

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



Governor Richard W. Riley

W. Riley of South Carolina. "We will not be successful in finding solutions to the problem of nuclear wastes unless federal, state, local, and tribal officials are prepared to work together on the assumption that agreements can be reached, not with the presumption that impasses are inevitable," says Governor Riley.

With the full support of the council, Congress late last year passed the Low-Level Radioactive Waste Policy Act and since then northwestern states have formed an interstate compact for low-level radwaste management and states in other regions are working toward similar arrangements.—**Scherraine Mack**

New NIE Director an Unknown Quantity

President Reagan has selected as the new director of the National Institute of Education (NIE) Edward A. Curran, whose major professional experience has been in private education administration. Now part of the Department of Education, NIE was created during the Nixon Administration to provide a firm base for federal support of educational research.

In the education research community the initial reaction to Curran's appointment has been bewilderment. As one senior university researcher put it, Curran is "absolutely unknown in education research." A source in a national private school organization says that Curran is a "top-notch" administrator and is "well liked and well respected within private education."

Curran served on the Reagan transition team for the Department of Education and after February 1981 was associate director of the White House personnel office. During the 1980 campaign he was director of Professionals for Reagan-Bush.

Between 1968 and 1980 Curran was headmaster of the National Cathedral School in Washington, D.C., an old and socially prestigious private secondary school for girls. Before that he served in a series of teaching and administrative posts at St. John's School in Houston, Texas. A graduate of Yale, Curran holds a master's in teaching from Duke.

Naming an NIE director with a private school background is likely to cause some consternation within public school circles, since it comes at a time when Administration budget cuts and advocacy of tuition tax credits are seen as weakening public schools.

—**John Walsh**

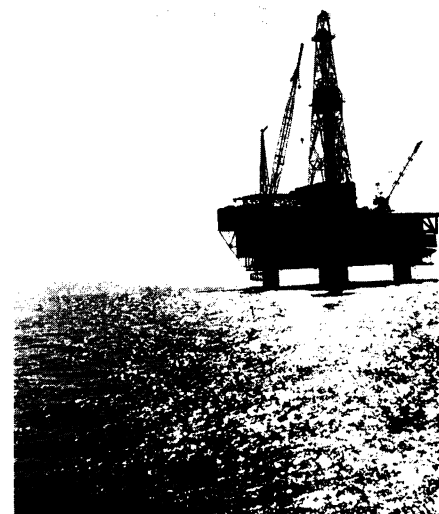
Watt Withdraws California Oil Tracts

Secretary of the Interior James Watt abandoned his plan on 7 August to lease some ocean tracts for oil drilling off the coast of northern California, after becoming entangled in legal and political obstacles created by West Coast officials. He announced at a press conference in Washington, D.C., that he would postpone at least until 1983 the auctioning of areas in the four sedimentary basins that have been the most controversial: Eel River, Point Arena, Bodega, and Santa Cruz. Watt has already held a sale for a fifth basin that lies farther south, called Santa Maria, but he has been prevented from awarding 31 leases in the area by a local court. The judge ruled in favor of the state of California, which argued that the sale was procedurally flawed. Watt is waiting for the local court to file a written version of its decision before appealing to a higher court, where he expects that there will be less sympathy for the state's position. He said that he wanted to settle the legal question before forging ahead with the sales of northern California. Offering those basins now, Watt said, would simply

engage the government in wasteful litigation and probably bring in very low bids.

Environmental groups treated this issue as a major test of their strength on the West Coast and were quick to proclaim, in the words used by the Sierra Club, that this was a "total repudiation" of Watt's "antienvironmental policies."

President Reagan, meanwhile, has twice voiced support for Watt, once at a meeting in Washington and again at a press conference in California. On the earlier occasion, he said that Watt may be trying to get people to look at resource problems the way you get a mule's attention: "You hit it on the forehead with a two-by-four first." Later, at the press conference, Reagan



Atlantic Richfield Co.

Slowing the offshore offensive

said, "Jim Watt has been doing what I think is a common-sense job in the face of some environmental extremism that we've suffered from, and I can assure you Jim Watt does not want to destroy the beauty of America. He just wants to recognize that people are ecology, too. We have some needs, and there have to be provisions for us to live."

A spokesman for Watt, Andrew Newman, says the Secretary's ambitious 5-year plan for offshore leasing (*Science*, 31 July, p. 524) has not been much affected by the litigation in California. The final environmental impact statement is scheduled to be published in October, and Watt is expected to give full authorization to the schedule in January.—**Elliot Marshall**