



NATIONAL INSTITUTE FOR PUBLIC POLICY

Section VI. Minimum Deterrence and Damage Limitation

September 2014

**Prepared By:
National Institute for Public Policy**

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**Prepared Under:
Contract No.: HQ0034-13-C-0130
CLIN 0001**

**Prepared Under:
Contract No.: HQ0034-13-C-0130**

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Minimum Deterrence and Damage Limitation

Introduction

“Damage limitation” refers to strategies and capabilities to reduce losses to the U.S. population and economy in the event of nuclear conflict. Damage limitation might be achieved by: 1) destroying enemy weapon delivery vehicles before launch; 2) intercepting vehicles or their weapons after launch; 3) avoiding or withstanding the effects of delivered weapons; or 4) constraining the scope, scale, and intensity of conflict. The basic means of damage limitation are counterforce (1), strategic defense (2 and 3), and escalation control (4).

Offensive capabilities for counterforce strikes include intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), long-range bombers, and cruise missiles. Elements of an enemy nuclear force that would be important targets for counterforce strikes include bomber bases, fixed and mobile missile launchers, control centers for bombers and missiles, and weapon storage sites. Enemy nuclear-powered ballistic missile submarines (SSBNs) could be attacked by antisubmarine warfare (ASW) forces and strikes on submarine bases. Forces with counterforce missions must be capable of surviving prelaunch attack, penetrating defenses, striking quickly (to hit enemy delivery vehicles prior to launch), neutralizing hardened and underground facilities housing missiles and control functions (which requires weapons of appropriate explosive yield, delivery accuracy, and perhaps earth-penetration capability), and striking mobile missile launchers or command vehicles (for which intelligence, reconnaissance, and surveillance systems [ISR] that can find the targets are required).

Strategic defense comprises both active and passive means. Active means are air defenses against bomber and cruise missile attack, and ballistic missile defenses to protect against ICBMs and SLBMs. Active defense components include sensors for detecting and tracking aircraft or missiles, aircraft or missile interceptors for destroying incoming delivery vehicles or their weapons, command centers to control operations, and communications links between the command centers and other components. Passive means are civil defense measures to increase

the survival of the population. (They also can include protection of industry, although this form of defense has been virtually nonexistent in the United States.) Examples of civil defense measures are fallout shelters, provision of radiological detection equipment and training, plans for crisis evacuation of inhabitants of high-risk areas to safer locations, and stockpiling of food, medical supplies, and other items.

Escalation control entails war plans with a wide range of nuclear response options suitable for a similar range of contingencies. Options would be intended to counter aggression, indicate U.S. restraint, but also demonstrate readiness to increase the level of violence if aggression continued. While certain targets—which might include nuclear forces—would be struck, strikes on other assets highly valued by enemy leaders would be withheld to encourage reciprocal restraint and negotiations to end the conflict. The potential targets thus held hostage might be key elements of the enemy regime or its economy. Unwanted damage against these assets might be limited through appropriate selection of targets and weapons. Strikes against enemy national-level command centers, capabilities for attack and damage assessment, and communications links with nuclear forces could be withheld, at least initially, to preserve the ability of the adversary to exercise restraint. In addition, communications with enemy leaders might be opened to convey U.S. intentions more directly and facilitate negotiation. Escalation control would be supported by U.S. forces that had enduring survivability beyond initial strikes and were capable carrying out selective and discriminating response options. Command, control, communications, and intelligence capabilities with enduring survivability also would be of critical importance.

“Minimum Deterrence” refers to the view that possession of a relatively small number of nuclear weapons that can survive a first strike and be used against a limited set of high-value targets, typically urban-industrial centers, provides a reliable deterrent to such an attack. Minimum Deterrence proponents give limited attention to the possibility that deterrence could fail. And when they do, their purpose almost always is simply to point to the disaster that will follow, rather than to suggest how it might be mitigated. For example, “The risk of deterrence remains significant. Nuclear deterrence is a complex, tightly coupled system. It is vulnerable to the unpredictable and uncontrollable nature of human error, mechanical failure and accident. If it

fails, as nearly all such systems eventually do, it is likely to fail catastrophically and cause unprecedented human suffering.”¹ Here the discussion ends.

Deterrence failure is, of course, the essential justification for damage limitation. Moreover, the offensive and defensive capabilities useful for damage limitation create an obstacle to nuclear reductions to a Minimum Deterrence level.² Not surprisingly, Minimum Deterrence proponents oppose damage limitation. They make five basic arguments.

First, as noted, deterrence can be relied upon to prevent nuclear attack. “[E]ven the most ‘irrational’ rogue state,” a president of the Arms Control Association claimed, “would be deterred from threatening, much less undertaking, such an attack [against the United States] by the prospect of overwhelming retaliation or even pre-emptive strikes, since in the post-Cold War era there is little danger of military escalation involving other nuclear powers.”³ If deterrence is assured, damage limitation is unnecessary.

Second, damage-limiting measures will not work. “The idea of limiting damage if the United States suffered a nuclear attack is very compelling,” a staff paper from the Union of Concerned Scientists concedes, “but it is also unworkable. . . . Despite the claim of heightened protection, there is little chance that the defensive and offensive capabilities advocated by damage limitation proponents would actually limit damage in the event of nuclear attack.”⁴ With respect to the chances for escalation control, a professor at the Naval War College asserts,

the most dangerous fallacy of all in strategic nuclear planning [is] that there is a difference between ‘limited’ and ‘all-out’ nuclear war, between ‘counterforce’ strikes

¹ James E. Doyle, “Why Eliminate Nuclear Weapons?” *Survival*, Vol. 55, No. 1 (Feb.-Mar. 2013), p. 12.

² See, for example, Hans M. Kristensen, Robert S. Norris, and Ivan Oelrich, *From Counterforce to Minimal Deterrence: A New Nuclear Policy on the Path Toward Eliminating Nuclear Weapons*, Occasional Paper No. 7 (Washington, D.C.: Federation of American Scientists and the Natural Resources Defense Council, Apr. 2009), pp. 21-22.

³ Spurgeon M. Keeny, Jr., “The New Missile ‘Threat’ Gap,” *Arms Control Today*, Vol. 28, No. 2 (June/July 1998), p. 2.

⁴ Brian Klein, Sean Meyer, and Lisabeth Gronlund, “Debunking the Damage Limitation Strategy,” Union of Concerned Scientists Memorandum to Members of the Congressional Strategic Posture Review Commission, Dec. 15, 2008, <http://nuclearfiles.org/menu/key-issues/missile-defense/Damage-Limitation-Memo-12-15.pdf>.

aimed at military and war-related targets, and ‘countervalue’ strikes against population centers and civilian infrastructure. These are purely theoretical distinctions, however, that make sense in the peace and quiet of a seminar or conference room, but would have no relevance to a national leader contemplating the first American use of a nuclear weapon in anger since 1945.⁵

Third, damage-limiting capabilities are too costly. Over the years this has been a common objection lodged against ballistic missile defense. Counterforce capabilities have been criticized on similar grounds. For example, an analyst at the Federation of American Scientists believes,

If the United States and Russian nuclear arsenals were not capable of targeting one another, then the number of weapons that each side needs merely for deterrence would be generally independent of the number on the other side. Such a decoupling of arsenals would simplify further arms reductions, [among other things]. And, of course, giving up counterforce could save both countries huge amounts of money on future weapons systems that are now under consideration but could be scrapped or greatly modified in a counterforce-free world.⁶

Fourth, offensive and defensive capabilities for damage limitation cause first-strike instability. As the director of the Nuclear Policy Program at the Carnegie Endowment explains,

The U.S. nuclear counterforce arsenal and related first-use doctrine are driven by scenarios with Russia largely left over from the Cold War. Each targets the other’s nuclear forces.... To have the possibility of destroying the other side’s nuclear weapons, each must be prepared to launch its weapons first and deliver them to their targets before they can ‘escape.’ If either country perceives the other to be planning first strikes, both must increase their preparedness to beat the adversary to the punch. This anachronistic, self-perpetuating interaction between the two countries’ nuclear forces and first-use doctrines is destabilizing in crises. It is exacerbated by Russia’s exaggerated perceptions of threats from U.S.-NATO conventional forces and ballistic missile defenses, which motivate Russian leaders to threaten to build new missiles and delivery platforms suited for first-use counterforce plans. ...The United States cannot indefinitely ignore these Russian developments, reinforcing the circularity of counterforce arsenals and doctrines.⁷

⁵ Thomas Nichols, *No Use: Nuclear Weapons and U.S. National Security* (Philadelphia, Pa.: University of Pennsylvania Press, 2014), p. 103.

⁶ Ivan Oelrich, “The Next Steps in Arms Control: Eliminate the Counterforce Mission,” *Bulletin of the Atomic Scientists*, Vol. 68, No. 1 (Jan. 2012), p. 80.

⁷ George Perkovich, *Do Unto Others: Toward a Defensible Nuclear Doctrine* (Washington, D.C.: Carnegie Endowment for International Peace, 2013), pp.60-61.

Fifth, efforts at damage limitation cause arms race instability. This argument is grounded in the action-reaction model of “arms races.” The model assumes that improvements in the counterforce or strategic defense capabilities of one side in a “race” inevitably will provoke offsetting improvements by the other side, especially increases in offensive arms, to maintain the level of destruction it can inflict in a retaliatory attack. In turn, the side that moved first will find it necessary to respond, leading to an “arms spiral.” As one long-time defense specialist has written with regard to ballistic missile defense,

It is probably impossible to perfect the technology necessary to stop today’s generation of ballistic missiles anytime in the foreseeable future. Even if it were possible, the program would motivate a response from adversaries that would inevitably offset the defense. More sophisticated penetration aids, larger numbers of MIRVs [multiple independently targetable reentry vehicles], attacks on the defense itself, cruise missiles, more bombers, and anti-satellite weapons are all technologies that could offset a nationwide defense against a sophisticated enemy.⁸

In the discussion that follows, the validity of each Minimum Deterrence argument against damage limitation is examined. The arguments as a whole then are subjected to a reality test of sorts. The test is to compare the Minimum Deterrence position regarding damage limitation with the positions of the varied presidential administrations of the past 60 years. The finding is that in practical matters of policy, strategy, plans, and programs, administrations more often than not follow a course different from that Minimum Deterrence would prescribe.

Responses to the Minimum Deterrence Arguments Against Damage Limitation

Careful consideration of the points raised against damage limitation shows they are overly broad, questionable, contradictory, or wrong.

Reliability of Deterrence

Deterrence of a nuclear attack has not failed to date and this fortunate condition could continue into the future, which from the Minimum Deterrence perspective obviates any need for preparations to limit damage from such an attack. But there can be no guarantee this will be the case. Deterrence of nonnuclear attack has failed many times in the past, even in circumstances

⁸ Jan Lodal, “Pledging ‘No First Strike’: A Step Toward Real WMD Cooperation,” *Arms Control Today*, Vol. 31, No. 2 (Mar. 2001), p. 6.

where the prospective consequences of war were catastrophic for the aggressor.⁹ Nuclear conflict could occur through accident, irrationality, misperception, miscalculation, escalation, deliberation, or some combination of causes. One possibility, for example, would be an adversary—Russia, China, perhaps North Korea or a nuclear-armed Iran—using nuclear weapons to counter U.S. conventional strength in a regional conflict, which could prompt a U.S. nuclear response, with subsequent nuclear strikes against the United States. It should be noted that the danger of deterrence failure is at least implicit in calls for reducing U.S. and foreign nuclear forces to a Minimum Deterrence level; if relatively small forces are enough to make deterrence certain, then the destructive potential of larger forces should be of little concern, since nuclear forces, large or small, will never be used.

At a fundamental level, it is plainly imprudent—especially when the penalty for error would be disastrous—to assume that a given strategy, for deterring nuclear attack or dealing with any other contingency, would work perfectly under all relevant conditions and for an indefinite length of time. Some hedge should be in place. Not every possible nuclear attack would be of the scope and scale sufficient to cause the demise of the United States, and studies conducted during the nuclear era indicate measures for damage limitation could make significant differences in attack outcomes. Lack of plans and capabilities for limiting damage, on the other hand, would guarantee higher U.S. casualties and greater material losses, destruction of the type Minimum Deterrence proponents point to as a reason for adopting their position.

In contrast to the Minimum Deterrence view that deterrence immediately would become null and void with the onset of nuclear war, damage limitation through escalation control would involve attempts to reestablish deterrence early in the conflict (“intra-war deterrence”). A minimum deterrent based on immediate retaliation against enemy urban-industrial centers would be incompatible with escalation control and make more likely, if not certain, vast destruction of the U.S. population and economy.

⁹ Keith B. Payne, *The Great American Gamble: Deterrence Theory and Practice From the Cold War to the Twenty-First Century* (Fairfax, Va.: National Institute Press, 2008), pp. 266-267.

Feasibility of Damage Limitation

With regard to the feasibility of damage limitation, blanket statements that strategic defenses, counterforce operations, and escalation control cannot work are neither warranted nor particularly useful. Feasibility would depend to a large extent on the specific offensive and defensive capabilities of the United States and those of a specific adversary, the respective political-military aims of the two sides, the wherewithal and willingness of each side to respond to peacetime improvements in the capabilities of the other, and the initial conditions and course of a nuclear conflict between the two. Thus, for example, the ground-based midcourse defense (GMD) system deployed by the United States is expected to protect the homeland against the ballistic missile attacks that North Korea or Iran might mount, but not against larger attacks by Russian or Chinese missile forces. And while the United States has expressed its intent and demonstrated its readiness to maintain this protection in response to changes in North Korean or Iranian missile capabilities, it currently does not, as a matter of policy, seek a defense against the long-range, nuclear-armed ballistic missiles of Russia or China.¹⁰

In addition to making distinctions among different contexts for damage-limiting measures, it is also important to recognize their feasibility could change over time. Technological advances could lead, for example, to better capabilities for finding, targeting, and attacking mobile missile launchers. Future deep and mutual reductions in the nuclear forces of the United States and its potential opponents—cuts Minimum Deterrence proponents favor—also could affect damage-limiting capabilities. Smaller opposing nuclear forces might mean an increase in the potential effectiveness of U.S. strategic defenses and antisubmarine warfare, assuming these capabilities were not also subject to agreed limits. Force reductions might decrease the number of counterforce targets for U.S. missiles and bombers, but there also would be fewer U.S. delivery vehicles or weapons to cover the remaining targets. The net effect on U.S. damage-limiting capabilities would depend on the details of the force changes resulting from the reductions.

