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Missile Defense after the ABM Treaty

During his campaign for the presidency, George W. Bush promised to "build effective missile defenses, based on the best available options, at the earliest possible date."[1] As president, Bush took major steps to follow through on this pledge during his first year in office. He increased spending on missile defense substantially; directed the Pentagon to explore a broader array of antimissile technologies; and, most significantly, terminated U.S. participation in the 1972 Anti-Ballistic Missile (ABM) Treaty. Bush accomplished all these tasks at a far lower political cost than anyone expected. The horrific events of September 11 hastened, if not caused, a major shift in Russian policy toward the United States generally and toward missile defense specifically. The attack also quieted, for the time being at least, domestic critics of missile defense.

Although Bush's commitment to proceeding with missile defense development is beyond doubt, his precise plans remain unclear. The administration has not settled on a specific missile defense architecture, and its public statements about future deployments are sketchy at best. This ambiguity is attributable not to a lack of forthrightness but rather to the immaturity of missile defense technology. President Bill Clinton's administration had only one long-range missile defense program under development—a midcourse system designed to destroy individual warheads in space—which is far from being deployable. The Bush administration is now scrambling to turn other defensive concepts into systems it can test, an undertaking that will take years to accomplish. In the meantime, the political climate at home and abroad could change, thereby reigniting domestic and international controversies over the wisdom of missile defense.

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Bush's Ambiguous Vision for Missile Defense

Bush's discussion of missile defense during the campaign was long on rhetoric but short on details about the kind of defense he would build. This ambiguity persists. The Pentagon no longer distinguishes between so-called theater missile defense (TMD) systems aimed against shorter-range missiles and so-called national missile defense (NMD) systems designed to intercept long-range missiles; the Pentagon instead prefers the generic label "missile defense." The labeling change, however, does not erase the fact that, although TMD systems are relatively uncontroversial because they do not threaten the deterrents of other major nuclear powers, NMD systems are controversial precisely because they can. On the central question of what the long-range missile defense is expected to accomplish, the Bush administration has yet to give a definitive answer.

On May 1, 2001, Bush outlined his vision for missile defense, emphasizing his commitment to protect the country against long-range missile attack but suggesting that his administration was of two minds on the goal of missile defense. Bush implied at times that his goal was a limited missile defense, designed to shoot down the handful of long-range missiles that so-called rogue states might acquire. He said that the most urgent threat facing the United States came not from thousands of Russian nuclear-armed missiles but from "a small number of missiles in the hands of these states … for whom terror and blackmail are a way of life."[2] Iraq was the only country he named, but he almost certainly had Iran and North Korea in mind as well. He also spoke at length on the need to create a "new strategic framework" with Russia to replace the arms control treaties crafted during the Cold War.

At other times, however, Bush hinted that he wanted defenses capable of doing much more than intercepting a few Iraqi or North Korean missiles. He spoke dismissively of the principles underlying the ABM Treaty, and nothing in his remarks suggested that his proposed new strategic framework would limit the kinds of defenses the United States could build. Given his previously expressed concern about possible accidental or unauthorized Russian missile launches, which could theoretically involve several hundred warheads (the number associated with a single ballistic missile submarine or intercontinental ballistic missile (ICBM) complex), one could interpret Bush's remarks as endorsing robust missile defenses. Even though the distant prospect of the development of technology for building effective large-scale defenses might reassure Russia, China, with its small long-range missile force, could not have been as optimistic.

The administration's subsequent statements and actions have not resolved the ambiguity. Officials have said occasionally that their goals are

modest. During a July 2001 trip to Beijing, for example, Secretary of State Colin Powell repeated his frequent refrain that the United States is seeking to build a "limited missile defense that … would not threaten, [was] not intended to threaten, and I also don't think they would see it actually threatening the strategic deterrents of either Russia or China."[3]

Much of the time, however, the administration seems to favor ambitious long-range missile defenses. Consider exhibit A: the administration's missile defense budget request. The Pentagon requested a $3 billion increase—60 percent—in missile defense efforts for fiscal year 2002, which Congress ultimately provided almost in full. Some of the proposed increase was slated for systems that could defend only against shorter-range missiles, but much of it was requested for defensive capabilities against long-range missile attacks. The components of the request are listed in Table 1.

The budget request probably implies deploying close to 2,000 interceptors.

