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MANAGING THE TRANSITION FROM NUCLEAR OFFENSE TO STRATEGIC DEFENSE

INTRODUCTION¹

Among the most challenging aspects of strategic defense is how to manage the transition from a solely offensive strategy to one that is mainly defensive and how to set priorities for the emerging defensive systems.

Current U.S. strategic doctrine, arms control policy, strategic force structure, and war plans are based on the concept of mutual assured destruction (MAD). Revising this fundamentally, along the lines of Ronald Reagan's Strategic Defense Initiative (SDI), could produce an upheaval in the nation's security posture and policies. Doctrine will have to be rethought; force structure rebuilt; and arms control objectives revised. The transition to defense dominance will be every bit as revolutionary as the original transition to offense dominance ("assured destruction").

Rather than being paralyzed by the uncertainties of the long-term technological possibilities for strategic defense, U.S. policy should proceed immediately to define near-term SDI objectives. The main near-term objective is deployment of defenses for U.S. ICBM missile sites. At the same time, the U.S. should begin planning for a long-term transition from an offensive posture to a defensive one. This would include integrating arms control considerations based on a defense-dominant strategic environment into long-term U.S. strategic

1. This is the twelfth in a series of Heritage Backgrounders on Strategic Defense. A complete list appears at the end of this study.

planning. Finally, long-term strategic defense requires strengthened protection against enemy aircraft and improved civil defense.

NEAR-TERM SDI GOALS

The only near-term goal of the SDI stated consistently by the Reagan Administration is to determine the "feasibility" of strategic defense, a rather elusive objective in view of the disagreement concerning what "feasible" means in this context. The absence of clearer short-term objectives is a problem because it prevents SDI from gaining self-sustaining momentum. Unless SDI produces tangible results, such as deployment of defensive missiles, and acquires the bureaucratic momentum of an ongoing program, it may not survive in a political system noted for its short attention span.

Deployments mean production, and production means jobs, far more jobs that a research and development program is likely to generate. The political constituency for the SDI created by widespread employment in producing defensive systems will probably be larger and more durable than any constituency based on abstract devotion to the ideal of "assured survival."

Experience has demonstrated that protracted research efforts are most successful when intermediate objectives have been set that permit managers to gauge progress. In addition, near-term deployment of defensive systems, even if not designed for population defense, would provide useful indicators of the SDI's progress toward the ultimate goal of protecting American society.

The most practical near-term deployment option for SDI technology is an active defense of ICBM silos and other hardened strategic sites. Such installations are intrinsically easier to defend than softer targets like cities. Some SDI proponents resist early deployments of defenses to protect ICBMs because they fear that this will reinforce the prevailing strategic posture and undermine commitment to population defense. This reasoning overlooks such considerations as:

- 1) Soviet strategic forces are designed for a preemptive first strike against the U.S. retaliatory forces at the start of a nuclear war. Active defense of U.S. forces would greatly diminish Soviet expectations for the success of such an attack. In so doing, the defenses reduce the perceived military utility of Soviet missiles and thus represent progress toward the long-term objective of rendering these missiles "impotent and obsolete."

- 2) The transition from the current strategy of assured destruction to a defense-dominant posture will be accomplished only in stages over several decades. During the early transitional stages,

the U.S. will have to rely upon its offensive weapons to deter Soviet efforts aimed at preventing defensive deployments. Thus, active defenses to protect the integrity of the U.S. offensive forces may be a necessary prerequisite for a stable defensive transition.

3) It is misleading to imply that there is a fundamental difference between weapons designed to protect silos and weapons designed to protect people. SDI expert Fred S. Hoffman explained to the Senate Armed Forces Committee earlier this year: "defenses do not come in neat packages labelled 'protection of military targets' and 'protection of civilians.' Warheads aimed at military targets will, in general, kill many collocated civilians and defenses that protect against such attacks will reduce civilian casualties."

Near-term deployments of U.S. missile defenses, of course, could mitigate the effects of limited Soviet attacks against such nonmilitary U.S. targets as urban or industrial areas. The conventional wisdom of assured destruction visualizes attacks on the U.S. largely in terms of massive strikes against urban centers. But it is hard to see a military utility for Moscow in such attacks if they would lead inevitably to unrestrained U.S. retaliation. For this reason, most of the nonmilitary targeting in Soviet war plans is probably quite limited in scope. Thus less than perfect defenses may be able to protect against these attacks, just as they could against the similar threat to the U.S. posed by the People's Republic of China or other adversaries with limited nuclear capabilities.

