Proposal to Ban Mobile Missiles Favors Targeting Over Arms Control

President Reagan's endorsement last year stemmed in part from Pentagon concerns that Soviet mobile missiles cannot be targeted; arms control experts say that is why both sides should deploy them

LATE last year, President Reagan startled Congress as well as his own arms control advisers by endorsing a formal bilateral ban on mobile, intercontinental ballistic missiles. Far from a trifling technicality in the complicated Geneva negotiations, the proposal represented a sea change in the long-standing U.S. position that mobile missiles are desirable and should be broadly deployed by both superpowers.

In the interagency deliberations that preceded Reagan's announcement, there was general agreement that such a ban would be highly unappealing to the Soviet Union, which is now in the process of developing or deploying two new mobile missiles. It also would sharply undercut bipartisan congressional support for a new U.S. mobile missile, known as the Midgetman, under development by the Air Force since the late 1970's.

Several factors are widely said to have weighed heavily in the President's decision to overlook these concerns. One was a conviction that the Soviets enjoy some advantages in the realm of mobile missiles, such as relative freedom from worry about potential opposition to missile movement on public roads. Another was a general view that mobility would complicate counting by reconnaissance satellites, and thereby inhibit any future negotiated missile limitations.

But a third and largely unreported reason for the decision was overwhelming anxiety in the military establishment that the deployment of mobile missiles would hinder the ability of the United States to target and destroy Soviet strategic forces before they could be used in some future conflict. "It was largely the Pentagon's doing," says one Administration arms control official. "Although a variety of factors were involved, there was substantial pressure from the Joint Chiefs [of Staff] to eliminate what they see as a major irritant—namely, untargetable Soviet missiles."

This tension between targeting and arms control underlies much of the controversy over mobile missiles, and recently it has become much more acute. With the fate of the Midgetman still uncertain on Capitol Hill, and the talks in Geneva moving by fits and starts, internal and external pressure is mounting to abandon the proposal for a ban. Representative Les Aspin (D–WI), a Midgetman supporter who chairs the House Armed Services Committee, has been particularly vociferous, arguing that the position is so illogical that it has blocked serious and effective bargaining with the Soviets. Earlier this year, he devoted an entire speech to the issue and called it "Reagan Arms Control: I'll Huff, and I'll Puff, and I'll Blow Our House Down."

Midgetman missile launcher. *This prototype, developed jointly by Boeing and Goodyear, is presently undergoing tests to determine its survivability against a potential Soviet attack.*

Vigorous criticism has also come from weapons experts such as John Deutch, a member of the Defense Science Board who recently chaired a special panel on the Midgetman. "Banning mobiles is a loony idea, whose chance of success is remote," he says. Similarly, retired Air Force Lieutenant General Glenn Kent, who presently serves as a strategic weapons analyst at the RAND Corporation, says that a ban is mistaken because it will decrease crisis stability.

His reasoning, once widely accepted in Washington, is roughly as follows. Because missiles in fixed silos are potentially vulnerable to a first strike, each side may be pressured in a major crisis to fire its weapons as soon as possible, before they could be destroyed by the other side. This has been dubbed the "use it or lose it" problem. However, because mobile missiles are inherently more survivable, their widespread deployment ensures successful retaliation after a first strike and contributes to deterrence. As Kent explains, "The last thing I want to do is face a desperate enemy. That's why both sides need mobile missiles. We need to avoid the idea that happiness is a high damage expectancy on Soviet forces. There is simply more to it than that."

Thus far, the Pentagon has successfully fended off these challenges to the Administration's proposed mobile missile ban. But some military officials have seen the writing on the wall and have quietly begun a series of research efforts to improve mobile missile targeting. These range from a program to develop special sensors for the highly classified Stealth bomber to preliminary inquiries on the feasibility of designing strategic warheads capable of striking mobile missiles. Critics say that none of these ideas will be effective in the face of a determined Soviet concealment effort, however.

For much of the past decade, the targeting problem created by mobile missiles was not considered particularly bothersome, even at the Pentagon, relative to the advantage of increasing stability during a crisis by creating invulnerable forces. During the

Carter Administration, one of the principal rationales offered by military officials for the MX—a highly accurate missile that was originally planned to be mobile—was that it would force the Soviets to transfer their own missiles from silos to trucks, thereby diminishing the danger of a first strike by either side.

This relative enthusiasm for mobile missiles has been dampened by several recent developments, however. First, at the President's express instruction, the MX is no longer to be deployed as a mobile missile. Second, the Soviet Union has gone ahead and deployed more than 70 SS25 road-mobile missiles near Yoshkar Ola. In addition, the SS24, a new Soviet rail-mobile missile system, is already in the final stages of development. This gives the Soviets a clear advantage, as the U.S. Midgetman will not be deployed before 1992.