The Pentagon provided few specifics about potential deployments. By a conservative estimate, however, the budget request suggests that the administration ultimately plans to deploy a fairly large defense. In addition to its plans for dedicated long-range missile defense, including the Clinton midcourse system and other options, the Bush administration plans to give long-range defense capabilities to two TMD programs, the Theater High Altitude Area Defense (THAAD) and Navy Theater-Wide (NTW) systems. Because these programs are intended to have many hundreds of interceptors, the Bush budget implies deploying at least a thousand interceptors capable of long-range defense. Indeed, the budget request probably implies deploying closer to 2,000 interceptors.

Exhibit B is the administration's approach to the ABM Treaty. Throughout the fall of 2001, the nation's newspapers speculated that when Presidents Bush and Vladimir Putin met in Crawford, Texas, in November 2001, they would strike a deal on modifying the ABM Treaty. Washington would get greater freedom to test and deploy missile defense technologies, and Moscow would get limits on the ultimate size and nature of any U.S. defense. The logic behind the proposed deal was straightforward: to maintain Russian cooperation in the war against terrorism, the United States would accept constraints that would prevent it from developing ambitious defenses that would not be ready in any case for years. The pundits were wrong: although both presidents committed themselves to a sharp reduction in their offensive nuclear forces, they could not agree on modifications to the ABM Treaty.

Table I. Comparison of Clinton and Bush Administration Missile Defense Budgets (in millions of dollars)

	Fiscal Year 2001	Clinton Plan for FY 2002	Bush Request for FY 2003
Overall System (Design, testing)[a]	$742	$662	$934
Theater Missile Defense Systems			
Patriot Advanced Capability-3 (PAC-3)	442	534	784
Medium Extended Air Defense System (MEADS)	52	74	74
Navy Area Defense[b]	270	297	395
Theater High Altitude Area Defense (THAAD)	531	699	923
Arrow[c]	94	46	66
National Missile Defense Systems[d]			
Clinton Midcourse System	2,029	2,458	3,285
Navy Theater-Wide Defense	456	246	656
Airborne Laser	231	214	410
Space-Based Laser	73	137	165
Sea-Based Boost-Phase Missile	0	0	50?
Space-Based Boost-Phase Missile	0	0	60?
Satellites and Sensors			
SBIRS-Low Sensor	239	308	420
U.S.-Russian Satellites	35[a]	75	75
TOTAL	5,194[a]	5,751	8,298

[a] Budget documents for 2001 use different categories so figures may be slightly inaccurate.

[b] The Navy area program has been terminated, though something similar will probably eventually replace it.

[c] Israel is the primary developer of the Arrow program.

[d] Systems explicitly designed for long-range missile defense or potentially usable for that mission.

Source: July 2001 Pentagon briefing.

This outcome set the stage for Bush's historic December 13 announcement that he was invoking the six-month withdrawal clause in the ABM Treaty. Thus, as of mid-June 2002, the United States is free to develop, test, and deploy missile defenses in any manner it desires. Immediate need did not drive this decision. No missile defense systems were ready for deploy-

ment, and virtually all the research and development that the administration wanted to conduct could have continued for some time within the strictures of the ABM Treaty. Bush's decision to withdraw reflected instead the calculation that the political climate had changed so much at home and abroad that the costs of withdrawal were low. The U.S. public cared far more about stopping terrorism than preserving traditional arms control, and Putin had signaled that he would do nothing more than call the decision a "mistake." With neither the U.S. public nor the Kremlin protesting, domestic and foreign critics were easily ignored.

The 2003 Defense Budget Proposal

In February 2002, Bush released his proposed budget for national security for fiscal year 2003. The budget contained a request for $379 billion to fund the operations of the Department of Defense and another $17 billion in funding for the nuclear weapons programs run by the Department of Energy. Equally important, the budget's five-year plan anticipated that national security spending would rise far more sharply than the administration had projected only a year earlier—reaching $470 billion in fiscal year 2007. The amount would be $100 billion—more than 25 percent—greater than what the Clinton administration's long-term plans had envisioned for that year. After adjusting for the effects of inflation, the figure approaches the peak levels of military spending reached during the Reagan years as well as those of the Vietnam era.

