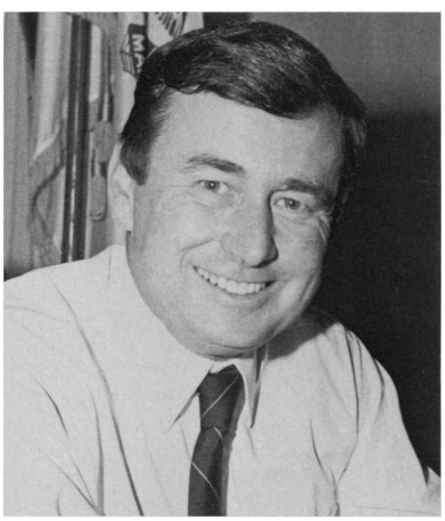
House Votes Ban on Low-Flying Missiles

A little-noticed amendment would bar work on nuclear missiles designed to hit targets quickly; measure gains broad support

A RECURRING SCENE in some nuclear planners' nightmare projections is that the Soviet Union may one day develop a capability to fire nuclear missiles from submarines on very low trajectories that would take them to virtually any part of the United States in a scant 5 minutes. Such a capability—if possessed by either superpower—would further tighten the grip on the nuclear trigger because it would pose a severe threat to bomber bases. Such short flight times would potentially short-circuit warning systems: the missiles would arrive before the planes could take off.

When apprised of this destabilizing possibility by a House staff member, Representative Dave Nagle, a liberal freshman Democrat from Iowa, had a straightforward reaction. "Why don't we pass legislation prohibiting such a development?" Nagle asked, according to the aide. Thus was born a novel amendment that was approved by the House last month by a vote of 262 to 160. The amendment, which was attached to the defense bill, was cosponsored by one of the House's most conservative members, Representative Robert Dornan (R–CA), and drew support from a across the political spectrum—a highly unusual accomplishment for an arms control measure.



Representative Nagle. *A straightforward response to a theoretical threat.*

In essence, the amendment would prohibit the United States from testing missiles in so-called depressed trajectories that would greatly shorten the flight time from launch to target. The prohibition would remain in effect so long as the Soviet Union refrains from such testing. In other words, the measure is a unilateral moratorium wholly dependent on the Soviet Union's actions.

One attraction of the measure, which clearly helped ease passage through the House, is that neither side has so far begun to develop the capability to fire missiles along depressed trajectories. Theoretical possibilities tend to be easier to shut off than actual programs.

The theory behind depressed trajectory missiles is straightforward. Long-range ballistic missiles are generally fired along a path that takes them relatively quickly through the atmosphere and into space, where they release their warheads. The warheads then travel along a ballistic trajectory to the target, reentering the earth's atmosphere at a high angle seconds before impact.

This flight path, which typically starts with a launch angle of about 40 degrees, requires the least amount of energy, an important consideration because it permits more weight to be carried at the business end of the missile. It also means that the warheads will take a relatively long time to travel along the high arc to reach their targets—on the order of 30 minutes for an intercontinental ballistic missile and 13 minutes or so for a submarine-launched missile. Although that is still perilously short, it would provide a slim margin to respond.

If a submarine launched its missiles at a very low angle, however, they would take a more direct route to their target, potentially cutting the flight time by more than half. Fortunately, however, it is not simply a matter of firing existing missiles on a different trajectory. Because the missiles and their warheads would travel a long way through the atmosphere, barely entering space at all, they would be subjected to buffeting and searing temperatures. Existing missiles and warheads would probably not stand up to such forces, thus a specialized depressed trajectory weapon would be required.

Such a missile would require extensive development and flight testing that would be readily detectable at an early stage, according to defense experts. Nagle says he has been fully assured by the Central Intelligence Agency on this point.

Because the long flight through the atmosphere would be likely to degrade accuracy, a depressed trajectory missile would probably be useful only against "soft" targets such as bomber bases and command and control centers. If they could be made accurate enough to threaten land-based missiles—a possibility that most experts consider remote—they would be enormously destabilizing. (The discussions have centered only on submarine-launched missiles. The energy required to fire intercontinental ballistic missiles along depressed trajectories would be prohibitive and the flight times would still be long enough to provide warning.)

In practical terms, the Nagle-Dornan amendment would have little short-term effect. The Defense Department says it is not developing depressed trajectory technologies and has no interest in doing so. But it drew support from some conservatives because it might preclude the Soviets from seeking the capability. It also won the backing of some supporters of the Strategic Defense Initiative because missiles fired on very low flight paths would be able to evade most defenses.

The amendment ran into spirited opposition from some members of the House Armed Services Committee, however, who argued that its implications have not been sufficiently thought through. No congressional committee has studied the measure.

A proposal to ban testing of depressed trajectory missiles was made by the United States in 1978 during the SALT II negotiations. According to Walter Slocombe, a lawyer who was in the Defense Department at the time, the Soviets responded that it was too complicated a measure to introduce at such a late stage of the talks. Another participant said that the Soviets expressed interest and suggested that it be made part of a package of measures designed to enhance crisis stability. In the end, it was dropped.

The Nagle-Dornan amendment was not attached to the Senate version of the defense bill, and its fate will thus be decided by a conference committee that is scheduled to meet in the second week of June. The idea was supported in a speech on the Senate floor by Senator Albert Gore (D–TN), and in response Senator Sam Nunn (D–GA), the influential chairman of the Senate Armed Services Committee, suggested that the subject "has not attracted attention commensurate with its importance."

■ COLIN NORMAN