Near-term defenses also could offer protection against accidental nuclear attacks. Launches resulting from technical malfunctions or command failures probably would be limited in scope and thus susceptible to interception by first-generation SDI systems.

In sum, there are persuasive political, scientific, and military reasons for planning near-term deployment of ballistic missile defenses that offer less than comprehensive protection of the U.S. population. Particularly as defenses of offensive nuclear forces during the early stages of the defensive transition, such deployments lead to SDI long-term goals by discouraging destabilizing Soviet behavior, building a political constituency for strategic defense, and providing useful operational experience. Ideally, near-term deployment of partial defenses should be capable of serving as the first stage in a multi-tiered population defense system. But other objectives, such as protecting offensive forces, are equally important in the near term.

LONG-TERM GOALS²

In Ronald Reagan's original 1983 formulation of his Strategic Defense Initiative, the ultimate objective was to render nuclear missiles "impotent and obsolete." The 1984 presidential directive authorizing the effort, National Security Decision Directive (NSDD)-119, diluted this to the goal of "enhancing deterrence." The Defense Department's Report to the Congress on the Strategic Defense Initiative, released earlier this year, used similar terminology in its discussion of objectives.

Other goals of the SDI cited in the report to Congress included strengthening strategic stability; increased security of the United States and its Allies; and eliminating the threat of ballistic missiles. But over the long term, a true defensive transition would consist of more than simply the introduction of a system that defends against ballistic missiles. It would require defense against bombers and cruise missiles and civil defense protection on a comparable scale.

SDI: FORCE STRUCTURE EVOLUTION

Defensive Forces

The United States today has no significant defenses against a nuclear attack; it relies exclusively on the retaliatory threat posed by its offensive arsenal. The long-term goal of the defensive transition is to develop nonnuclear defensive systems capable of taking over the role currently played by offensive nuclear forces in deterring war and mitigating its consequences.

In 1983, a team of nongovernmental experts concluded that intermediate missile defense deployments were the "preferred path" to attaining the President's long-term goal of eliminating the threat posed by ballistic missiles. For this, the team identified three short-term applications of SDI research: 1) defenses against short-range (tactical) ICBMs, 2) selective defenses of "critical installations" in the continental United States, and 3) a limited

2. The long-term deployment options proposed above are described without any definition of what "long term" means. The reason is that technologies needed to make each of the various options feasible are not yet available. Whether they become available in the 1980s or the 1990s or the next century will be determined largely by the way in which SDI program objectives are defined.

boost-phase interception system. Combining these technological possibilities with the various mission objectives set forth for transitional deployments in the preceding section suggests several near-term missile defense options:

1) Hard-point terminal defenses of strategic assets such as missile silos and communication nodes.

2) Ground-based defenses of missile sites (terminal defenses), which would intercept incoming missiles in the upper atmosphere (endoatmospheric region) and during their midcourse phase. These would reinforce point defenses and/or protect relatively exposed U.S. strategic assets such as bomber bases.

3) Ground-based terminal and midcourse defenses designed to protect nuclear and conventional military sites in Europe against attack by Soviet Intermediate-Range Ballistic Missiles (IRBMs) and Medium-Range Ballistic Missiles (MRBMs).³

4) Ground-based or space-based midcourse defenses designed to provide a moderate defense of urban and industrial sites in Europe and North America against limited nuclear attacks.

5) Early deployments of space-based systems to intercept Soviet ICBMs in boost phase and thus enable the destruction of some Soviet ballistic missiles prior to release of their multiple warheads and penetration aids.

6) Combinations of the preceding possibilities deployed together in a near-term, layered defense system.

Assuming that these missions, such as silo-defense, light protection of cities, are deemed worthwhile, it makes sense to deploy systems to achieve these ends as they become available rather than waiting for the perfect defense.