A key question is whether those spending increases will actually occur. If they do, missile defense will be less likely to compete with other defense programs as well as other homeland security programs for funding. Yet, national security spending could also fall well short of what Bush proposes, especially in FY 2004 and beyond, either because the federal budget slips deep into deficit as it did during the 1980s and much of the 1990s or because the absence of new terrorist attacks saps public and congressional support for greater defense spending. Consequently, missile defense could find itself competing against other defense priorities.

In the short term, however, robust spending on missile defense is assured. As Table 2 shows, the Pentagon's FY 2003 budget proposal requested $7.8 billion for overall missile defense, the same level of spending Congress appropriated a year earlier. The Bush administration did propose shifting the spending allocation somewhat among various categories under the missile defense umbrella, such as for shorter-range (or theater) systems and long-range (national) missile defense systems. These shifts were unexceptionable. Most of the FY 2003 funds will be spent on research and development. The

Table 2. Missile Defense Budget Request for Fiscal Year 2003, by Program Type (in billions of dollars)

Item	FY 2002 Spending Appropriated	FY 2003 Spending Requested
General missile defense systems	0.8	1.1
Terminal defense	0.1	0.2
Midcourse defense	3.8	3.2
Boost-phase defense	0.6	0.8
Theater High Altitude Area Defense (THAAD)	0.9	1.0
Patriot Advance Capability-3 (PAC-3)	0.9	0.6
Medium Extended Air Defense System (MEADS)	0.1	0.1
Other	0.6	0.9
TOTAL	7.8	7.8

Source: Bush administration budget request for 2003, February 2002.

Pentagon anticipates that overall missile defense spending will rise to $11 billion by FY 2007. Beyond that point, the budget plans are unclear because the Bush administration has not chosen a missile defense architecture.

What might this spending buy in terms of a defense against long-range missile threats, at least in the short term? Official statements, as well as excerpts leaked from the classified Nuclear Posture Review that the Pentagon undertook at Congress's direction and formally completed in January 2002, suggest that by around 2004 the administration hopes to deploy what it calls "a rudimentary ground-based midcourse system."[4] The system, which would use the technology that the Clinton administration was developing, would consist of a few interceptor missiles based in Alaska. To make rapid deployment feasible, the Bush plan would forgo the dedicated high-resolution X-band radar that the Clinton administration had planned for Shemya Island and instead rely on existing radar systems. This rudimentary deployment would expand in subsequent years and be supplemented by the operation of initial airborne-laser aircraft, which could provide at least "limited operations against ballistic missiles of all ranges"—assuming the aircraft were located nearby when a missile launches. The specifics of this plan, however, are likely to change. Indeed, given the embryonic state of missile defense technology, probably no other outcome is possible.

How much might building the more robust defenses that the administration seems to envision cost? Neither the Pentagon nor the White House has offered an estimate—a reasonable response, given that they have made no final decisions about what the system would look like. In early 2002, however, the Congressional Budget Office (CBO) offered one broad estimate of the long-term costs of a long-range missile defense.[5] Envisioning an architecture consisting of a land-based midcourse system, a sea-based midcourse system, and a space-based system, the CBO guessed that total development and deployment costs could approach $200 billion during the next two decades. Assuming a roughly steady level of overall spending for TMD programs, that estimate would imply an overall spending level for all missile defense efforts of about $15 billion a year, plus operating costs for various systems once they are deployed. Such projections should be treated cautiously; until the administration decides on a long-range missile defense architecture, all talk about cost will be speculative.

Threats and Technology

Bush's success in building effective defenses depends not only on his commitment to the cause but also on whether the public shares his perception of the threat and whether technology enables these systems to be built. Bush's first year in office saw important developments on both scores.

In a narrow sense, the threat of a ballistic missile attack did not change significantly during 2001. In December 2001, the National Intelligence Council released an unclassified version of the National Intelligence Estimate (NIE), summarizing the official views of the U.S. intelligence community on the nature of the ballistic missile threat.[6] The report's conclusions about the threat from long-range ballistic missiles largely tracked the previous NIE, released in September 1999.[7] Both NIEs note that North Korea could probably test a multiple Taepo-dong-2 missile theoretically capable of reaching parts of the United States with a payload of several hundred kilograms within short order if North Korea made the political decision to do so. Similarly, both NIEs indicate that Iran is not likely to test its first ICBM until the last half of the decade, if then.