¹⁰ Department of Defense, *Ballistic Missile Defense Review Report* (Washington, D.C.: DoD, Feb. 2010), pp. iv, 4, 11, 12-13, 15-16; Secretary of Defense Chuck Hagel, Under Secretary of Defense for Policy James Miller, and Vice Chairman of the Joint Chiefs of Staff Adm. James Winnefeld, “DoD News Briefing on Missile Defense from the Pentagon,” Mar. 15, 2013, transcript, <http://www.defense.gov/Transcripts/Transcript.aspx?TranscriptID=5205>.

Though some sense of the effectiveness of strategic defenses can be gained from studies, tests, and exercises, their actual performance in the event of conflict, particularly under conditions of nuclear war, cannot be predicted with high confidence. A wide range of variables likewise would determine the wartime effectiveness of counterforce missions against enemy nuclear forces on land or at sea, which could be better or worse than expected. Additional uncertainties surround the prospects for escalation control because this approach to damage limitation depends not only on how U.S. nuclear forces would perform, but how enemy leaders would react to the combination of limited strikes and withheld punishment meant to coerce an end to conflict on terms acceptable to the United States and its allies. And for the different means of damage limitation, both separately and together, there is the larger question of what threshold of performance makes for an “effective” capability, the answer to which ultimately is subjective. Some might consider a capability that plausibly could protect millions of lives as useful insurance against deterrence failure; others might see it as useless against the backdrop of millions of other lives lost as a result of enemy nuclear strikes. All this suggests overall assessments of the efficacy of damage-limiting measures should involve informed judgments rather than definitive conclusions.

Affordability of Damage Limitation

The cost of capabilities for damage limitation should be considered in relation to their necessity, effectiveness, and priority vis-à-vis competing budget claims. As noted, it should not be assumed that the deterrent to nuclear war is ironclad and everlasting. Nuclear war might be much more unlikely than other armed conflicts for which the United States should prepare, but none of those could cause comparable destruction to the country itself. A low-leakage defense against hundreds of multiwarhead ballistic missiles would involve great expense by any measure, but—if feasible—could protect portions of the population and economy worth much more than its cost. A civil defense program comprising preparations for crisis relocation of urban populations and use of expedient fallout shelters could save tens of millions of lives—though not other elements of the economy—at relatively low cost. Missiles and bombers procured principally to maintain deterrence by holding at risk hardened and underground facilities for protecting enemy leaders or weapons of mass destruction (WMD) forces could also be used for damage limitation (counterforce strikes and attempts at escalation control) for little more than the

cost of planning (if related command and control had enduring survivability). Options for damage limitation that appear unaffordable under certain conditions—fiscal stringency, diminished tensions with nuclear-armed adversaries, or ongoing conventional conflicts that are long and costly (Vietnam, Afghanistan, Iraq)—could become higher priority or even imperative when a growing nuclear threat commands attention and increases or shifts in defense spending enable improved capabilities to strengthen deterrence as well as hedge against its failure. Thus, for example, the demands of the Cold War made for annual expenditures for strategic offensive forces that were a few to several times higher than those of the post-Cold War period.¹¹ Similarly, by the end of the 1950s, the first full decade of the U.S.-Soviet confrontation and the period in which the Soviet nuclear threat to the United States emerged, the Defense Department was spending as much on extensive antibomber defenses as on offensive nuclear forces.¹²

Damage Limitation and First-Strike Stability

The notion that U.S. damage-limiting capabilities would produce “first-strike instability” during an intense crisis or regional conflict between the United States and a hostile nuclear power reflects a mechanistic, reductionist view of war causation, which is not solely or even principally a matter of how opposing forces compare in capabilities and might interact in combat. It is belied by the historical case of the 1962 Cuban missile crisis, generally viewed as the Cold War confrontation in which the United States and the Soviet Union came closest to, or least far away from, nuclear war. The crisis offered the conditions that Minimum Deterrence proponents and others claim would trigger a first strike. Soviet strategic nuclear forces were limited in number, ill-prepared for ready use, highly vulnerable to nuclear attack, and capable of only relatively weak retaliation. U.S. forces, in contrast, could deliver an annihilating second strike or a near-disarming first strike. In addition, the United States recently had adopted a strategy of “controlled counterforce” and its war plan included the option of a first strike against Soviet nuclear capabilities. A U.S. counterforce first strike, along with extensive U.S. air defenses and measures for civil defense, in the best case might have limited U.S. prompt fatalities to several

¹¹ Office of the Assistant Secretary of Defense (Comptroller), *National Defense Budget Estimates for FY 1986* (Washington, D.C.: DoD, 1985), pp. 68-69; Office of the Under Secretary of Defense (Comptroller), *National Defense Budget Estimates for FY 2015* (Washington, D.C.: DoD, Apr. 2014), pp. 97-100.

¹² Secretary of Defense Caspar W. Weinberger, *Department of Defense Annual Report to the Congress, Fiscal Year 1988* (Washington, D.C.: GPO, Jan. 12, 1987), p. 51.

million—an obviously horrific figure, but a fraction of the deaths the Soviet Union had the capability to inflict after achieving nuclear parity (or better) later in the Cold War.¹³ Despite the presence of these supposed first-strike precipitants, there is no evidence President John Kennedy and his advisers felt tempted or emboldened to exploit U.S. superiority and launch a first strike—quite the contrary was the case—or that Premier Nikita Khrushchev and those surrounding him felt compelled by Soviet vulnerability to launch a preemptive strike for fear of an impending U.S. attack. In the particular circumstances that comprised the missile crisis, the leaders on the two sides instead worked to avoid armed conflict, nuclear or conventional, and reached a negotiated settlement of the confrontation.

Aside from the balance in offensive and defensive capabilities, a decision by the United States or an opponent as to whether to resort to nuclear use could be greatly influenced by a number of other factors, including the characteristics of the decisionmakers and the decisionmaking process, the understanding of the overall strategic situation, the security interests at stake, the political-military aims pursued, the perceptions of the likely thinking and behavior of the adversary, the gain or loss expected from nuclear escalation, and the availability of alternative courses of action. The role damage-limiting capabilities would play in relation to these other factors is difficult to predict, especially in the abstract.

What can be said is that the logic of Minimum Deterrence, if accepted, itself undercuts the argument that damage-limiting capabilities would lead to first-strike instability. As noted earlier, the central tenet of Minimum Deterrence is that a small, secure nuclear force capable of retaliation against a limited number of enemy cities or other high-value targets poses a reliable deterrent to a first strike. Russia has a strategic nuclear force that by virtue of its numbers, diversification, basing (silos, land-mobile launchers, submarines), peacetime or crisis readiness, and defense penetration measures could absorb a large U.S. counterforce first strike and be

¹³ Robert S. Norris, “The Cuban Missile Crisis: A Nuclear Order of Battle,” October/November 1962,” presentation at the Woodrow Wilson Center, Oct. 24, 2012; Scott D. Sagan, “SIOP-62: The Nuclear War Plan Briefing to Kennedy,” *International Security*, Vol. 12, No. 1 (Summer 1987), pp. 22-51; Fred Kapan, “JFK’s First-Strike Plan,” *The Atlantic Monthly*, Vol. 288, No. 3 (Oct. 2001), pp. 81-86; William Burr, ed., “First Strike Options and the Berlin Crisis, September 1961,” *National Security Archive Electronic Briefing Book No. 56*, Sept. 25, 2001, <http://www2.gwu.edu/~nsarchiv/NSAEBB/NSAEBB56/>; Fred Kaplan, *The Wizards of Armageddon* (New York: Simon and Schuster, 1983), p. 300.

expected to have the residual capability to retaliate at a Minimum Deterrence level, if not greater. The United States retains a similar retaliatory capability, which, from the Minimum Deterrence perspective, should deny Russia a first-strike incentive, though it has not only counterforce capabilities but also active and passive defenses more substantial than those of the United States. Practicable possibilities for improving U.S. offensive strike potential, strategic defenses, and plans and capabilities for controlling nuclear escalation would be unlikely to change this basic situation.¹⁴ U.S. unilateral movement toward a Minimum Deterrence posture, or a mutual shift of this sort by both the United States and Russia, actually could result in smaller forces that were less diverse, survivable, powerful, and adaptable than those deployed today, and thus presumably more conducive to the kind of first-strike instability Minimum Deterrence proponents fear.

With regard to other nuclear powers, China currently has a nuclear force smaller and less capable than that of the United States, but some portion of its growing number of mobile ICBMs, which can be dispersed and hidden, and its future fleet of ballistic missile submarines likely would survive U.S. counterforce operations and could be used to strike back at some number of U.S. cities, if those were its targets. China would have even less capability than Russia to prevent the United States from carrying out a sizable nuclear attack. In Minimum Deterrence terms, the U.S.-China nuclear balance should be “stable.”

Nascent forces of a nuclear-armed North Korea or Iran could be quite vulnerable to a U.S. attack, but it seems doubtful this circumstance would place either under overwhelming “use or lose” pressures in a crisis or regional conflict with the United States and its allies. Pyongyang and Tehran both prefer ballistic missiles as means of weapon delivery, and ballistic missiles that escaped U.S. counterforce strikes would face yet another type of damage-limiting capability, namely missile defenses deployed specifically to counter North Korean and Iranian threats. In addition, launch of nuclear-armed missiles in mistaken anticipation of U.S. counterforce strikes not only would bring about devastating retaliation by the United States, but would preclude use of these missiles for threats aimed at coercing concessions from opponents, discouraging

¹⁴ “We do not see any prospect of [“mutual vulnerability vis-à-vis Russia”] changing within the foreseeable future, through any combination of offensive deployments and defensive deployments.” James Miller, under secretary of defense for policy, “Nuclear Deterrence: New Guidance and Constant Commitment,” July 17, 2013, remarks at the AFA-NDIA-ROA Capitol Hill Breakfast Forum, July 17, 2013, National Security Reports transcript.

opponents from escalation in response to lower-level aggression, and providing a last-ditch defense to stave off major military defeat or regime collapse. North Korean or Iranian rulers would have better chances for success by brandishing missiles to manipulate the risk of nuclear war to their advantage than by initiating nuclear war with the United States.

Two last points concerning damage limitation and first-strike instability should be made. First, nuclear war in the foregoing cases could still arise from decisionmaking pathologies or from the unpredictable dynamics of interactions between opponents. But such dangers could be present regardless of U.S. damage-limiting capabilities and the degree of first-strike stability between U.S. nuclear forces and those of an adversary. Indeed, these wild cards constitute an argument for, rather than against, measures for damage limitation. Second, even if damage-limiting capabilities were to increase somewhat the likelihood of nuclear war, the potential to lessen its destructiveness might be judged sufficient to outweigh the added risk.

Damage Limitation and Arms Race Stability

According to the Minimum Deterrence view, damage-limiting capabilities cause nuclear disequilibrium not only by creating first-strike incentives, but by fueling an action-reaction dynamic between the respective forces and defenses of the antagonists that leads to “arms race instability.” It should be noted at the outset that this claim is inconsistent with the Minimum Deterrence criticism that measures to limit damage from nuclear attack are ineffectual. If it is plain that capabilities intended to reduce the destructiveness of nuclear war cannot work, why would an opponent be driven to build more or better nuclear arms to overcome defenses or offset the threatened attrition from counterforce attacks, especially if these defenses and attacks could not hold destruction to a level below that of the Minimum Deterrence? Within the logic of Minimum Deterrence, damage-limiting capabilities cannot be simultaneously useless and a source of “arms race instability.”

While there are times when the United States and its nuclear rivals make offensive or defensive adaptations in response to developments in opposing capabilities, these changes are not necessarily of the inevitable, prompt, reciprocal, or nullifying character indicated by the action-reaction model. The experience of the long Cold War nuclear rivalry—which included pursuit of

damage-limiting means by the Soviet Union and, to a lesser extent, the United States—does not offer convincing evidence of a closely coupled, predictable interaction between the strategic capabilities, both offensive and defensive, of the opposing sides. This is one of the main findings of a detailed analytic history covering much of the U.S.-Soviet strategic arms competition (a more accurate term than “race”¹⁵). The history, a study supported by the Department of Defense but written by independent scholars, concludes that though there were “complex patterns of mutual influence,” “[n]o consistent pattern [of interaction] can be found.” “The facts,” it says, “will not support the proposition that either the Soviet Union or the United States developed strategic forces only in direct immediate reaction to each other. ...No sweeping generalizations about action-reaction cycles...can survive detailed examination of the sequence of events.”¹⁶

There was, for example, an interactive relationship between U.S. long-range bombers and Soviet air defenses, but the Soviets continued to invest large sums in improving those defenses even as the size of the U.S. bomber force decreased significantly from the early 1960s onward and U.S. ICBMs and SLBMs presented an increasing threat. In contrast, the expansion of U.S. air defenses in the 1950s and early 1960s and their subsequent contraction—due in part to the greater threat from Soviet ballistic missiles—had little apparent effect on the size of the Soviet long-range bomber force, which remained comparatively small and relatively unchanged during the Cold War, with a last modernization of the force occurring in the final decade of the confrontation.

The response of an adversary to improvement in opposing damage-limiting capabilities is not a simple matter of action and reaction, but rather can be shaped by a number of factors, including

¹⁵ “The term ‘arms competition’ is preferable to ‘arms race’.... ‘Arms race’ implies single-mindedness and a single goal or outcome as well as a prejudgment of the nature of the evolution of force postures. It is probably both less biased and more perceptive to see military force postures of nations as evolving under the influence of many factors and to see the simultaneous evolution of the forces of potential adversaries as interactive in some ways and as autonomous in others.” Andrew W. Marshall, “Arms Competitions: The Status of Analysis,” in Uwe Nerlich, ed., *The Western Panacea: Constraining Soviet Power through Negotiations* (Cambridge, Mass.: Ballinger Publishing Co., 1983), p. 3.