The most promising near-term option for transitional deployment of defensive technology would be mobile strategic defenses to protect U.S. ICBMs whose housing is designed to deceive the Soviets as to their exact locations. Follow-on options might include missile defenses of fixed strategic targets and, later, systems that defend by intercepting Soviet missiles in the upper atmosphere and above the atmosphere. Initial defense of cities against light or accidental attacks could be provided by a layered system of interceptors, designed primarily to protect missile sites, which attack their

3. For background on SDI technologies applicable to Europe, see W. Bruce Weinrod and Manfred R. Hamm, "Strategic Defense and America's Allies," Heritage Foundation Backgrounder No. 425, April 16, 1985.

targets in the upper atmosphere, combined with ground-based defenses, which intercept their target in its midcourse phase.

The U.S. Army's Strategic Defense Command is developing a variety of ground-based interceptors that destroy objects on impact (kinetic-kill) and sensors, which could be integrated into a multi-tiered network of considerable efficacy before the end of this century. The first tier of the network could consist of the SR-Hit (short-range homing intercept technology) low-altitude interceptor that defends missile sites; additional tiers could be provided by the High Endoatmospheric Defense System (HEDS) interceptors in the upper atmosphere and the Exoatmospheric Reentry-vehicle Interceptor Subsystem (ERIS), which hits targets above the atmosphere.

Sensor data would be provided by the Designating Optical Tracker (DOT) rocket-launched infrared tracking system, the Airborne Optical Adjunct (AOA) infrared sensor mounted on a Boeing 767, and the ground-based Terminal Imaging Radar (TIR).

All these systems could be deployed in the mid-to-late 1990s if their development schedules were rationally structured. Strategic Defense Command is already investigating the battle management and communications needed to integrate the sensors and interceptors. The resulting terminal/midcourse defensive network could provide highly reliable protection of U.S. deterrent forces and significant protection of major urban areas against limited countervalue attacks. Since attacks on U.S. strategic systems or on selected urban and industrial sites are the only rational Soviet nuclear war plan options, the technology under development by the U.S. Army as part of the SDI could negate substantially Soviet war-fighting capabilities before the end of this century.⁴

Offensive Forces

During the protracted period of transition from MAD to a defense-dominant strategic posture, U.S. strategic forces probably will consist of an offensive and defensive mix. During most of the defensive transition, the offensive arsenal will continue to play its traditional role of deterring attacks on the U.S. and allied territory by threatening potential adversaries. In addition, offensive weapons will take on the new deterrent function of dissuading the Soviet Union from taking military steps to prevent deployment of defenses. In this latter capacity, nuclear weapons will be used to facilitate their own extinction.

4. The near-term, multi-tiered defensive network described above could not prevent a major Soviet attack against American cities. Without boost-phase destruction of a large percentage of Soviet missiles, it is unlikely that the threat posed by a major Soviet attack could be fully negated.

The Soviet Union probably will deploy defenses at the same time as the U.S. Assuming the long-term success of Soviet and American strategic defense efforts at the same point in the future, it will become impossible to preserve the viability of offensive forces in the face of highly effective defensive systems. This point is many years away. For the time being, the deterrent role of offensive forces is indispensable. They must be sustained and modernized, including upgrading the command and control system.

As for land-based ICBMs, however, Congress has forced the Administration to accept options inconsistent with projections of future superpower defensive deployments. The U.S. land-based Minuteman ICBM is growing old and obsolete. It could not reliably penetrate Soviet defenses, as could the proposed ten-warhead MX missile. But Congress has limited fixed-silo deployment of the MX to a mere 50 units. In its place, Congress is pushing development of a small, 15-ton, single-warhead ICBM, known as Midgetman.

Midgetman supporters argue that it is less "destabilizing" than MX because 1) it is not an efficient first-strike weapon and 2) it is not an attractive first-strike target. This reasoning ignores the possibility that Midgetman's single warhead might have to penetrate one or more layers of Soviet missile defenses. Multiple Independently Targeted Reentry Vehicle (MIRV) technology originally was developed to assure the penetration of Soviet defenses by U.S. ICBMs; it is a question deserving serious review whether the U.S. should develop a missile that may not be able to penetrate defenses at the same time the intelligence community is predicting and the Administration is encouraging Soviet defensive deployments.

