

## Report Doubts Value of Broadened Export Controls

In a rebuttal to current assumptions about technology transfer, a report from the Rand Corporation suggests that further efforts by the United States to control exportation of advanced technology to the Russians are unlikely to impede their progress and may even be counterproductive.

In the report "Selling Russians the Rope?" (a reference to Lenin's remark about capitalists selling the Soviets the rope by which the Soviets would hang them), author Thane Gustafson argues that if the Russians are ripe for a new technological advance they will achieve it one way or another. Conversely, in areas where innovation is lagging foreign imports aren't going to solve their problems. So, tightened export controls on technologies with no direct military application could just result in a deterioration of the U.S. trade position and of her relationships with her allies.

Gustafson contends that such controls are likely to have little impact on Soviet technological development, first of all, because the Soviet Union gets less than one tenth of its Western technology from the United States. More important, the Russians are their own worst enemy. Internal obstacles such as weak management, lack of incentives for innovation, and poor communications "dwarf those of the most stringent embargo the Western powers might devise."

"Technology, like a contagious disease, requires a receptive host," says the report, which was prepared for the Department of Defense. Thus, "the most important question about technology transfer in the long run is whether the receiving side is able to absorb the technology it imports." From this perspective, "our focus shifts from the characteristics of the proposed export or its potential end-uses . . . to the Soviets' ability to learn from it."

Gustafson cites one well-known case which many Americans felt showed the need for tougher export controls. In 1972 the Bryant Grinder Corporation of Vermont sold 168 machines for the manufacture of micro-ball bearings to the Soviet Union. Such ball bearings can be used in

many things, including gyroscopes for long-range missiles. When the Soviets within a year of the sale began flight tests of their latest MIRV'd missiles, there was considerable debate over whether Bryant grinders had helped the Soviets fill a crucial gap in their missile technology. Gustafson argues, however, that any advantage was "at best passing," and that the Soviets were well on the way to developing their own high-precision grinding technology.

Although the Soviets can accomplish just about anything if they assign it a high enough priority, Gustafson takes a fairly dim view of their future ability to expand their overall capacity for technological innovation. He says that although they are able to respond swiftly to new policy imperatives by the "quick-fix," large-scale importation of Western equipment, this fails to get at the root of their problems and even inhibits development of solutions by breeding dependence on Western technology.

As for "internal reform" in the management of technological innovation, the report says that recent Soviet experiments have not been particularly successful. The traditional Soviet strategy of maintaining an isolated high-priority zone for the military "becomes self-defeating when military technology requires the entire range of skills and techniques of an advanced industrial economy." Innovation is not rewarded in most Soviet industry. Soviet managers "are not trained . . . to be innovative entrepreneurs but resourceful plan-meeters, and most Soviet scientists or designers have no incentive or material support to become producers."

The Rand report can be expected to bolster the stand of those who want to resist pressure from some military intelligence people, who think everything on the Defense Department's list of "militarily critical technologies" should be withheld from the Soviets under the Export Control Act. This, says Gustafson, would be tantamount to an embargo on virtually all contemporary technology.

Soviets stand to gain most from the outside world when foreign know-how is brought to bear in areas where they have already shown considerable innovative proficiency. But export controls even in those areas will only constitute a "limited holding action"

since alternatives in most cases will be available from countries other than the United States.

Gustafson therefore concludes that "a system of controls narrowly defined around the prevention of near-term military effects is the one most likely to have results, while one broadly aimed at impeding Soviet economic growth is likely to be self-defeating."

—Constance Holden

## Governors Urge National Radwaste Policy

In an ongoing effort to deal with the problem of radioactive waste management, a presidential advisory panel formed at the encouragement of the nation's governors has asked that Congress pass legislation setting forth a national policy for permanent disposal of all high-level radioactive wastes.

The State Planning Council on Radioactive Waste Management was created by executive order in February of last year to offer advice and make recommendations for a national policy on radwaste management. The report of the council, sent to the President on 1 August, recommends that national policy permit officials from all levels of government to participate in the decision-making process, saying that only in this manner can the public's faith in nuclear waste management be restored. Says the report: "... None of us is certain about our fate in this matter because of changing Federal approaches to the problem. Confidence . . . will not be gained by further promises that programs are in place and that high-level wastes will some day be safely disposed of."

The council recommends that officials from state and federal government cooperate to develop uniform national criteria for selecting highway routes for radwaste transportation. Individual states and Indian tribes would be responsible for designating routes within their jurisdictions. The council urges that industry continue to take the responsibility for the interim storage of spent nuclear fuel.

Cooperation is the key to the policy recommendations of the council which is chaired by Governor Richard