According to Albert Carnesale, a Harvard professor and long-time government consultant on arms control matters, this circumstance has sharply influenced the government's view of mobile missiles. "The view now is that we would deploy mobile missiles in order to better absorb a first strike and retaliate, whereas the Soviets would deploy mobile missiles not because they fear a first strike, but because they plan to launch a first strike and keep the mobile missiles in reserve," Carnesale says. "This is a standard problem. If we have them, the weapons are good, because we perceive them as sensible parts of a retaliatory strategy, but, if the other side has them, they're bad, because they're sensible parts of a first-strike strategy."

Last fall, many officials expected the United States to propose a ban just on mobile missiles with multiple warheads, which would affect only the undeployed Soviet SS24. But the Defense Department successfully argued that the task of distinguishing between single and multiple-warhead missiles would be difficult.

Last minute intervention by the Pentagon, which transformed the proposal into a more general ban, angered others within the arms control establishment. "I have received telephone calls or personal visits from a majority of the people who were in the room when the decision was made saying that they personally were strongly opposed to the decision," says Senator Albert Gore (D–TN), an ardent Midgetman supporter. He claims that some officials agreed only because they knew the proposal would never be accepted in Geneva.

"The public rationale given for the proposal was that mobile missiles are inherently unverifiable," adds Gore, who as a member of the Senate Intelligence Committee organized a closed hearing on the issue late last year. "I believe, and others in the intelligence community share my belief, that this is simply not true."

There is a subtle but important distinction, Gore explains, "between an ability to verify the number of mobile missiles and verifying the precise location on a time-urgent basis for purposes of targeting. We can do the former, but we cannot do the latter. As a result, this quickly evolves into a debate about our basic strategic goals. I don't fault the Joint Chiefs for 1 minute for expressing concern about their ability to perform the mission with which they're tasked. But the political decision-makers have to weigh that military conclusion in a balance which encompasses the need to create an environment in which some of the retaliatory forces on both sides are invulnerable."

Holly Bishop

This map shows the likely ground track for a photoreconnaissance satellite orbiting over the Soviet Union. Even if many such satellites were deployed at enormous cost in orbits between 200 and 500 kilometers above the earth, they would be unable to observe every potential mobile missile deployment site at all times, in all weather. Even then, they might be unable to distinguish the missiles amidst a cluttered landscape. This explains why the Air Force has proposed to use sensors aboard planes as well as satellites to target Soviet mobile missiles.

Evidence of the Pentagon's concern about targeting is manifested in plans to create a program called "Strategic Relocatable Target Capability" next year, with initial funding of $1 million, a relatively small sum in Pentagon terms. But the Air Force is also apparently planning to spend several hundred million dollars adding sophisticated synthetic aperture and forward-looking infrared radars to Stealth bombers, ostensibly enabling them to swiftly distinguish mobile missiles on a cluttered Soviet landscape. (Some interest has also been expressed in adding the sensors to the B-1 bomber.) This effort has only vaguely been referred to in open congressional testimony, such as a statement last year by the Air Force director of strategic target planning.

In addition, the Air Force Ballistic Missile Office has recently begun an inquiry into the feasibility of designing advanced warheads capable of homing in on relocatable targets, with information supplied either by satellites or by on-board sensors. And the Department of Energy has begun investigating novel bomb designs for barraging potential mobile missile deployment areas. Edward C. Aldridge, Jr., the Secretary of the Air Force, believes that these and other efforts will produce positive results within 8 to 10 years. "It will require instantaneous feedback from sensors in real time and all weather," he told *Science*. "And it's going to be very difficult to do. But is it an insurmountable problem? No."

Others are less optimistic, however, and warn that the Pentagon might be headed down a technological blind alley. The recent Defense Science Board report on Midgetman, for example, described this sort of targeting capability as "extraordinarily demanding" because both U.S. and Soviet mobile missiles can be decoyed, camouflaged, or dispersed more broadly in response to an aggressive surveillance effort. A similar conclusion was reached early this spring by a secret Defense Science Board "relocatable target" task force, as well as a special panel of the Air Force Science Advisory Board, according to several sources. "We can probably find some of the missiles from time to time, but we can't destroy them, and we can't do it quickly," says a scientist familiar with the reports. "It's basically an intractable problem, even if we launch a first strike and plan like hell beforehand."

"Some elements are amenable to solution," adds a Reagan Administration arms control official, "but one element that is not is coverage, to wit, the need to revisit and look at certain areas so often that you can find the missiles at any time." Despite a public impression that the United States is

News & Comment staff writer R. Jeffrey Smith is leaving *Science* to accept a position as national security correspondent for the *Washington Post*. During his 9 years with *Science*, Smith won two Science-in-Society awards from the National Association of Science Writers and was honored by a Citation for Excellence from the Overseas Press Club.

capable of seeing anywhere or anything in the Soviet Union from space as often as it desires, he adds, a short-range Soviet mobile missile, the SS20, was not sighted until several years after its deployment.