¹⁶ Ernest R. May, John D. Steinbruner, and Thomas W. Wolfe, with Alfred Goldberg, ed., *History of the Strategic Arms Competition, 1945-1972, Part II* (Washington, D.C.: Historical Office, Office of the Secretary of Defense, Mar. 1981), declassified version, pp. 810, 811, http://www.dod.mil/pubs/foi/homeland_defense/missile_defense_agency/227.pdf.

political-military objectives (the necessity of a response to meet security requirements), strategy and doctrine (the consistency of a response with higher-level guidance), technical and non-technical options (the possible means of response), budget constraints and other resource limits (the ability to support a response in light of competing demands), and internal politics and organizational behavior (the decision-making processes that can lead to responses at odds with what the action-reaction model predicts). The interplay of these various factors could mean action-inaction, action-ineffective reaction, action-counteraction, or action-overreaction.

Those concerned that measures for damage limitation intensify arms competition typically worry the outcome will be mutual buildups in offensive arms. But this is not necessarily the only, or even the most likely, result. The addition of more selective nuclear response options to war plans in order to increase flexibility in the use of force and improve the prospects for escalation control would not inevitably create requirements for more or better forces or spur growth in opposing forces. The threat of counterforce strikes might cause an opponent to adopt or enhance defensive measures—hardening, mobility, concealment, or interceptors—to protect missile launchers, instead of building a larger missile force. The counters to these defenses, in turn, also might not take the form of more missiles, bombers, or weapons, but better ISR capabilities to locate and target mobile or concealed launchers, delivery or reentry vehicles with greater penetration ability to evade active defenses, or weapons with greater lethality to deal with fixed launchers of increased hardness. The threat from ASW capabilities might lead an opponent to develop and deploy new types of SSBNs with acoustic or other signatures less detectable by ASW sensors, move to SLBMs with longer ranges that permit larger operating areas in which submarines could hide, or employ general-purpose naval forces to defend submarines in peripheral waters. None these responses to ASW capabilities would require a bigger SSBN fleet.

In the case of improvements in air defenses, the reaction might be upgrades in bomber electronic countermeasures to reduce the effectiveness of air defense radars, or efforts to acquire new types of bombers or standoff missiles with low-observable (stealth) features for countering radar or other air defense sensors. Against missile defenses, the response might involve equipping ballistic missiles with decoys or other penetration aids meant to confuse, stress, or disrupt elements of the defense.

Note that all of these possible responses to damage-limiting measures are qualitative rather than quantitative in nature, contrary to the image of an “arms race” in which offense-defense interaction yields growth in the numbers of delivery vehicles and weapons. Note, too, that one or more precedents for each response can be found in the historical record associated with U.S., Soviet/Russian, or Chinese nuclear forces and strategic defenses.

Such measure-countermeasure competition is not unique to the nuclear realm, but is a fundamental and enduring aspect of military affairs, with analogues in preparations opposing sides make for ground, naval, and air warfare between conventional forces. The likelihood an opponent will adopt countermeasures does not mean that the United States should maintain static military capabilities, but rather that, when possible, should keep a competitive edge over its adversaries. It is, for example, stated policy that the GMD system for preventing or limiting damage from a North Korean or Iranian long-range ballistic missile attack will be adapted when necessary to “stay ahead of the threat.” Thus, three actions by North Korea in 2012 and early 2013—display of the (untested) Hwasong-13 road-mobile ICBM, use of the Taepo Dong-2 ICBM as a space launch vehicle to place a satellite in orbit, and a third nuclear test—prompted reaction by the United States to ensure the future effectiveness of the GMD system. As announced in March 2013, the U.S. response includes increase in the number of ground-based interceptors (GBIs) from 30 to 44, placement of a second early warning and tracking radar in Japan, consideration of a third U.S. site for still more GBIs, and enhancements of existing radars, command-and-control capabilities, and interceptors.¹⁷ A senior defense official with responsibilities for missile defense policy warned that “we cannot afford to stand still” but instead must retain the “flexibility to adjust and to enhance our defenses as the threat and technologies evolve.”¹⁸

Standing still and ruling out capabilities for damage limitation—a position consistent with Minimum Deterrence thinking—would carry no guarantee that adversaries would do likewise. When the United States signed the 1972 Anti-Ballistic Missile (ABM) Treaty with the Soviet

¹⁷ “DoD News Briefing on Missile Defense from the Pentagon.”

¹⁸ M. Elaine Bunn, deputy assistant secretary of defense for nuclear and missile defense policy, prepared statement before the Senate Armed Services Committee, Apr. 2, 2014, p. 9.

Union and abandoned the option of damage limitation through missile defense (at least until the Strategic Defense Initiative or SDI began a decade later), it was predicted, on the basis of the action-reaction model, that this would remove an incentive for further increases in Soviet strategic ballistic missiles because Moscow would have no need to add ICBM and SLBM warheads to hedge against attrition by U.S. defenses. In fact, “[i]n the absence of U.S. missile defense, the Soviet Union pursued the greatest buildup in strategic offensive missile capabilities in history,” with ICBM warheads increasing fourfold between 1972 and 1985 and SLBM warheads increasing nearly fivefold during the same time.¹⁹

In the contemporary period, the United States has not pursued significant increases in its counterforce or defensive capabilities against Russia or China, yet the two have made important new additions to their strategic nuclear forces. Modernization of U.S. forces long has been limited to upgrades of existing strategic delivery vehicles and life extension of warheads, with planned new weapon systems not scheduled to reach deployment until the 2020s and 2030s.²⁰ With regard to strategic defenses, the GMD system “does not have the capacity to cope with large scale Russian or Chinese missile attacks, and is not intended to affect the strategic balance with those countries.”²¹ Nonetheless, Russia and China both have been building new ICBMs, SLBMs, SSBNs, and warheads, among other modernization activities. Both also have been improving their active and passive defenses.²² All of which calls to mind the observation on the

¹⁹ Keith B. Payne, “Action-Reaction Metaphysics and Negligence,” *The Washington Quarterly*, Vol. 24, No. 4 (Autumn 2001), p. 114.

²⁰ Government Accountability Office, *Nuclear Weapons: Ten-Year Budget Estimates for Modernization Omit Key Efforts, and Assumptions and Limitations Are Not Fully Transparent*, GAO-14-373 (Washington, D.C.: GAO, June 2014), pp. 13-14; *Nuclear Matters Handbook—Expanded Edition* (Washington, D.C.: Office of the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Programs, 2011), pp. 16-21, 28.

²¹ *Ballistic Missile Defense Review Report*, p. 13.

²² National Air and Space Intelligence Center, *Ballistic & Cruise Missile Threat*, NASIC-1031-0985-13 (Wright-Patterson AFB, Ohio: NASIC, 2013), pp. 18-19, 21, 22-23, 25; Madelyn R. Creedon, assistant secretary of defense for global strategic affairs, prepared statement in Senate Armed Services Committee, *Department of Defense Authorization for Appropriations for Fiscal Year 2014 and the Future Years Defense Program*, S. Hrg. 113-108, 113th Cong., 1st sess. (Washington, D.C.: GPO, 2014), p. 6; Secretary of Energy Samuel W. Bodman and Secretary of Defense Robert M. Gates, “National Security and Nuclear Weapons in the 21st Century,” joint statement, Sept. 2008, pp. 6-8; Ioanna-Nikoletta Zyga, *Russia’s New Aerospace Defence Forces: Keeping Up with the Neighbours*, DG EXPO/B/PolDep/Note/2013_85 (Brussels: European Parliament, Feb. 22, 2013); Lt. Gen. Michael T. Flynn, DIA director, prepared statement in Senate Armed Services Committee, *Current and Future Worldwide Threat to the National Security of the United States*, S. Hrg. 113-374, 113th Cong., 1st sess. (Washington, D.C.: GPO, 2014), p. 46; Office of the Secretary of Defense, *Military and Security Developments Involving the People’s Republic of China 2014*, Annual Report to Congress (Washington, D.C.: DoD, 2014), pp. 28-30, 33-34.

U.S.-Soviet strategic arms competition once made Harold Brown, secretary of defense during the Carter administration: “when we build, they build; when we cut, they build.”²³

Summary

In sum, five counterarguments can be made in response to Minimum Deterrence objections to damage limitation.

First, there can be no assurance that deterrence of nuclear attack will never fail. Were deterrence to fail for any of a number of reasons, preparations should be in place to mitigate the consequences of an attack, even if they those measures only make the destruction less horrific rather than prevent it altogether. Plans and capabilities for escalation control—intrawar deterrence—constitute one avenue for limiting destruction.

Second, definitive statements that damage limitation in general is infeasible are not supportable. Feasibility would be a matter of the specific damage-limiting capability or set of capabilities in question, the security context and period within in which it must function, its projected wartime performance (which ultimately is uncertain), and the standard of effectiveness, among other factors.

Third, overarching statements about the cost and affordability of damage limitation likewise are of little value. The costs of different damage-limiting measures can vary considerably, from relatively low-cost war planning for escalation control and preparations for civil defense, to higher-cost active defenses promising substantial protection against large missile or air attacks. In addition, cost must be viewed in relationship to the kind and level of damage limitation offered by one of more capabilities. Affordability depends on overall budget constraints and competing demands for funds, both of which can change over time.

Fourth, the effects of damage-limiting capabilities on first-strike stability are by no means as clear-cut as Minimum Deterrence proponents assert. The balance between the respective offenses and defenses of opposing sides in a crisis or regional conflict is only one of the factors

²³ Brown in House Budget Committee, *Outlook and Budget Levels for Fiscal Years 1979 and 1980*, Hearing, 96th Cong., 1st sess. (Washington, D.C.: GPO, 1979), p. 492.

that could influence the gravely consequential decision of whether to launch a nuclear first strike. Even if this were the only factor, the fundamental principle of Minimum Deterrence—that a relatively small, survivable nuclear force provides a high-confidence deterrent against nuclear attack—suggests first-strike stability obtains between the United States and Russia or the United States and China, because it is unlikely any of the three can be denied such a deterrent by the current or prospective damage-limiting capabilities of an opponent.

Finally, while an opponent may attempt to counter offensive or defensive damage-limiting capabilities, it is questionable whether the responses will follow the simple action-reaction model assumed by Minimum Deterrence proponents and cause or intensify a nuclear “arms race.” Multiple factors besides actions by an opponent determine changes in nuclear forces. Countermeasures could take forms that did not involve buildup in nuclear arms. Refraining from efforts aimed at damage limitation would not necessarily elicit reciprocal restraint by an opponent. In short, Newton’s third law of motion—“for every action there is an equal and opposition reaction”—pertains to physical phenomena, not political-military behavior.

Damage Limitation and U.S. Policy

Arguments and counterarguments concerning the objective and means of damage limitation—counterforce, strategic defense, escalation control—have been part of defense debate in the public sphere for decades. Many of the issues persist and remain unsettled in that debate. Over the same time, different aspects of damage limitation also have been matters of controversy within the executive branch of government (as well as between the executive and legislative branches and within the Congress). Unlike the extragovernmental debate, disputes within the executive branch at certain points must be settled, at least temporarily, with decisions related to policy, strategy, plans, programs, and budgets for strategic nuclear forces and strategic defenses. Government officials at different levels, not least presidents, have responsibilities regarding these decisions. In making the decisions, they face the range of issues that attend damage limitation: the circumstances in which deterrence might fail; the consequences of a nuclear attack on the United States; the general course of action to deal with such an eventuality; the feasibility, effectiveness, and costs of possible means of limiting damage; the overall value of damage-limiting capabilities; and the domestic and international implications—including

potential adversary reactions—of the measures taken. Their consideration of these questions is informed by various intelligence assessments, technical analyses, budget estimates, and option papers. Minimum Deterrence proponents, in contrast, tend to have a narrower perspective, focusing on their recommended approach as an expedient to reach significantly deeper nuclear reductions, and seeing any troubling with deterrence failure and damage limitation as a needless impediment to achieving that end.

There is a significant difference between the view of damage limitation from the perspective of Minimum Deterrence proponents who have no formal responsibilities for plans and programs related to nuclear forces and strategic defenses, and thus are not obliged to grapple with the serious, complex, and practical problems of what to do in the event of deterrence failure, and the view of those government officials who do have that charge. The difference is illustrated by the change in positions taken by President Jimmy Carter between the beginning of his term and its end.

In his inaugural address, Carter pledged “we will move this year a step toward our ultimate goal—the elimination of all nuclear weapons from this Earth.”²⁴ Early on, he requested from the Defense Department an analysis of U.S. and Soviet reductions to 200-250 strategic nuclear delivery vehicles, specifically SLBMs, on each side.²⁵ (After leaving office, he told an interviewer that he had also believed each missile should carry only a single warhead.)²⁶ In his initial strategic arms control proposal to the Soviets, Carter sought much deeper reductions than what Moscow and Washington had discussed during the previous administration.²⁷ He also

²⁴ “Inaugural Address of President Jimmy Carter,” Jan. 20, 1977, Office of the Federal Register, *Public Papers of the Presidents of the United States, Jimmy Carter, 1977, Book I* (Washington, D.C.: GPO, 1977), p. 3.

²⁵ Harold Brown, memorandum for the president, “Implications of Major Reductions in Strategic Nuclear Forces,” Jan. 28, 1977, with attachment, declassified version, <http://www2.gwu.edu/~nsarchiv/nukevault/ebb311/doc03.PDF>. The short analysis pointed out that the much smaller U.S. force proposed by Carter could have adverse effects on deterrence, alliance relationships, and arms control verification. The cover memo from Brown noted other concerns that such a force level “would require a fundamental change in US policy,” base U.S. retaliation almost entirely on the targeting of population and industry, invite treaty violations, and increase the importance strategic defenses.

²⁶ Michael Charlton, *From Deterrence to Defense: The Inside Story of Strategic Policy* (Cambridge, Mass.: Harvard University Press, 1987), p. 71.