Congress and the Air Force have increased the Midgetman penetration problem by drastically limiting the missile's size (and thus its payload) and selecting an overweight guidance system. The result is that there will be little or no room on Midgetman for sophisticated penetration aids. Whether such a weapon can penetrate even current Soviet defensive deployments is an open question.

Preserving the deterrent role of U.S. offensive missile forces during the early stages of a joint superpower defensive transition will require greater attention to potential problems concerning the penetrability of Soviet defenses. Accelerated development of aids to assist in penetrating Soviet defenses is therefore necessary to cope with possible Soviet defensive deployments. The Pentagon should give particular attention to the precision decoys and technology that enable warheads to maneuver and to fix on Soviet targets that are now being developed within the Air Force's Advanced Strategic Missile Systems program. Of course, the most sophisticated penetration aids are useless if Congress cuts Midgetman down to a size that precludes their employment.

AIR AND CIVIL DEFENSE

Defense against bombers (air defense) and civil defense are crucial to the success of any process whose ultimate objective is a "nuclear-free world." Yet there is little evidence that the interdependence of ballistic missile defense and air defense is being seriously addressed by Washington either within SDI or elsewhere. Nor is much attention being given to the interaction between contemplated deployments of active defenses and possible passive defense of civilians.

Conventional wisdom has it that there is no point in revitalizing air defenses until the feasibility of ballistic missile defense has been determined, since both are necessary for a thorough defense and the latter is more challenging. That is true today, but may not always be so. The Soviets are deploying a new generation of air- and sea-launched cruise missiles on strategic bombers and submarines, which are capable of overwhelming U.S. air defenses. The use of available or prospective technology will not necessarily upgrade the U.S. air defense system to stop thousands of cruise missiles with the same reliability that ballistic missile defenses can intercept ICBMs and submarine-launched missiles. Without upgraded air defenses, the introduction of extensive U.S. missile defense probably will prompt Moscow to shift its arsenal emphasis from ballistic missiles to air-breathing systems such as bombers and cruise missiles. Such a shift would improve strategic stability since the air-breathing systems are slower and less destructive. But until defenses against nonballistic missile threats were fully developed, the U.S. would still be quite vulnerable to nuclear damage.

While it is quite plausible that effective active defenses against missiles and aircraft will be available, these defenses may not be perfect. Minimizing damage from a nuclear attack thus will require such passive defenses as fallout shelters and urban evacuation plans, but the federal government has no plans for developing such a civil defense system.⁶

Currently, the U.S. is funding SDI studies of systems that would be vulnerable to a Soviet air-breathing weapons threat. Arguments that any system capable of coping with ICBMs can also cope with

5. For a discussion of the potential for defense against bombers, see Loren Thompson, "Air Defense: Protecting America's Skies," Heritage Foundation Background No. 379, September 13, 1984.

6. For discussion of civil defense and strategic defense see Brian Green, "The New Case for Civil Defense," Heritage Foundation Background No. 377, August 29, 1984.

air-breathing threats are simply wrong. Arguments that highly reliable active defenses will eliminate the need for passive defenses are correct in principle but almost certainly unworkable in practice. If the ultimate objective of U.S. policies is a nuclear arms-free world, then SDI is just one facet of the defensive transition for which the Reagan Administration should be preparing.

ARMS CONTROL POLICIES

The existing structure of superpower arms control agreements consists of two components: strict constraints on defensive systems and loose constraints on offensive systems. An arms control regime compatible with the aims of a defensive arsenal by contrast mainly would limit offenses. Only those defensive systems that represented an overt threat to other nations would be limited; other kinds of active or passive defense would be permitted.

At some point during the transition to a defense strategy, probably quite early on, the 1972 ABM treaty will cease to have strategic value to the U.S. It should be allowed to die. The precise timing of U.S. withdrawal from the treaty will be determined by the pace of technological innovation and the nature of Soviet behavior. Treaty modifications, for example, could be negotiated with Moscow. As a practical matter, however, the ABM Treaty probably will not survive its 20-year review scheduled for 1992.

It would be desirable to extend constraints on offensive weapons into the next century. Such constraints would make successive levels of active defense feasible at an earlier point in time and thus accelerate the defensive transition. Here too, however, Soviet resistance must be anticipated.