Others note that, even if enough reconnaissance satellites could be developed and deployed to survey mobile missile deployment areas constantly in all types of weather, at a cost of billions of dollars, the resulting system would be so unwieldy as to be virtually useless. As Douglas Rekenthaler, a former official of the Defense Mapping Agency, notes in a recent article in the *Journal of Defense and Diplomacy*, "the concept of reconnaissance over large expanses of the earth's surface with very high-resolution systems is flawed because of the manpower requirements needed to process and interpret the remotely sensed data." Automation is still "many years away from implementation," he notes, and data processing from state-of-the-art nonphotographic sensors can take hours, not minutes.

Despite some interest in solving the problem with advanced warheads, Colonel Richard Rene, chief of the Air Force Advanced Strategic Missile Systems program, says that he too is skeptical that it can be done anytime soon. "We probably won't have the ability to perform a real-time target update and discrimination involving a warhead until about 20 years from now, unless you make an RV [reentry vehicle] the size of a B-1," he says. "Even then, there is some doubt that it will be practical. In fact, the problems of detection and communications are so serious that no real money is being spent on them as yet and no work on hardware is under way—just a few paper studies."

Meanwhile, the debate rages within the Administration over whether the proposal for a mobile missile ban should be modified. A source close to the Geneva negotiations who favors the change emphasizes that "there is a fundamental dilemma that the military has yet to come to grips with. It has to do with being comfortable with the idea that you can't destroy Soviet missiles in their prelaunch phase. Those whose job it is to attack find this very troublesome. It may even conflict with present strategic guidance, which demands that any plausible Soviet attack be rendered unsuccessful, presumably at least in part by the destruction of Soviet reserves. But it really is more stabilizing for Soviet systems to be survivable; ours, too." Clearly, he adds, "there will be a fair amount of turbulence, as people try to think this through." ■ **R. JEFFREY SMITH**

This is the third and last article in a series on mobile missiles. The first two appeared in the issues of 6 and 27 June.

U.S.–Soviet Exchanges—Redefining Coexistence

A new group of cooperative programs has been unveiled, but in science and technology some old problems endure

In Washington on 5 August the United States and Soviet Union announced agreement on 13 new exchanges covering a range of cultural, educational, and scientific contacts. In Berkeley, California, 3 days later mathematicians at their international congress met to protest the absence of Soviet colleagues who had accepted invitations but were prevented from attending by their government's refusal of permission to travel.

The two occurrences reflect the crosscurrents that persist as the United States and Soviet Union try to stabilize the rocky relations that developed in the late 1970's. The flurry of exchange initiatives came as a follow-up to an agreement by President Reagan and General Secretary Gorbachev at their summit meeting last November to expand exchanges and contacts between citizens of the two countries.

Cooperation in science and technology has been a mainstay of the U.S.–Soviet exchange menu over the years, but has become much more controversial than cultural and educational exchanges. On the American side, concern is rising about the leak of technology of military and economic value through the exchanges and questions about the Soviet stance on human rights and scientific freedom issues have not been resolved. So, despite encouragement from the the top, activity in the science exchanges has been slow to pick up.

A major reason is that the United States is insisting that the exchanges follow a new model that better serves the U.S. interests than the exchanges of the 1970's. Perhaps the clearest statement to date of the Administration view came in May testimony by John P. McTague, then acting director of the White House Office of Science and Technology Policy, before a joint hearing of the House committees on Science and Technology and Foreign Affairs.

McTague emphasized that the revival of exchanges marked a "resumption, not an expansion, of cooperation," and said it did not signal a return to the pre-1979 era of U.S.–Soviet relations. A major question for the United States said McTague is, "how do we structure and manage U.S.–Soviet [science and technology] cooperation in order to achieve our national goals, protect our strategic national security interests, and not repeat the mistakes of the 1970's?" McTague observed that "the Soviets for a time were extremely successful in tapping into our R&D effort by cutting separate deals with individual agencies that often were not in the overall national interest."

U.S. critics of the exchanges say that in the 1970's the Soviets largely set the agenda. They were particularly energetic in pursuing cooperation in projects involving technology in which the United States led, while the United States often appeared willing to engage in cooperation for cooperation's sake. Furthermore, the structure of the exchanges made it difficult for the United States to achieve balance throughout the exchanges. Eleven intergovernmental agreements for cooperation in science and technology originated with the 1972 Brezhnev-Nixon summit meeting and were negotiated separately over 2 years. Individual U.S. agencies and their Soviet counterparts played the major parts in shaping activities under the agreements. No central coordinating authority for the agreements as a whole was provided. Therefore, U.S. officials found there was no mechanism to enable them to exert negotiating leverage in one agreement to gain what they wanted in another.

Now, McTague said, "In particular we are concerned that a hasty 'Geneva bandwagon' approach to future U.S.–Soviet cooperation, similar to the approach of the 1970's, will encourage our technical agencies to expand or develop new programs in a piecemeal fashion without proper policy-level coordination to ensure that new initiatives complement and are consistent with our nation's R&D policies and national security considerations. At present there is no such integrated national science and technology policy to underpin our separate agreements and to direct the process of how we pursue S&T cooperation with the Soviets."

To fill this gap, the interagency Federal Coordinating Council for Science, Engineering, and Technology has been given the task of developing a government-wide policy to guide agency activities in the science