²⁷ Raymond L. Garthoff, *Détente and Confrontation: American-Soviet Relations from Nixon to Reagan*, rev. ed. (Washington, D.C.: Brookings Institution, 1994), pp. 883-894. Moscow rejected the proposal.

proposed U.S.-Soviet talks to limit civil defenses on the grounds that they could be “destabilizing.”²⁸

Several months after taking office, Carter directed Secretary of Defense Brown to undertake a “review of US [nuclear] targeting policy.”²⁹ This Nuclear Targeting Policy Review was conducted over an 18-month period.³⁰ Among its findings was the conclusion that, despite the inevitable and “great uncertainties” involved, “it remains in the U.S. interest to have plans and capabilities that could limit damage by controlling escalation and terminating a conflict before it can extend to all-out nuclear war. Thus, we reaffirm the desirability of a policy of escalation control based on a range of [nuclear] options.”³¹ While the review was under way, Carter evinced an interest in nuclear matters by, for example, participating in two nuclear exercises and ordering changes in “the so-called ‘Black Book’ which provided the president a written and graphic view of his alternatives for executing the SIOP [Single Integrated Operational Plan, then the name for the strategic nuclear war plan].”³²

In mid-1980, Carter affixed his signature to Presidential Directive (PD) 59, a statement of “nuclear weapons employment policy,” and sent this guidance to the secretary of defense and the chairman of the joint chiefs. The directive cited the need “to preserve the possibility of bargaining effectively to terminate the war on acceptable terms that are as favorable as practical, if deterrence fails initially.” It called for options “that will permit, to the extent survival of C3 [command, control, and communications] allows, sequential selection of attacks from among a

²⁸ “Letter from President Carter to Soviet General Secretary Brezhnev,” Mar. 4, 1977; “Memorandum of Conversation,” Secretary of State Cyrus Vance and General Secretary Leonid Brezhnev, Moscow, Mar. 28, 1977, “Memorandum of Conversation,” Vance and Foreign Minister A.A. Gromyko, Mar. 30, 1977, all in Department of State, *Foreign Relations of the United States* [hereinafter cited as *FRUS*], 1977-1980, Vol. VI, *Soviet Union* (Washington, D.C.: GPO, 2013), pp. 9, 40, 53, 106-107. The proposal to limit civil defenses went nowhere. Garthoff, *Détente and Confrontation*, pp. 831-832, 869.

²⁹ Presidential Directive/NSC-18, “U.S. National Strategy,” Aug. 24, 1977, declassified version, p. 5, <http://www.jimmycarterlibrary.gov/documents/pddirectives/pd18.pdf>.

³⁰ *Department of Defense Annual Report, Fiscal Year 1982* (Washington, D.C.: GPO, Jan. 19, 1981), p. 39.

³¹ *PD/NSC-18 Nuclear Targeting Policy Review, Phase II Report* (Washington, D.C.: Nov. 1978), declassified version, pp. ii-iii, <http://www2.gwu.edu/~nsarchiv/nukevault/ebb390/docs/11-1-78%20policy%20review%20summary.pdf>.

³² William E. Odom, “The Origins and Design of Presidential Decision [sic]-59: A Memoir,” in Henry D. Sokolski, ed., *Getting MAD: Nuclear Mutual Assured Destruction, Its Origins and Practice* (Carlisle, Pa.: Army War College Strategic Studies Institute, Nov. 2004), p. 181.

full range of military targets [including “strategic and theater nuclear forces”], industrial targets providing immediate military support, and political control targets, while retaining a survivable and enduring capability that is sufficient to attack a broader set of urban and industrial targets.” “Methods of attack on particular targets, the directive said, “should be chosen to limit collateral damage to urban areas, general industry and population targets outside these categories.” It also envisioned that a nuclear war could become a “protracted conflict,” which would require provision for a “flexible and varied reserve force capable of being effectively employed against a wide target spectrum and withheld if necessary for a prolonged period.”³³

At roughly the same time Carter called for the nuclear targeting review, he also ordered an NSC-led interagency review “to analyze the strategic implications” of the U.S. and Soviet civil defense programs and “to determine what changes, if any, should be made in current U.S. policies related to civil defense questions.”³⁴ After considering the recommendations of the completed civil defense review, the president in late 1978 issued, again under his signature, a directive on civil defense policy. In it, he set three objectives for the civil defense program: 1) “[e]nhance deterrence and stability in conjunction with our strategic offensive and other defensive forces”; 2) [r]educe the probability that the U.S. could be coerced in time of crisis”; and 3) “[p]rovide some increase in the number of surviving population and for greater continuity of government, should deterrence and escalation control fail, in order to provide an improved basis for dealing with the crisis and carrying out national recovery.”³⁵ The directive did not, as a senior member of the Carter NSC staff has noted, give detailed programmatic guidance, but instead was meant primarily “to legitimize civil defense and other forms of strategic defense in principle.”³⁶

The shift by Carter from apparent flirtation with Minimum Deterrence to endorsement of limiting damage through escalation control and civil defense may seem surprising, but it is

³³ Presidential Directive/NSC-59, “Nuclear Weapons Employment Policy,” July 25, 1980, declassified version, pp. 1-4, <http://www.jimmycarterlibrary.gov/documents/pddirectives/pd59.pdf>.

³⁴ Presidential Review Memorandum/NSC-32, “Civil Defense,” Sept. 30, 1977, declassified version, <http://www.jimmycarterlibrary.gov/documents/prmemorandums/prm32.pdf>.

³⁵ Presidential Directive/NSC-41, “U.S. Civil Defense Policy,” Sept. 29, 1978, declassified version, <http://www.jimmycarterlibrary.gov/documents/pddirectives/pd41.pdf>.

³⁶ Odom, “The Origins and Design of Presidential Decision [sic]-59,” p. 190.

consistent with the general position on damage limitation taken by other presidents and their administrations from the start of the nuclear era to the present. That position in important ways is at odds with the Minimum Deterrence reasons for rejecting damage limitation. Its contours can be traced over the decades through a variety of documents, including high-level directives, records of meetings between presidents and their top advisers, studies and memoranda prepared to inform or otherwise influence decisions on policy and programs for strategic offensive and defensive capabilities, those decisions themselves, and public statements. From this material, the brief sections that follow distill some generalizations regarding the role of damage limitation in the long-term U.S. approach to dealing with the danger of nuclear war. While the generalizations are supported with examples drawn from the historical record of the past six decades, the intent here is not to provide a history of damage limitation in U.S. strategic policy and programs. Instead, the discussion is meant to serve as an empirical (historical) reply to the Minimum Deterrence position that the possibility and problems of deterrence failure essentially can be ignored.

Damage Limitation as a Constant in U.S. Policy

Damage limitation has always been a part of U.S. policy regarding nuclear war, despite significant changes that have occurred since the mid-20th century. The potential origin of a nuclear attack against the United States, for example, has ranged from the Soviet Union, to China, to the Russian Federation, to North Korea, and, perhaps in the future, to Iran. The potential size of such an attack has varied from a few to a few thousand nuclear weapons. Missiles came to supersede bombers as the principal means of delivering the weapons against the United States. Deployment of enemy missiles shifted from “soft” launch sites to hardened and underground facilities (silos and tunnels), submarines, and land-mobile launchers, which reduced their vulnerability to prelaunch destruction by U.S. nuclear strikes. Technological opportunities for air and missile defenses waxed and waned, as did U.S. interest in pursuing them. Through it all, there remained the objective of limiting damage in the event of nuclear attack. Some representative evidence of support for damage limitation by each of the twelve presidential administrations since Hiroshima appears below.

Truman administration. After predicting “the Soviet orbit will probably acquire during the next several years [an atomic and possibly thermonuclear] capability to damage critically the United States and its allies,” a September 1952 National Security Council (NSC) policy statement on “objectives and strategy for national security” concluded, “The free world for its own protection must take measures to improve active and passive defenses, including the exploration of new technological possibilities, but nevertheless must probably accept a substantial degree of vulnerability and avoid disproportionate concentration of resources on defense at the expense of measures necessary to project its strength outward to the enemy.” The statement also said, “it must remain the immediate and, we believe, attainable objective of the free world to develop and sustain for as long as may be necessary such over-all strength as will...provide the basis for winning a general war should it occur.”³⁷ The statement was formally approved by President Harry Truman. A September 1948 NSC policy statement on “atomic warfare” deliberately did not discuss how atomic weapons might be used, but the joint chiefs of staff (JCS) in June 1950, less than a year after the first Soviet atomic test, directed Strategic Air Command to make wartime destruction of Soviet bomber bases and atomic weapons depots its first priority, as opposed to targets related to a Red Army invasion of Western Europe or key industrial targets in the Soviet Union.³⁸

Eisenhower administration. In March 1959, the NSC considered, and President Dwight Eisenhower approved, a statement of “U.S. Policy in the Event of War,” which was to be used as planning guidance by all relevant departments and agencies. Among the objectives listed for general war were to “prevail and survive as a nation capable of controlling its own destiny,” “reduce, by military and other measures, the capabilities of the USSR and Communist China to the point where they have lost their will and ability to wage war against the United States and its allies,” “retain in the United States a capacity for quick recovery from nuclear assault,” “prevent, so far as is practicable, the formation or retention after the war of military power in potentially

³⁷ NSC 135/3, “Reappraisal of United States Objectives and Strategy for National Security,” Sept. 25, 1952, Department of State, *FRUS, 1952-1954, Vol. II, Pt. 1, National Security Affairs* (Washington, D.C.: GPO, 1979), pp. 145, 152.

³⁸ NSC 30, “United States Policy on Atomic Warfare,” Sept. 16, 1948, Department of State, *FRUS, 1948, Vol. I, General: The United Nations* (Washington, D.C.: GPO, 1976), pp. 624-628; Ernest R. May, John D. Steinbruner, and Thomas W. Wolfe, with Alfred Goldberg, ed., *History of the Strategic Arms Competition, 1945-1972, Part I* (Washington, D.C.: Historical Office, Office of the Secretary of Defense, Mar. 1981), declassified version, pp. 131, 133, http://www.dod.mil/pubs/foi/homeland_defense/missile_defense_agency/226.pdf.

hostile states sufficient to threaten the security of the United States,” and “maintain after the cessation of hostilities sufficient U.S. and allied military strength to deter aggression and to accomplish other post-war objectives.”³⁹ A statement of “Basic National Security Policy,” approved by the president less than a year earlier, underscored the requirement for “effective nuclear retaliatory power” as well as “adequate military and non-military programs for continental defense” (a category that included air defense and civil defense). The policy called for “an improved and strengthened civil defense program which seeks, both by preventive and ameliorate measures, to minimize damage from nuclear attack.”⁴⁰ In early 1960, the JCS submitted to the secretary of defense a Joint Strategic Objectives Plan (JSOP), which said “the employment of strategic offensive forces should be designed to ‘destroy the Sino-Soviet will and ability to wage war’ while minimizing damage to the United States.”⁴¹ (The JSOP was intended to provide guidance for war planning, force development, and budget preparation.)⁴²

Kennedy administration. As part of preparation for the fiscal year 1964 defense budget, Secretary of Defense Robert McNamara sent President Kennedy a memorandum in November 1962 outlining his recommendations regarding U.S. strategic nuclear forces and the rationale for those choices. In the section of the memo that discussed “general nuclear war objectives,” McNamara wrote,

we should take all measures that offer a reasonable prospect of effectively limiting damage to ourselves and our allies in the event that deterrence fails and thermonuclear war does occur. Such measures include active anti-bomber and anti-missile defenses and civil defenses. Strategic offensive forces also can make an important contribution by striking back against Soviet bomber bases, missile sites, and other vulnerable elements of Soviet follow-on forces. In some circumstances, our counterattack may succeed in blunting the Soviet attack and make a substantial contribution to the damage-limiting objectives.

³⁹ NSC 5904/1, “Statement of U.S. Policy in the Event of War,” Mar. 17, 1959, Department of State, *FRUS, 1958-1960, Vol. III, National Security Policy; Arms Control and Disarmament* (Washington, D.C.: GPO, 1996), pp. 207-209.

⁴⁰ NSC 5810/1, “Statement of Basic National Security Policy,” May 5, 1958, *FRUS, 1958-1960, Vol. III*, p. 102.

⁴¹ Robert J. Watson, *Into the Missile Age, 1956-1960, History of the Office of the Secretary of Defense, Vol. IV* (Washington, D.C.: Historical Office, Office of the Secretary of Defense, 1997), p. 482.

⁴² Byron R. Fairchild and Walter S. Poole, *The Joint Chiefs of Staff and National Policy, Vol. IV, 1957-1960* (Washington, D.C.: Office of Joint History, Office of the Chairman of the Joint Chiefs of Staff, 2000), p. 7.

...we might try to knock out most of the Soviet strategic nuclear forces, while keeping Russian cities intact, and then coerce the Soviets into avoiding our cities (by the threat of controlled reprisal) and accepting our peace terms. In this case we would be counting on our ability to destroy their will, not their ability, to destroy our cities. I believe that the coercive strategy is a sensible and desirable option to have in second-strike circumstances in which we are trying to make the best of a bad situation.⁴³

The document was part of a series of Draft Presidential Memoranda (DPMs), which were “the means by which the Secretary of Defense submitted his recommendations to the President and, subject to the President’s approval, the means by which he made his decisions and policies known throughout the Defense Department.”⁴⁴

Johnson administration. In his January 1968 DPM for President Lyndon Johnson, Secretary McNamara concluded that “the Soviets can protect their second strike capability against any threat we might pose.” He then asked, “What if deterrence fails and a nuclear war with the USSR occurs?” The answer was,

If the war began with an all-out Soviet attack, including our cities, we would reply in kind. If the war started out with less than an all-out attack, we would want to carry out plans for the controlled and deliberate use of our nuclear power to get the best possible outcome.

...we would want to be able to follow a policy of limiting our retaliatory strikes to the enemy’s military targets and not attacking his cities if he refrained from attacking ours.

McNamara noted that, “The lack of such nuclear war plans [for controlled and deliberate use] is one of the main weaknesses of our posture today.”

With regard to strategic defenses, the defense secretary did not favor development and deployment of a system to protect against a large-scale Soviet ballistic missile attack because the presumed reaction by Moscow—more missiles, warheads, and penetration aids—would, in his view, cost too much to counter. “Against China, conversely,” he wrote, “we can buy an effective defense of CONUS [the continental United States] as insurance against a failure of deterrence.

⁴³ “Recommended FY 1964-FY 1968 Strategic Retaliatory Forces,” draft memorandum for the president, Nov. 22, 1962, Department of State, *FRUS, 1961-1963, Vol. VIII, National Security Policy* (Washington, D.C.: GPO, 1996), pp. 402-403, 404-405.