Soviet efforts to negate U.S. defenses through offensive force improvements will continue for some time. Gradually, however, it will become apparent that offensive forces are losing their military utility. As this occurs, Russian leaders may become more receptive to formulas aimed at major bilateral reductions in offensive forces. Their receptivity would be encouraged if, as seems likely, their defensive systems were inferior to those of the U.S.; in such a situation, reductions in U.S. forces might be the only way of compensating for poor Soviet defensive technology.

Once the Soviets have agreed to give up offensive weapons to bolster the performance of their defenses, the era of Mutual Assured Destruction will end. Serious consideration of nuclear disarmament will then, for the first time in the atomic age, become feasible.

TRANSITIONAL INSTABILITIES

The contention that a defensive transition will spark an unconstrained arms race making arms control impossible is based on a model of Soviet-American interaction called "action-reaction." This model was developed originally within the McNamara Defense Department in the 1960s to justify Mutual Assured Destruction. In brief, it argues that any defensive deployment will spawn an offensive reaction designed to preserve the adversary's deterrent capability. Thus, any U.S. effort to build a defensive shield while maintaining the integrity of its offensive forces will provoke similar activities in the Soviet Union. The end result, in theory, is an unlimited and dangerous competition in both offensive and defensive weapons.

The action-reaction model assumes the race between offensive and defensive technologies is so close that successive increments of either in one country will require a response in the other country, which in turn is sufficiently effective to require a counterresponse. But this logic excludes the possibility that advances in defensive technology might be so impressive as to preclude an effective offensive response. Since the objective of the SDI is to discover and develop such technologies, the long-term success of the program would render the reasoning behind an arms race irrelevant. The Soviets will not proliferate offensive forces unless they can reasonably expect thereby to negate U.S. defenses; if this expectation is justified, the U.S. will not build defenses in the first place.

Further, Soviet strategic forces have specific missions in wartime, most notably to preempt U.S. retaliatory forces. Simply being able to obliterate American cities has little military utility, because it invites responses in kind. While it is unrealistic to expect the SDI to develop impenetrable city defenses in this century, it is quite plausible that U.S. defenses of its missile forces could be built that are simply beyond the capacity of Soviet offensive weapons to negate. If this were to occur, it is hard to see how proliferation of offensive capabilities would benefit Soviet security. Consequently, with nothing to lose, Kremlin leaders might be quite willing to accept negotiated deep reductions in offensive forces.

CONCLUSIONS

The problems presented by the transition from today's reliance on nuclear offensive weapons to reliance on nonnuclear defense are manageable. Its benefits are indisputable. Deterrence will not last forever; the U.S. should begin planning the shift to an alternative posture now.

The measures to manage the defensive transition comprise four components:

Objectives. The U.S. must identify its objectives clearly. Since the defensive transition will take many years and encompass the tenures of several Administrations, the U.S. must specify both long-term and intermediate goals to keep the effort on track.

Forces. The U.S. must think through the interrelation of the various components of strategic defense at various stages in the transition. Particularly, it must give more attention and resources to short-term technologies that might protect U.S. missiles and European military sites. Also, it must consider the roles that offensive forces will play in a mixed strategic force posture prior to their complete elimination.

Instabilities. The U.S. must anticipate potential instabilities that will accompany the transition from offense dominance to defense dominance. By so doing, the U.S. can take steps to minimize the dangers they present.

Arms Control. The U.S. must revise arms control policies so that they contribute to the aims of the defensive transition. Over time, this will mean a complete reversal of the objectives that have characterized the SALT process.

The fundamental assumption on which recent U.S. strategic policies were founded, that deterrence somehow would continue indefinitely, is unjustified and dangerous. Until America's present strategic posture is replaced by something more rational, U.S. survival hangs by a thread spun of mere luck.

It is premature to start planning the precise mix of offensive and defensive weapons that the United States will need to maintain in its strategic force posture at successive stages in the defensive transition, because it is not yet clear what defensive technologies will prove viable or what the Soviet responses to those technologies will be. It is not too early, however, to reflect upon the appropriate organizational framework in which such a mixed force structure might operate. Moreover, it is useful to consider in advance how war plans and strategy might be influenced by the coexistence of extensive offensive and defensive capabilities in the force structure of both superpowers. The on-going efforts of the Administration to address these issues therefore should be supported.

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