger the established publication policies of our

major scientific journals. Such measures carry the risk—surely unintended by the government—that our universities and laboratories will decide that much basic research on the frontier of high technology has become too inconvenient and divisive to pursue. It is also likely that American scientific societies will find it awkward to invite distinguished foreign scientists to our conferences and that such scientists, if invited, will refuse to come, all to the detriment of our own continued scientific growth. One wonders if the government really understands that the US has no monopoly on high technology, and that during our communications with foreign scholars knowledge is gained by us as well as imparted.

The threats to American science inherent in the new controls may stem from the circumstance that they are being adopted without adequate consultation with the scientific and university communities. The specific queries in the State Department questionnaire suggest only a limited understanding of the facts that American university science departments now have large enrollments of foreign graduate students, that the bulk of these students must be supported on industrial and government contracts, and that after receiving their PhDs many of these foreign students remain in this country and contribute importantly to our nation's scientific and technological growth. It is unlikely that the propounders of the new export control policies—policies which would subject to export licenses any meeting that is not open to the general public and that does not publish its proceedings—are aware of the scientific community's respect for Gordon Conferences or realize that these new policies would make Gordon Conference organizers subject to fine and imprisonment unless they obtained export licenses before admitting foreign nationals.

If increased export controls on scientific and technological information are demonstrably necessary for the welfare and security of this nation, the needed regulations should be formulated in active cooperation with working scientists, university administrators and the officers of scientific societies. The government agencies responsible for promulgating and enforcing export controls should attempt to bring the necessary parties together. We hope that the President's new science adviser will lend his support to this suggestion; final promulgation of poorly conceived export control regulations could impede the continued progress of American science and ultimately weaken the United States.

EDWARD GERJUOY  
Chairman, Panel on Public Affairs  
American Physical Society