⁴⁴ Alain C. Enthoven and K. Wayne Smith, *How Much Is Enough? Shaping the Defense Program, 1961-1969* (New York: Harper & Row, 1971), p. 58.

China's more primitive technology and poorer economy allow us to develop an effective defense against her nuclear attack capability into the 1980s." (The DPM estimated that for an attack by up to 75 Chinese missiles, "a light U.S. ABM system" could limit the number of fatalities to one million or less.) McNamara recommended continuation of the civil defense program as "low cost insurance" against nuclear attack, but did not think the damage-limiting potential of air defenses, given the number of Soviet ballistic missiles, was worth the cost.⁴⁵

Nixon administration. In January 1974, following a review of U.S. nuclear policy, President Richard Nixon signed a directive, National Security Decision Memorandum (NSDM) 242, outlining "policy for planning the employment of nuclear weapons." With reference to damage limitation, it said,

Should conflict occur, the most critical employment objective is to seek early war termination, on terms acceptable to the United States and its allies, at the lowest level of conflict feasible. This objective requires planning a wide range of limited nuclear employment options which could be used in conjunction with supporting political and military measures (including conventional forces) to control escalation.

...options should be developed in which the level, scope, and duration of violence is limited in a manner which can be clearly and credibly communicated to the enemy. The options should (a) hold some vital enemy target hostage to subsequent destruction by survivable nuclear forces, and (b) permit control over the timing and pace of attack execution to provide the enemy opportunities to reconsider his actions.

In the event that escalation cannot be controlled, the objective for employment of nuclear forces is to obtain the best possible outcome for the United States and its allies. To achieve this objective, employment plans should be developed which provide to the degree practicable with available forces [inter alia] [l]imitation of damage to those political, economic, and military resources critical to the continued power and influence of the United States and its allies.⁴⁶

⁴⁵ "Strategic Offensive and Defensive Forces" [for FY 1969-FY 1973], draft memorandum for the president, Jan. 15, 1968, declassified version, pp. 5, 6, 9, 19-20, http://www.dod.mil/pubs/foi/homeland_defense/strategic_offensive_defensive_forces/325.pdf.

⁴⁶ National Security Decision Memorandum 242, "Policy for Planning the Employment of Nuclear Weapons," Jan. 17, 1974, declassified version, http://www.nixonlibrary.gov/virtuallibrary/documents/nsdm/nsdm_242.pdf. The directive closely followed the recommendations of the supporting review conducted by an interagency working group led by John Foster, director of defense research and engineering. See "NSSM 169—US Nuclear Policy Summary Report," June 8, 1973, Department of State, *FRUS, 1973-76, Vol. XXXV, National Security Policy* (Washington, D.C.: GPO, 2014), pp. 49-82. NSSM (National Security Study Memorandum) 169, Feb. 13, 1973, which contained the terms of reference for the study, can be found in *ibid.*, pp. 19-20.

The directive addressed not only the conduct of a war, but its aftermath. If attempts at escalation control failed, strikes were to be carried out against means of political control, economic resources, and military forces to constrain the postwar power, influence, and recovery of the enemy. And as with the requirement in the similar directive issued later by President Carter, a nuclear reserve force was to be maintained to deter attacks by other powers and give the United States coercive leverage for safeguarding its interests in the postwar world.⁴⁷

In earlier guidance that established the basic criteria for a “sufficient” strategic posture, Nixon included the requirement to “[d]eploy defenses which limit damage from small attacks or accidental launches to a low level.”⁴⁸ This was a reference to the planned Sentinel missile defense, later modified as the Safeguard system, a mission of which was to provide protection against an attack by the future Chinese ICBM force. While one Safeguard missile defense site was deployed, the full system ultimately was abandoned in return for the ABM Treaty and the Strategic Arms Limitation Treaty with Moscow.⁴⁹

In a directive on civil defense, Nixon did not make changes in existing policy or in the low-cost fallout shelter program, which was projected to save an estimated 10-20 million lives in certain types of heavy attack, in addition to the millions who would have survived even in the absence of the program.⁵⁰

Ford administration. President Gerald Ford adopted the policy his predecessor laid out for the employment of nuclear weapons: “A range of credible options is...critical to maintaining

⁴⁷ Ibid.

⁴⁸ National Security Decision Memorandum 16, “Criteria for Strategic Sufficiency,” June 24, 1969, declassified version, http://www.nixonlibrary.gov/virtuallibrary/documents/nsdm/nsdm_016.pdf.

⁴⁹ “Issues Paper: NSC Meeting on Safeguard and SALT, January 27, 1971,” n.d., prepared by the NSC staff; “1972 Safeguard Program,” memorandum from Secretary of Defense Melvin Laird to President Nixon, Jan. 27, 1971; “U.S. Strategic Objectives and Force Posture: Summary of Issues for Decision,” paper prepared by the Defense Program Committee Working Group, Jan. 11, 1972, all in Department of State, *FRUS, 1969-1972, Vol. XXXIV, National Security Policy* (Washington, GPO, 2011), pp. 688, 691, 903, 922, 924.

⁵⁰ National Security Decision Memorandum 184, “United States Civil Defense Policy,” Aug. 14, 1972, http://www.nixonlibrary.gov/virtuallibrary/documents/nsdm/nsdm_184.pdf; “U.S. Civil Defense Policy,” memorandum from Assistant for National Security Affairs Henry Kissinger to President Nixon, with attached paper, n.d., *FRUS, 1969-1972, Vol. XXXIV*, p. 1004.

deterrence, as well as to escalation control, satisfactory war termination, and postwar recovery. Therefore, the nuclear employment policy directed by NSDM 242 is reaffirmed.”⁵¹

Carter administration. As already discussed, President Carter accepted damage limitation as an objective, which was to be sought in wartime principally through the use of nuclear forces in a manner consistent with the control of escalation. Given that the purpose here is to show damage limitation as a lasting U.S. objective for nuclear war, it is worth noting that during the Carter years this very point was made in one of the Defense Department annual reports to Congress. In explaining what it called the “countervailing strategy” for U.S. nuclear forces, the report for fiscal year 1981 emphasized that,

For nearly 20 years, we have explicitly included a range of employment options—against military as well as non-military targets in our strategic nuclear employment planning. Indeed, U.S. nuclear forces have always been designed against military targets as well as those comprising war supporting industry and recovery resources. In particular, *we have always considered it important, in the event of war, to be able to attack the forces that could do damage to the United States and its allies.*⁵²

More than 30 years later, this remains the case.

Reagan administration. Like Presidents Nixon and Carter, President Ronald Reagan issued a policy directive to guide planning for the employment of nuclear weapons. The guidance from Reagan, however, appeared in the first year of his tenure rather than near its end. National Security Decision Directive (NSDD) 13 of October 1981 said, “Should nuclear attack...occur, the United States and its Allies must prevail” in a nuclear war, including a conflict that might become prolonged. This meant “[t]he United States must be able to deny the Soviet Union a military victory at any level of conflict and force it to seek earliest termination of hostilities on terms favorable to the United States,” which required “the capability to attack the widest range of targets in a way that serves our national interests...and, if necessary, to cripple the capability of

⁵¹ National Security Decision Memorandum 348, “U.S. Defense Policy and Military Posture,” Jan. 20, 1977, declassified version, <http://www.fordlibrarymuseum.gov/library/document/0310/nsdm348.pdf>.

⁵² Secretary of Defense Harold Brown, *Department of Defense Annual Report, Fiscal Year 1981* (Washington, D.C.: GPO, Jan. 29, 1980), p. 66 (emphasis added).

the Soviet Union and its allies to conduct effective military operations.”⁵³ Secretary of Defense Caspar Weinberger later testified before a congressional committee that to be prepared for a failure of deterrence, “we must plan for flexibility in our forces and in our response options so that there is a possibility of re-establishing deterrence at the lowest level of violence, and avoiding further escalation.”⁵⁴ At the end of the administration, the importance of flexible nuclear forces and plans for the purpose of escalation control was reasserted in its last Defense Department annual report to Congress.⁵⁵

At a policy level (and, to a lesser degree, in its programs), the Reagan administration in comparison to its more recent predecessors placed greater emphasis on strategic defense for damage limitation. NSDD 13 said that, “Active and passive defenses can contribute significantly to a credible deterrent. The damage-limiting capacity of an effective strategic defense reduces the likelihood of coercion and increased prospects for postwar recovery of the United States.” Related guidance, in which Reagan outlined the strategic force modernization program his administration intended to pursue, directed that, “Strategic defense will be modernized, including air and space defenses. A vigorous research and development program will be conducted on ballistic missile defense systems. An expanded, cost effective civil defense program will be developed.”⁵⁶

Of these efforts, that related to ballistic missile defense was the most significant. In March 1983, Reagan set in motion the Strategic Defense Initiative, a major R&D program aimed at eventually eliminating the threat of ballistic missile attack and, prior to that, providing interim capability options for strengthening deterrence and defense.⁵⁷ With regard to civil defense, the president

⁵³ National Security Decision Directive 13, “Nuclear Weapons Employment Policy,” Oct. 19, 1981, declassified version, <http://www.reagan.utexas.edu/archives/reference/Scanned%20NSDD13.pdf>.

⁵⁴ Prepared statement in Senate Foreign Relations Committee, *U.S. Strategic Doctrine*, Hearing, 97th Cong., 2d sess. (Washington, D.C.: GPO, 1983), p. 19.

⁵⁵ Secretary of Defense Frank C. Carlucci, *Department of Defense Annual Report to the Congress, Fiscal Year 1990* (Washington, D.C.: GPO, Jan. 17, 1989), pp. 34-36.

⁵⁶ National Security Decision Directive 12, “Strategic Forces Modernization Program,” Oct. 1, 1981, declassified version, <http://www.reagan.utexas.edu/archives/reference/Scanned%20NSDD12.pdf>.

⁵⁷ National Security Decision Directive 85, “Eliminating the Threat from Ballistic Missiles,” Mar. 25, 1983, <http://www.reagan.utexas.edu/archives/reference/Scanned%20NSDD85.pdf>; National Security Decision Directive 119, “Strategic Defense Initiative,” Apr. 16, 1984, declassified version, <http://www.reagan.utexas.edu/archives/reference/Scanned%20NSDD119.pdf>.

signed a directive a year earlier that called for an ambitious civil defense program, whereby crisis relocation of urban residents to areas of lower risk was to save 80 percent of the population in the event of a Soviet attack limited to military and industrial targets and preceded by strategic warning. A superseding directive issued five years later, however, adopted the more modest goal of a program that would “provide improved prospects for the protection of the population and resources of the Nation in the event of nuclear attack.”⁵⁸ The program for upgrading air defense was intended to offer limited protection against the near-term threat from Soviet bombers penetrating at low altitude, and comprised modernization of ground-based surveillance radars, addition of airborne early warning and control system (AWACS) aircraft, replacement of obsolete fighter-interceptors with modern aircraft, and advanced research for defense against the future threat from bombers and long-range cruise missiles.⁵⁹

George H.W. Bush administration. Soon after taking office, President Bush determined that the nuclear weapons employment guidance contained in NSDD 13 would remain in effect.⁶⁰

Consistent with the reaffirmed guidance, the Defense Department annual report for 1991 pointed to the value for escalation control of having a varied set of nuclear response options:

While the U.S. seeks to deter nuclear conflict, should a nuclear attack nonetheless occur, the United States must and will attempt to control escalation and deny the aggressor its wartime goals. [This] calls for maintaining the ability to respond appropriately and effectively to any level of aggression. Options that offer a range of choices with respect to both the timing and scale of nuclear weapons employment must be available. A range of response options provides the hope of reestablishing deterrence at the lowest level of violence.⁶¹

⁵⁸ National Security Decision Directive 26, “US Civil Defense Policy,” Feb. 25, 1982, declassified version, <http://www.reagan.utexas.edu/archives/reference/Scanned%20NSDD26.pdf>; National Security Decision Directive 259, “U.S. Civil Defense,” Feb. 4, 1987, <http://www.reagan.utexas.edu/archives/reference/Scanned%20NSDD259.pdf>.

⁵⁹ Secretary of Defense Caspar W. Weinberger, *Department of Defense Annual Report to the Congress, Fiscal Year 1983* (Washington, D.C.: GPO, Feb. 8, 1982), pp. III-63 – III-65, I-42 – I-43; *Department of Defense Annual Report to the Congress, Fiscal Year 1990*, pp. 190-191.

⁶⁰ General Accounting Office, *Strategic Weapons: Nuclear Targeting Process*, GAO/NSIAD-91-319FS (Washington, D.C.: GAO, Sept. 1991), p. 12. (Information provided to GAO by the Office of Strategic Forces Policy in the Office of the Secretary of Defense.)

⁶¹ Secretary of Defense Dick Cheney, *Department of Defense Annual Report to the President and the Congress* (Washington, D.C.: GPO, Jan. 1991), p. 51.

On the strategic defense side, Bush in his 1991 State of the Union address announced he had “directed that the SDI program be refocused on providing protection from limited ballistic strikes, whatever their source” and would pursue a program that “can deal with any future threat to the United States, to our forces overseas, and to our friends and allies.”⁶² The new focus for the SDI reflected favorable changes in the U.S.-Soviet relationship, the growing threat from ballistic missile proliferation, and the danger that political instability (including disorder in the Soviet Union) and regional conflict could lead to accidental, unauthorized, or deliberate ballistic missile strikes. The planned defense system—Global Protection Against Limited Strikes (GPALS)—included surface- and space-based sensors and interceptors for protecting the United States, forward-deployed forces, and allies. It was to be deployed in stages, with an initial emphasis on theater missile defense, and with later defense for the United States requiring “relaxation of ABM Treaty constraints.” The system was designed to protect against strikes involving “up to a few hundred warheads.”⁶³

The Bush policy for civil defense was similar to that adopted near the end of the previous administration: a low-cost program with “[p]lans for a civil defense surge from the base capability in a national security crisis involving the threat of attack.” Those plans were to “assume advanced warning, adequate time to conduct the surge, and the required base capability [“common to all catastrophic emergencies and unique to attack”] from which to surge.”⁶⁴ The administration also continued implementation of the air defense program of its predecessor.⁶⁵

Clinton administration. In November 1997, President Bill Clinton signed Presidential Decision Directive (PDD) 60, which represented the first change in presidential guidance for nuclear

⁶² “Address Before a Joint Session of the Congress on the State of the Union,” Jan. 29, 1991, Office of the Federal Register, *Public Papers of the Presidents of the United States, George Bush, 1991, Book I* (Washington, D.C.: GPO, 1992), p. 78.

⁶³ Strategic Defense Initiative Organization, *The President’s New Focus for SDI: Global Protection Against Limited Strikes (GPALS)* (Washington, D.C.: SDIO, June 6, 1991).

⁶⁴ National Security Directive 66, “Civil Defense,” Mar. 16, 1992, <http://bushlibrary.tamu.edu/research/pdfs/nsd/nsd66.pdf>.

⁶⁵ Secretary of Defense Dick Cheney, *Department of Defense Annual Report to the President and the Congress* (Washington, D.C.: GPO, Jan. 1993), p. 73.

weapons employment since the end of the Cold War.⁶⁶ Along with change, the directive showed “a large measure of continuity” with previous guidance.⁶⁷ It eliminated the NSDD 13 requirement that the United States prevail in a prolonged nuclear conflict.⁶⁸ But, in line with the guidance documents issued by Reagan, Carter, and Nixon, it retained the requirement for maintenance of a reserve force beyond the initial strikes of a war.⁶⁹ It also restated the need for “a wide range of nuclear retaliatory options, from a limited strike to a more general nuclear exchange”—one of the fundamental means of controlling escalation.⁷⁰ To back this range of options, the United States would, according the Defense Department, “maintain nuclear forces of sufficient size and capability to hold at risk a broad range of assets valued by potentially hostile foreign nations.”⁷¹ One press account reported that PDD 60 called for retention of “long-standing options for nuclear strikes against the military and civilian leadership and nuclear forces of Russia.”⁷² Another said the guidance also recognized “potential threats posed by countries like China, North Korea, Iran and Iraq.”⁷³

The Clinton administration canceled the space-based interceptor element of the planned GPALS system and focused on development of capabilities to protect U.S. forces and allies overseas (theater missile defense) rather than the United States itself (national missile defense or NMD).⁷⁴ Work on national missile defense continued, however, and the president, with the urging of

⁶⁶ Walter B. Slocombe, under secretary of defense for policy, in Senate Armed Services Committee, *U.S. Strategic Nuclear Force Requirements*, S. Hrg. 106-738, 106th Cong., 2d sess. (Washington, D.C.: GPO, 2000), p. 21; Secretary of Defense William S. Cohen, *Department of Defense Annual Report to the President and the Congress* (Washington, D.C.: GPO, 1998), p. 57.

⁶⁷ *Department of Defense Annual Report* (1998), p. 57.

⁶⁸ Robert Bell, NSC staff senior director for defense policy and arms control, quoted in Craig Cerniello, “Clinton Issues New Guidelines On U.S. Nuclear Weapons Doctrine,” *Arms Control Today*, Vol. 27, No. 8 (Nov.-Dec. 1997), p. 23.

⁶⁹ Robert Bell, “Strategic Agreements and the CTB Treaty; Striking the Right Balance,” *Arms Control Today*, Vol. 28, No. 1 (Jan.-Feb. 1998), p. 6. See also Secretary of Defense William J. Perry, *Department of Defense Annual Report to the President and the Congress* (Washington, D.C.: GPO, Feb. 1995), p. 87.

⁷⁰ Robert Bell, quoted in “Rogue Attackers May Face Nuclear Response,” *Chicago Tribune*, Dec. 8, 1997, http://articles.chicagotribune.com/1997-12-08/news/9712080021_1_nuclear-weapons-non-proliferation-treaty-nuclear-triad.

⁷¹ *A National Security Strategy of Engagement and Enlargement* (Washington, D.C.: The White House, Feb. 1996), p. 21.

⁷² R. Jeffrey Smith, “Clinton Directive Changes Strategy On Nuclear Arms,” *Washington Post*, Dec. 7, 1997, p. A1.

⁷³ Steven Lee Myers, “U.S. ‘Updates’ All-Out Atom War Guidelines,” *New York Times*, Dec. 8, 1997, p. A3.

⁷⁴ Secretary of Defense Les Aspin, *Department of Defense Annual Report to the President and the Congress* (Washington, D.C.: GPO, Jan. 1994), pp. 51-56.

Congress, signed the 1999 National Missile Defense Act, which made it “the policy of the United States to deploy as soon as is technologically possible an effective National Missile Defense system capable of defending the territory of the United States against limited ballistic missile attack (whether accidental, unauthorized, or deliberate).”⁷⁵

In a September 2000 speech, Clinton announced he had decided not to authorize deployment of an NMD system, while leaving the open the option for the next president to give such a go-ahead. In the speech, he acknowledged there was a “real and growing” ballistic missile threat, including the dangers that nuclear-armed missiles might be launched as a result miscalculation or unauthorized use. National missile defense “could give...an extra dimension of insurance” against this threat. But, the president said, the information then available did not provide “enough confidence in the technology and operational effectiveness of the entire NMD system to move forward to deployment,” although there was “a reasonable chance” that the challenges to effectiveness could “be met in time.” The ABM Treaty and considerations of “strategic stability” with Russia also entered into his decision, but, he suggested, the “new threats” from ballistic missile proliferation might “require amending the treaty” in cooperation with Moscow. Finally, after raising the possibility that NMD deployment might stimulate “an already dangerous regional nuclear capability from China to South Asia, the president emphasized that,

No nation can ever have a veto over American security, even if the United States and Russia cannot reach an agreement, even if we cannot secure the support of our allies at first, even if we conclude the Chinese will respond to NMD by increasing their arsenal of nuclear weapons substantially, with a corollary inevitable impact in India and then in Pakistan.⁷⁶

George W. Bush administration. During the first year of the Bush administration, the Defense Department conducted a Nuclear Posture Review (NPR), the results of which were approved by

⁷⁵ Public Law 106-38, July 22, 1999; “Statement on the Signing of the National Missile Defense Act of 1999,” July 22, 1999, Office of the Federal Register, *Public Papers of the Presidents of the United States, William J. Clinton, 1999, Book II* (Washington, D.C.: GPO, 2001), pp. 1304-1305.

⁷⁶ “Remarks at Georgetown University,” Sept. 1, 2000, Office of the Federal Register, *Public Papers of the Presidents of the United States, William J. Clinton, 2000-2001, Book II* (Washington, D.C.: GPO, 2001), pp. 1744-1748.

the president.⁷⁷ An examination of the contemporary security environment was part of the review. Among the dangers identified was the threat of conflict with “rogue states” (Iraq, Iran, Syria, Libya, North Korea) armed with weapons of mass destruction and their means of delivery, notably ballistic missiles. At some point, an adversary like North Korea or Iran might acquire nuclear-armed ballistic missiles capable of reaching the United States. The review judged that the rulers of rogue states might prove more difficult to deter than the Soviet leaders of the Cold War because they were “subject to few institutional constraints on using [WMD]” and their “decision-making processes are obscure and their behavior at times unpredictable.”⁷⁸ And, as a senior defense official explained to a congressional committee, “because deterrence will function less predictably in the future, the United States will need options to defend itself, its allies, and friends against attacks that cannot be deterred.”⁷⁹

The attention to rogue states was not meant to exclude other potential adversaries. Though Russia was “no longer an enemy,” that did not mean the United States would “not retain significant nuclear capabilities” or could “ignore developments in Russia’s (or any other nation’s) nuclear arsenal.”⁸⁰ China also had to be taken into account in U.S. nuclear planning.⁸¹

For this security environment, the NPR called for replacing the existing nuclear triad (SLBMs, ICBMs, and bombers) with a planning construct referred to as the “New Triad.” The New Triad, which was adopted by the Defense Department, consisted of strike capabilities, active and passive defenses, and the supporting defense-industrial infrastructure. The strike element

⁷⁷ Secretary of Defense Donald H. Rumsfeld, *Department of Defense Annual Report to the President and Congress* (Washington, D.C.: GPO, 2002), pp. 83-92; Deputy Assistant Secretary of Defense for Forces Policy Brian Green, remarks at the 36th Annual Institute for Foreign Policy Analysis-Fletcher Conference on National Security Policy, “Nuclear and Non-Nuclear Forces in 21st-Century Deterrence: Implementing the New Triad,” Washington, D.C., Dec. 14, 2005, transcript, <http://ifpafletcherconference.com/oldtranscripts/2005/green.htm>.

⁷⁸ *Department of Defense Annual Report to the President and Congress* (2002), pp. 83-84; Vice President Dick Cheney, remarks at a press conference, London, Mar. 11, 2002, transcript, cited in Kurt Guthe, *The Nuclear Posture Review: How Is the “New Triad” New?* (Washington, D.C.: Center for Strategic and Budgetary Assessments, 2002), p. 4.

⁷⁹ Douglas J. Feith, under secretary of defense for policy, prepared statement in Senate Armed Services Committee, *Department of Defense Authorization for Appropriations for Fiscal Year 2003*, S. Hrg. 107-696, Pt. 1, 107th Cong., 2d sess. (Washington, D.C.: GPO, 2003), p. 325.

⁸⁰ *Department of Defense Annual Report to the President and the Congress* (2002), p. 83; Feith, *Department of Defense Authorization for Appropriations for Fiscal Year 2003*, p. 327.

⁸¹ Donald H., Rumsfeld, secretary of defense, in Senate Foreign Relations Committee, *Treaty on Strategic Offensive Reduction: The Moscow Treaty*, S. Hrg. 107-622, 107th Cong., 2d sess. (Washington, D.C.: GPO, 2002), p. 111.

included nonnuclear as well as nuclear capabilities. Active defenses explicitly comprised missile defense and air defense. Passive defenses encompassed civil defense and other measures that “reduce vulnerability through mobility, dispersal, redundancy, deception, concealment, and hardening; warn of imminent attack; and support consequence management activities.”⁸² The defense policy goals assigned to offensive and defensive elements of the New Triad included deterring coercion or attack against the United States and its friends, and, of particular importance with regard to damage limitation, decisively defeating an enemy while defending the United States and its security partners.⁸³

Several months after the completion and approval of the NPR, Bush issued National Security Presidential Directive (NSPD) 14, which recorded his guidance for the employment of nuclear weapons. According to defense officials, the directive covered the need for flexible nuclear forces, the response options for those forces (particularly options that did not involve all-or-nothing retaliation), and the requirement for forces “to hold at risk those critical assets and capabilities which a potential enemy leadership values most.”⁸⁴ All of this suggests options that would include counterforce strikes and attempts at escalation control for the purpose of damage limitation.

The predominant defense element of the New Triad was ballistic missile defense. On December 13, 2001, Bush announced the withdrawal of the United States from the 30-year-old ABM Treaty on the grounds that it “hinders our Government’s ability to develop ways to protect our people from future terrorist or rogue state missile attacks.”⁸⁵ That same day, it is worth noting, Russian President Vladimir Putin, while characterizing U.S. withdrawal as “mistaken,” called for a treaty

⁸² *Department of Defense Annual Report to the President and the Congress* (2002), pp. 86-87.

⁸³ Feith, *Department of Defense Authorization for Appropriations for Fiscal Year 2003*, p. 326.

⁸⁴ Government Accountability Office, *Strategic Weapons: Changes in the Nuclear Weapons Targeting Process Since 1991*, GAO-12-786R (Washington, D.C.: GAO, July 31, 2012), p. 5; Amy F. Woolf, *Nuclear Weapons in U.S. National Security Policy: Past, Present, and Prospects*, RL34226 (Washington, D.C.: Congressional Research Service, Dec. 30, 2008), p. 10.

⁸⁵ “Remarks Announcing the United States Withdrawal From the Anti-Ballistic Missile Treaty,” Dec. 13, 2001, Office of the Federal Register, *Public Papers of the Presidents of the United States, George W. Bush, 2001, Book II* (Washington, D.C.: GPO, 2004), pp. 1510-1511.

to cut strategic nuclear warheads on each side by roughly two-thirds, to 1,500-2,200.⁸⁶ A month earlier, Bush had said publicly—with Putin at his side—that the United States planned to reduce unilaterally its number of warheads to 1,700-2,200.⁸⁷ The Moscow Treaty, signed in May 2002, codified the mutual limit at the level favored by the United States. Elimination of restrictions on missile defenses followed by *reductions* in strategic arms is certainly not what the action-reaction model of Minimum Deterrence proponents would have predicted.

In December 2002, the president issued a policy statement on ballistic missile defense. Echoing the NPR, it warned that for the “contemporary and emerging missile threat from hostile states...[t]he strategic logic of the past may not apply...and we cannot be wholly dependent on our capability to deter them.” Against the threat, it directed the Defense Department to field an initial set of missile defense capabilities by 2004 and 2005. Along with defenses for protecting U.S. overseas forces and allies against short- and medium-range missiles, the set of capabilities included the first stage of the GMD system for defending the United States against North Korean ICBMs, with subsequent modifications planned to counter missiles launched from Iran. The policy specified an “evolutionary approach” through which missile defenses would “evolve to meet the changing threat and to take advantage of technological developments.”⁸⁸

Obama administration. In early 2010, the Obama administration released the report for the Nuclear Posture Review that had been conducted by the Defense Department in consultation with a number of other departments and agencies. The scope of the review was comprehensive, but just two points regarding its results will be made here. First, the review implicitly abandoned the New Triad as a planning construct, while retaining its offensive, defensive, and supporting elements as part of U.S. capabilities for deterring or dealing with a nuclear attack. Second, the

⁸⁶ “A Statement Made by Russian President Vladimir Putin on December 13, 2001, Regarding the Decision of the Administration of the United States of America to Withdraw from the Antiballistic Missile Treaty of 1972,” <http://www.acq.osd.mil/tc/treaties/abm/PutinDec13.htm>.

⁸⁷ “The President’s News Conference With President Vladimir Putin of Russia,” Nov. 13, 2001, *Public Papers of the Presidents of the United States, George W. Bush, 2001, Book II*, p. 1392.

⁸⁸ Office of the White House Press Secretary, “National Policy on Ballistic Missile Defense,” fact sheet, May 20, 2003. See also “Statement Announcing a National Missile Defense Initiative,” Dec. 17, 2002, Office of the Federal Register, *Public Papers of the Presidents of the United States, George W. Bush, 2002, Book II* (Washington, D.C.: GPO, 2005), pp. 2198-2199; Brian R. Green, deputy assistant secretary of defense for strategic capabilities, in Senate Armed Services Committee, *Department of Defense Authorization for Appropriations for Fiscal Year 2008*, S. Hrg. 110-201, Pt. 7, 110th Cong., 1st sess. (Washington, D.C.: GPO, 2008), p. 127.

review referred to the potential for “regional aggression” by a nuclear-armed North Korea or Iran as posing deterrence challenges, and raised questions about Russian and Chinese nuclear capabilities in the context of “ensuring strategic stability.”⁸⁹

In 2011, President Obama directed the Defense Department to lead an interagency study of “U.S. nuclear deterrence requirements and policy in order to ensure U.S. nuclear posture and plans are aligned to address today’s security environment.”⁹⁰ The State and Energy Departments, NSC staff, and Office of the Director of National Intelligence also participated in the 18-month effort. The study was a follow-on to the 2010 NPR.⁹¹ Part of the task for the follow-on study was to “set a goal for future nuclear reductions below New START levels.”⁹² According to press reports, one of the alternative forces considered had no more than a few hundred nuclear warheads, a number much lower than the limit of 1,550 operationally deployed warheads set by the New Strategic Arms Reduction Treaty. This force was referred to as “deterrence only,” with the warheads targeted against the “economic capacity” of the enemy.⁹³ A senior defense official acknowledged that the study “explicitly looked at a so-called minimum deterrence approach,” but quickly added that it was rejected, as was counter-city targeting.⁹⁴ Based on the advice he received, the president determined that the number of U.S. strategic warheads could be reduced by as much as one-third below the New START level, or to roughly 1,000 warheads.⁹⁵

⁸⁹ Department of Defense, *Nuclear Posture Review Report* (Washington, D.C.: DoD, Apr. 2010), pp. 3-6, 28-30.

⁹⁰ Office of the White House Press Secretary, “Nuclear Weapons Employment Strategy of the United States,” fact sheet, June 19, 2013, <http://www.whitehouse.gov/the-press-office/2013/06/19/fact-sheet-nuclear-weapons-employment-strategy-united-states>; Department of Defense, *Report on Nuclear Employment Strategy of the United States Specified in Section 491 of 10 U.S.C.* (Washington, D.C.: DoD, June 2013), p. 1.

⁹¹ *Report on Nuclear Employment Strategy of the United States Specified in Section 491 of 10 U.S.C.*, pp. 1, 2; M. Elaine Bunn, deputy assistant secretary of defense for nuclear and missile defense policy, prepared statement before the Senate Armed Services Committee, Mar. 5, 2014, p. 9.

⁹² James N. Miller, principal deputy under secretary of defense for policy, prepared statement in House Armed Services Committee, *The Current Status and Future Direction for U.S. Nuclear Weapons Policy and Posture*, H.A.S.C. No. 112-88, 112th Cong., 1st sess. (Washington, D.C.: GPO, 2012), p. 62.

⁹³ R. Jeffrey Smith, “Obama Administration Embraces Major New Nuclear Weapons Cut,” Center for Public Integrity, Feb. 8, 2013, <http://www.publicintegrity.org/2013/02/08/12156/obama-administration-embraces-major-new-nuclear-weapons-cut>. See also Robert Burns, “US Weighing Steep Nuclear Arms Cuts,” Associated Press, Feb. 15, 2012, http://www.boston.com/news/world/europe/articles/2012/02/15/us_weighing_steep_nuclear_arms_cuts/.

⁹⁴ James Miller, under secretary of defense for policy, “Nuclear Deterrence: New Guidance and Constant Commitment.”

⁹⁵ “Nuclear Weapons Employment Strategy of the United States,” fact sheet.

One reason for the rejection of a deterrence-only force was that study participants also were charged with “considering the critical question of what to do if deterrence fails. . . . what are the guiding concepts for employing nuclear weapons to deter adversaries of the United States, and what are the guiding concepts for ending a nuclear conflict on the best possible terms if one has started?”⁹⁶ The question of how to terminate a conflict and secure the most favorable, or least unfavorable, outcome is, of course, directly relevant to the matter of limiting damage in a nuclear war. Part of the answer, according to nuclear weapons employment guidance issued by Obama after review of the completed study, is to “preserve the flexibility to respond with a wide range of options to meet the President’s stated objectives should deterrence fail.” In support of these options, the guidance also says, the United States must “maintain significant counterforce capabilities against potential adversaries.”⁹⁷ This most recent guidance on employment policy thus endorses the two key means of damage limitation through offensive means: the ability “to attack the forces that could do damage to the United States and its allies” (as Harold Brown put it) and a “wide range of options” from which the president could order nuclear responses best suited to countering an attack while discouraging further escalation of the conflict.

The requirement for “significant counterforce capabilities” is particularly interesting when juxtaposed with the U.S. objective of maintaining “strategic stability” with Russia. The administration report to Congress on the new guidance says, “the United States seeks to improve strategic stability by demonstrating that it is not our intent to negate Russia’s strategic nuclear deterrent, or to destabilize the strategic military relations with Russia.”⁹⁸ The position of the administration indicates a recognition that counterforce and stability are not inherently incompatible, a view which, as discussed earlier, is not shared by Minimum Deterrence proponents. (While the report also mentions the U.S. commitment to “maintaining strategic stability in U.S.-China relations,” it offers no elaboration as to just what this means.)

With regard to strategic defense against nuclear attack by a state, the Obama administration has centered its attention on ballistic missile defense, as did its predecessor. In the Ballistic Missile

⁹⁶ Miller, *The Current Status and Future Direction for U.S. Nuclear Weapons Policy and Posture*, p. 62.

⁹⁷ *Report on Nuclear Employment Strategy of the United States Specified in Section 491 of 10 U.S.C.*, pp. 4, 7-8.

⁹⁸ *Ibid.*, p. 3.

Defense Review conducted during its first year, the administration set as a “policy priority” that “the United States will continue to defend the homeland from limited ballistic missile attack,” with “efforts focused on protecting the homeland from a ballistic missile attack by a regional actor such as North Korea or Iran.”⁹⁹ Like the Bush administration, it sees missile defense as necessary, in part, because deterrence of these adversaries under certain conditions may prove unavailing: “Deterrence is a powerful tool, and the United States is seeking to strengthen deterrence against these new challenges. But deterrence by threat of strong offensive response may not be effective against these states in a time of political-military crisis.”¹⁰⁰ As noted earlier, the Obama policy for ballistic missile defense requires that the United States “stay ahead” or “maintain an advantageous position” in its capability to counter increases in the missile threats posed by North Korea and Iran.¹⁰¹ The arms race stability that worries Minimum Deterrence proponents apparently is not a concern here. On the other hand, U.S. ballistic missile defense currently is not intended to protect against “large scale Russian or Chinese missile attacks,” both in the interest of strategic stability and, at least in the case of Russia, in recognition of the daunting technological challenge and cost of an effective system.¹⁰²

Changes in the Bush missile defense program made by the Obama administration included cancelation of plans to deploy a European site for the GMD system, which was meant to defend against longer-range missiles launched by Iran. Instead, a system designed to deal with medium- and shorter-range missiles was adopted on the grounds that the threat from these missiles had developed more rapidly than projected, the development of longer-range missiles had slowed, and significant advances had been made in interceptors and sensors for defending against the nearer-term threat.¹⁰³ A second change was the decision not to proceed with the Bush plan to increase from 30 to 44 the number of ground-based interceptors for the GMD system because

⁹⁹ *Ballistic Missile Defense Review Report*, p. 11.

¹⁰⁰ *Ibid.*, pp. 6-7.

¹⁰¹ *Ibid.*, p. iv; Bunn, prepared statement before the Senate Armed Services Committee, Apr. 2, 2014, p. 2.

¹⁰² Adm. James A. Winnefeld, Jr., vice chairman of the Joint Chiefs of Staff, “Remarks at the Atlantic Council’s U.S. Missile Defense Plans and Priorities Conference,” May 28, 2014, <http://www.jcs.mil/Media/Speeches/tabid/3890/Article/9068/adm-winnefelds-remarks-at-atlantic-councils-us-missile-defense-plans-and-priori.aspx>.

¹⁰³ Secretary of Defense Robert Gates and Vice Chairman of the Joint Chiefs of Staff Gen. James Cartwright, DoD news briefing, Sept. 17, 2009, transcript, <http://www.defense.gov/Transcripts/Transcript.aspx?TranscriptID=4479>.

North Korea had yet to deploy an ICBM.¹⁰⁴ U.S. inaction, however, was not reciprocated. A few years later, as discussed, progress in the North Korean missile and nuclear programs prompted a return to the Bush plan for 44 GBIs. Efforts also are under way to improve GMD sensors, capabilities to discriminate reentry vehicles from other objects, and interceptors.¹⁰⁵ Overall, the Defense Department judges, “[t]he current GMD system provides coverage for the entire United States from North Korean and potential Iranian ICBMs.”¹⁰⁶

Views Supporting the Continuity of Damage Limitation in U.S. Policy

The longevity of damage limitation in U.S. policy reflects beliefs officials have held regarding deterrence, the consequences of nuclear war, and the possibilities to mitigate those consequences. Like Minimum Deterrence proponents, officials clearly recognize deterrence must be the top priority. The “Basic National Security Policy” approved by President Eisenhower in 1955 said, “A central aim of U.S. policy must be to deter the Communists from using their military power,” adding “[t]his stress on deterrence is dictated by the disastrous character of total nuclear war” as well as “the possibility of local conflicts developing into total war.”¹⁰⁷ Nearly 30 years later, in a letter to a member of the Senate, Secretary of Defense Weinberger likewise wrote, “the terrible consequences nuclear war would hold for the American people” meant “deterrence has been the fundamental objective of U.S. nuclear policy for almost four decades.”¹⁰⁸ More than 30 years after that, the nuclear weapons employment guidance issued by President Obama cites as its first principle, “The fundamental role of U.S. nuclear weapons remains to deter nuclear attack on the United States and its Allies and partners.”¹⁰⁹

Unlike Minimum Deterrence proponents, however, officials have always concerned themselves with the possibility that deterrence may not be sufficient to deter attack under all conditions. Thus the phrase “if deterrence fails,” rare in the Minimum Deterrence literature, is commonplace in official documents on policy, plans, and programs related to the contingency of nuclear war.

¹⁰⁴ *Ballistic Missile Defense Review Report*, pp. 15-16.

¹⁰⁵ Department of Defense, *Quadrennial Defense Review 2014* (Washington, D.C.: DoD, 2014), p. 32.

¹⁰⁶ Bunn, prepared statement before the Senate Armed Services Committee, Apr. 2, 2014, p. 5.

¹⁰⁷ NSC 5501, “Basic National Security Policy,” Jan. 7, 1955, Department of State, *FRUS, 1955-1957, Vol. XIX, National Security Policy* (Washington, D.C.: GPO, 1990), p. 32.

¹⁰⁸ Letter to Sen. Claiborne Pell, Sept. 30, 1982, reproduced in *U.S. Strategic Doctrine*, p. 7.

¹⁰⁹ *Report on Nuclear Employment Strategy of the United States Specified in Section 491 of 10 U.S.C.*, p. 4.

As noted above, the potential for deterrence failure is the main justification for the GMD defense supported by both the Bush and Obama administrations. Farther in the past, Secretary of Defense McNamara in an early memo to President Kennedy expressed his view that,

of great concern, and perhaps more likely [than a “deliberate (Soviet) nuclear attack on the United States and our major allies”] is the chance that war could come about in an irrational or unpremeditated fashion—possibly by mistaken triggering of alert forces, by miscalculation by one side of the opponent’s intentions, by irrational or pathological actions by individuals, by spread and escalation of local wars, or by nuclear attack by a minor power.¹¹⁰

President Nixon made a similar point in an April 1969 personal memo sent to a handful of top officials, the purpose of which was lay out the reasons for his decision to develop and deploy the Safeguard defense system:

[while] unilateral disarmers would say our advantage over the Chinese and the Soviets [*sic*] is so enormous that no responsible leader of Communist China would dare launch an attack against either country, [the] tragic fact of history is that most of the great wars were not started by responsible men and that we have to base our assumptions on what potentially irresponsible or irrational men may do rather than simply on what we, as responsible leaders, might do.¹¹¹

A few years later, in the nuclear policy review that lead to the NSDM 242 guidance Nixon signed, the study authors conceded, despite their own recommendations for a revised retaliatory strategy, that, “No one is certain—or even highly confident—that he understands what will deter the Soviet Union or the PRC [People’s Republic of China] from nuclear threats or attacks.”¹¹²

As a last example, one drawn from many, the danger of deterrence failure also was raised in the fiscal year 1975 defense budget report Secretary of Defense James Schlesinger submitted to Congress:

...despite our best efforts, we cannot guarantee that deterrence will never fail; nor can we forecast the situations that would cause it to fail. Accidents and unauthorized acts could occur, especially if nuclear proliferation should increase. Conventional conflicts could

¹¹⁰ “Letter From Secretary of Defense McNamara to President Kennedy,” Feb. 20, 1961, Department of State, *FRUS, 1961-1963, Vol. VIII, National Security Policy* (Washington, D.C.: GPO, 1996), p. 37.

¹¹¹ April 14, 1969 memorandum excerpted in Department of State, *FRUS, 1969-1976, Vol. XXXIV, National Security Policy, 1969-1972* (Washington, D.C.: GPO, 2011), p. 87.

¹¹² “NSSM 169—US Nuclear Policy Summary Report,” *FRUS, 1973-76, Vol. XXXV*, p. 60.

escalate into nuclear exchanges; indeed, some observers believe that this is precisely what would happen should a major war break out in Europe. Ill-informed or cornered and desperate leaders might challenge us to a nuclear test of wills. We cannot even totally preclude the massive surprise attack on our forces which we use to test the design of our second-strike forces, although I regard the probability of such an attack as close to zero under existing conditions.¹¹³

Over the decades, officials have believed failure (or inability) to deter nuclear attack on the United States could occur for a “wide range” of contingencies. In addition to the three listed by Schlesinger—a Soviet surprise attack, a Soviet large-scale or limited attack arising from escalation of a NATO-Warsaw Pact conflict, and an accidental or unauthorized launch—these contingencies have included a Chinese attack in the context of a war over Taiwan (or a conflict with another U.S. security partner in East Asia), a North Korean attack during a crisis or war on the Korean peninsula, and a Russian attack in escalation from a lower-level conflict.

Officials, like Minimum Deterrence proponents, also have been well aware of the catastrophic consequences “if deterrence fails.” During the 1950s and early 1960s, the National Security Council regularly received from its Net Evaluation Subcommittee grim assessments of the casualties and industrial damage from a Soviet attack, as well as the human and material losses U.S. nuclear forces could wreak on the Soviet Union. The casualties projected in these assessments numbered in the tens of millions.¹¹⁴ Similarly, an NSC staff paper sent to President Nixon and other officials prior to a February 1969 NSC meeting on strategic policy issues reported, “Today...both we and the Soviet Union can kill about 40 percent of the other’s population—80-90 million people—even after absorbing an all-out surprise attack on our strategic forces.”¹¹⁵ And Secretary of Defense Brown in his last annual report to Congress began

¹¹³ Secretary of Defense James R. Schlesinger, *Annual Defense Department Report, FY 1975* (Washington, D.C.: GPO, Mar. 4, 1974), p. 38. Forty years later, Under Secretary of Defense for Policy James Miller told a Capitol Hill audience, “the new [nuclear weapons employment] guidance [issued by President Obama] instructs the military to examine and reduce the role of ‘launch under attack’ in U.S. planning. This reflects the reality that the potential for a surprise disarming nuclear attack—one that would threaten our capacity to retaliate—is exceeding remote. Because it is still possible, we will retain the capability to launch under attack. At the same time, the department has been directed to focus on more likely—albeit, thank goodness, unlikely—regional 21st century contingencies.” “Nuclear Deterrence: New Guidance and Constant Commitment” (emphasis in original).

¹¹⁴ “Studies by Once Top Secret Government Entity Portrayed Terrible Costs of Nuclear War” *National Security Archive Electronic Briefing Book No. 480*, July 22, 2014, <http://www2.gwu.edu/~nsarchiv/nukevault/ebb480/>.

¹¹⁵ “Paper Prepared by the National Security Council Staff,” n.d. (around Feb. 1969), Department of State, *FRUS, 1969-1976, Vol. XXXIV, National Security Policy, 1969-1972* (Washington, D.C.: GPO, 2011), p. 12.

his discussion of U.S. strategic nuclear forces with a description of the destruction a nuclear war could cause: “An all-out nuclear war between the United States and the Soviet Union would involve the use of most of the approximately 16,000 strategic nuclear warheads and bombs the two countries possess. . . .the damage done by such an exchange would be unprecedented in scale, indeed indescribable.” U.S. fatalities could be as high as 155-165 million, he said. Those for the Soviet Union could reach 64-100 million.¹¹⁶ Figures like these led his successor to remark in his penultimate report to Congress, “No one who has received as many briefings on nuclear weapons, or has participated in crisis exercises, as I have, could hold any doubts about the absolute necessity of avoiding nuclear war.”¹¹⁷

At the same time, officials have recognized that that there are degrees of catastrophe, that possible nuclear attacks on the United States could vary greatly in scale and scope. For the hypothetical attack on military and industrial targets that Brown cited, for example, U.S. fatalities would be lowered to 20-55 million under different assumptions (if a portion of the weapons were air rather than ground burst and civil defense measures were taken).¹¹⁸ Constrained counterforce attacks could have produced still less damage.¹¹⁹ Today a Russian all-out attack would be some 80 percent smaller (in terms of warheads) than the Soviet attack referred to by Brown, and the number of Chinese warheads capable of reaching the United States would number in the tens.¹²⁰ Minimum Deterrence proponents, in contrast, devote little or no attention to making distinctions among different types of possible attacks and the kind and level of damage they might cause.

Officials also believe, contrary to the Minimum Deterrence position, that the catastrophe could be, and should be, lessened by capabilities and actions of the United States. Indeed, they have

¹¹⁶ *Department of Defense Annual Report, Fiscal Year 1982*, p. 37.

¹¹⁷ Secretary of Defense Caspar W. Weinberger, *Department of Defense Annual Report to the Congress, Fiscal Year 1987* (Washington, D.C.; GPO, Feb, 5, 1986), p. 74.

¹¹⁸ Office of Technology Assessment, *The Effects of Nuclear War* (Washington, D.C.: GPO, May 1979), pp. 94-95.

¹¹⁹ James R. Schlesinger, secretary of defense, in Senate Foreign Relations Committee, *Briefing on Counterforce Attacks*, Hearing, 93rd Cong., 2d sess. (Washington, D.C.; GPO, 1975).

¹²⁰ *Department of Defense Annual Report, Fiscal Year 1982*, p. 53; Bureau of Arms Control, Verification and Compliance, “New START Treaty Aggregate Numbers of Strategic Offensive Arms,” fact sheet, July 1, 2014; Hans M. Kristensen and Robert S. Norris, “Chinese Nuclear Forces, 2013,” *Bulletin of the Atomic Scientists*, Vol. 69, No. 6 (Nov.-Dec. 2013), pp. 79-85.

pursued damage limitation not only despite, but because of, the terrible destruction a nuclear attack could cause. As a military officer and NSC staff member who helped draft PD 59 put it,

we cannot assume that all leaders will be deterred. As long as that prospect is possible, even if highly improbable, military officers and their commander-in-chief, the president, must consider their alternatives if deterrence fails. Are they not morally bound, as well as legally responsible, to plan for that contingency?

Because massive use of nuclear weapons is horrible to contemplate, I have never had difficulty in choosing to prepare for the failure of deterrence.¹²¹

In this same vein, President George W. Bush, when he announced U.S. withdrawal from the ABM Treaty, said, “Defending the American people is my highest priority as Commander in Chief, and I cannot and will not allow the United States to remain in a treaty that prevents us from developing effective defense.” And when the subsequent GMD deployment decision was announced, Bush used similar language.¹²²

In evaluating the utility of different programs and strategies for damage limitation, officials have never sought anything close to complete protection, but only the mitigation of nuclear destruction by some worthwhile degree (variously defined). For example, in his 1968 DPM, Secretary of Defense McNamara wrote President Johnson that,

we first buy enough forces to give us high confidence in our deterrent. As insurance in the unlikely event deterrence fails, we then consider adding forces that might reduce damage to our population and industry. Damage Limiting forces [including defenses], unlike those for Assured Destruction [the requirement for the retaliatory deterrent], cannot and need not work perfectly under all conditions.¹²³

During the first three or so decades of the Cold War, Defense Department and other studies of strategic defenses and counterforce capabilities estimated that damage-limiting measures could save tens of millions of lives, though millions or tens of millions of other lives would be lost.¹²⁴

¹²¹ Odom, “The Origins and Design of Presidential Decision [sic]-59,” p. 186.

¹²² “Remarks Announcing the United States Withdrawal From the Anti-Ballistic Missile Treaty,” p. 1511; “Statement Announcing a National Missile Defense Initiative,” p. 2199.

¹²³ “Strategic Offensive and Defensive Forces” [for FY 1969-FY 1973], p. 17.

¹²⁴ See, for example, Security Resources Panel of the Science Advisory Committee, *Deterrence and Survival in the Nuclear Age*, Nov. 7, 1957 (Gaither Committee report), declassified version, <http://www2.gwu.edu/~nsarchiv/NSAEBB/NSAEBB139/nitze02.pdf>; NSC Planning Board, “U.S. Policy on

These results were taken into account by decisionmakers. In many cases, however, damage-limiting initiatives failed to receive approval or sustained support because of the questionable assumption that the adversary would always have the motivation and means to maintain U.S. casualties at a high level, because of budget constraints and competing claims, or because of domestic politics.

Likewise, officials have never considered escalation control, the other approach to damage limitation, sure to succeed. Rather, preparations for attempting to control escalation would offer a hope of avoiding all-out war; their absence could ensure such a conflict. Consider the views of three secretaries of defense:

McNamara

The conduct and outcome of a big nuclear war is worth caring about, more than any war in history. The success of deterrence cannot be guaranteed. If nuclear war comes and is unlimited and uncontrolled, it would be suicidal. We must do what we can to prevent this disaster, to improve the war's outcome, to terminate it under favorable conditions, and to limit damage to our allies and ourselves.

One of the most effective ways of limiting damage to this country if nuclear war comes, although admittedly we cannot place great confidence in it, is for *us* to use *our* nuclear force in a careful and discriminating way. This may be a necessary condition for inducing the enemy not to attack our civil society in wholesale fashion.¹²⁵

Continental Air Defense,” July 14, 1960, declassified version, <http://www2.gwu.edu/~nsarchiv/NSAEBB/NSAEBB43/doc4.pdf>; “Recommended FY 1964-FY 1968 Strategic Retaliatory Forces,” pp. 409-410; “Interaction of U.S. Assured Destruction and Damage Limiting Forces,” May 23, 1966, memorandum from Assistant Secretary of Defense for Systems Analysis Alain Enthoven to Secretary of Defense McNamara, Department of State, *FRUS, 1964-1968, Vol. X, National Security Policy* (Washington, D.C.: GPO, 2002), pp. 398-399; “Recommended FY68-72 Strategic Offensive and Defensive Forces,” draft memorandum for the president, Sept. 22, 1966, *FRUS, 1964-1968, Vol. X, National Security Policy*, pp. 428-430, 434-35; Department of Defense, “Amendments to FY-70 Defense Budgets,” n.d. (Mar. 1969), Department of State, *FRUS, 1969-1976, Vol. XXXIV, National Security Policy, 1969-1972* (Washington, D.C.: GPO, 2011), p. 44 (table showing effectiveness of Sentinel missile defense against a Chinese first strike); Henry Kissinger, “US Civil Defense Policy,” memorandum to President Nixon, n.d. (around Aug. 1972), *FRUS, 1969-1976, Vol. XXXIV, National Security Policy, 1969-1972*, pp. 1004, 1006; “Executive Summary of a Report Prepared by the National Security Study Memorandum 244 Ad Hoc Interagency Working Group,” Dec. 3, 1976, Department of State, *FRUS, 1969-1976, Vol. XXXV, National Security Policy, 1973-1976* (Washington, D.C.: GPO, 2014), pp. 547, 549-551; *PRM/NSC-10 Military Strategy and Force Posture Review*, June 1977, declassified version, p. III-12, <http://www.jimmycarterlibrary.gov/documents/prmemorandums/prm10.pdf>.

¹²⁵ “Letter From Secretary of Defense McNamara to President Kennedy,” p. 38 (emphasis in original).

Brown

...we have no more illusions than our predecessors that a nuclear war could be closely and surgically controlled.

...My own view remains that a full-scale thermonuclear exchange would constitute an unprecedented disaster for the Soviet Union and for the United States. And I am not at all persuaded that what started as a demonstration, or even a tightly controlled use of strategic forces for larger purposes, could be kept from escalating to a full-scale thermonuclear exchange. But all of us have to recognize, equally, that there are large uncertainties on this score, and that it should be in everyone's interest to minimize the probability of the most destructive escalation and halt the exchange before it reached catastrophic proportions.¹²⁶

...I am convinced that we must do everything we can to make such escalation control possible, that opting out of this effort and consciously resigning ourselves to the inevitability of such escalation is a serious abdication of the awesome responsibilities nuclear weapons, and the unbelievable damage their uncontrolled use would create, thrust upon us.¹²⁷

Weinberger

Nor is it possible to be certain that our efforts to limit escalation and terminate a conflict once begun would succeed. But it is imperative that we take every step possible to deter war and to limit the destruction of any conflict, despite all our efforts to prevent it. Without credible limited options, our critics' view that any response to a Soviet attack would automatically lead to mutual suicide could become a tragic self-fulfilling prophecy. In short, while our policy cannot guarantee success, our critics' policy can only guarantee failure.¹²⁸

As a long-serving senior defense official has remarked, the effort aimed at controlling nuclear escalation is one of "looking for the least miserable option."¹²⁹

Indeed, it might be said in a broader sense that U.S. officials have been compelled to consider deterrence failure and resigned to accept damage limitation.

¹²⁶ *Department of Defense Annual Report, Fiscal Year 1981*, p. 67.

¹²⁷ *Department of Defense Annual Report, Fiscal Year 1982*, p. 40. See also *PD/NSC-18 Nuclear Targeting Policy Review, Phase II Report*, pp. ii-iii, v.

¹²⁸ *Department of Defense Annual Report to the Congress, Fiscal Year 1987*, p. 75.

¹²⁹ Andrew W. Marshall, director of net assessment, Office of the Secretary of Defense, quoted in Gregg Herken, *Counsels of War* (New York: Alfred A. Knopf, 1985), p. 320.

Conclusion

Deterrence typically appears to be considered a higher priority than damage limitation. But deterrence can fail. The catastrophe following deterrence failure could vary in its kind and level of destruction. Plans and capabilities developed in peacetime and used in conflict could lessen the destruction. The means of damage limitation are counterforce, strategic defense, and escalation control. None comes with a guarantee of effectiveness. Their potential is to “make the best of a bad situation,” provide “the least miserable option,” and limit damage “to the degree practicable.” Tens of millions of American lives could be saved as a consequence. Different administrations have been willing to invest substantial sums in counterforce capabilities and strategic defenses to gain this insurance, even if the protection offered has been far from complete and other damage-limiting options have not been pursued.

Minimum Deterrence proponents, in contrast, abdicate “the awesome responsibilities nuclear weapons, and the unbelievable damage their uncontrolled use would create, thrust upon us.” Other than the need for a second-strike capability, they essentially ignore the problem of what to do if deterrence fails. Their preferred nuclear posture, with its emphasis on retaliation against urban-industrial centers, nonexistent or nominal counterforce capabilities, and absence of strategic defense, would make virtually impossible any limits on the destructiveness of a nuclear conflict. Minimum Deterrence is antithetical to damage limitation, and this is an important reason why it has never been accepted as U.S. policy.