In a broader sense, however, September 11 dramatically changed the perception of the ballistic missile threat. Some observers initially speculated that support for missile defense would plummet because people would want to concentrate on stopping low-tech methods of attacking the United States. Yet, most of the U.S. public drew a different lesson from September 11, namely, that some of the country's adversaries are prepared to do the unthinkable against the United States, actually using missiles if they get

their hands on them. That heightened perception of the threat now helps drive the missile defense debate.

On the technological front, the Pentagon has made modest progress with the existing midcourse system. In July 2001 and again in December, a prototype interceptor successfully destroyed a target warhead some 140 miles above the Pacific Ocean; a similar if slightly more challenging test involving three decoys instead of one succeeded in March 2002. These results were encouraging, but they do not mean that a working system is within reach. Pentagon officials have repeatedly acknowledged that none of the tests conducted so far mimic real-world conditions for a number of reasons: (1) the target warheads have not used realistic decoys; (2) the interceptor missiles have used relatively slow-moving booster rockets that place less stress on the kill vehicle rather than using the faster booster rockets that would be included on an operational system; and (3) the programmers artificially placed the kill vehicles on a trajectory heading straight for the desired intercept points. None of these decisions is improper or deceptive. All tests of new weapons systems are partial and limited at first; one must learn to walk before learning to run, as Pentagon officials like to say. By the same token, however, the fact that the midcourse system is learning to walk does not mean it will soon be ready to run.

Given the embryonic state of missile defense technology, specifics are likely to change.

Moreover, the Clinton midcourse system is the only program dedicated to shooting down long-range missiles that the Pentagon had under development when Bush came into office. The administration is now exploring an array of other technologies. Indeed, the administration argued, not entirely convincingly, that U.S. withdrawal from the ABM Treaty was necessary so that the Pentagon could test all technological possibilities. Nevertheless, proceeding from initial concepts to operational systems will take years or decades. The Bush administration hopes to shorten the time needed to prepare for deployment by giving long-range capabilities to the THAAD and NTW programs. These systems have yet to meet their initial design goals, however, making their effectiveness in a long-range mode anytime soon debatable. In addition, the airborne-laser program has experienced developmental delays. The Pentagon has now postponed its first test against a missile in flight from 2003 to 2004. Additional delays in the schedule would not be surprising.

Although the technology for shooting down long-range ballistic missiles under real-world conditions remains a hope rather than a reality, the politi-

cal feasibility of one kind of long-range missile defense—earth-based boost-phase systems—rose considerably in 2001. Boost-phase defenses, which attempt to shoot down missiles while their rocket motors are still burning, have one decided advantage over midcourse systems such as those contained in the Clinton program, which try to destroy individual warheads in space. Boost-phase defenses would intercept missiles before they could deploy countermeasures, thereby greatly simplifying the defense's job. To accomplish this mission, however, earth-based boost-phase systems must be based within several hundred miles of the enemy's missile launch. Although geography makes defenses situated on ships at sea possible against a North Korean missile attack, the geography of Iran makes a system based to its north—in the Caspian Sea, in Turkmenistan, or possibly in Kazakhstan or Uzbekistan—essential. Before September, such a deployment would have been doubtful. Today, however, with greatly improved U.S.-Russian relations and U.S. troops now based in Central Asia, the idea is at least conceivable.

The Politics of Missile Defense

Although changes in threats and technology cloud the future of missile defense, the political climate shifted dramatically in its favor after September 11. Abroad, Putin made the pivotal decision to align Russia closely with the United States, even if doing so meant abiding by U.S. policies that Moscow had previously deemed unacceptable. Putin's restrained reaction to the U.S. withdrawal from the ABM Treaty, in turn, effectively derailed criticism of the decision from China and from major U.S. allies.

Domestically, missile defense appeared to be emerging as a potentially divisive political issue during the summer of 2001. Democratic leaders in the Senate hoped to reprise the Star Wars debates that had proven politically profitable for them during the 1980s. Following the attacks on the World Trade Center and the Pentagon, however, the Democratic majority quickly dropped its effort to cut missile defense spending and limit missile defense tests. Contrary to most predictions of six months earlier, Bush's decision to withdraw from the ABM Treaty caused barely a ripple on Capitol Hill.

Despite these developments, the chances are good that missile defense will resurface as a contentious political issue, especially if the threat of terrorism recedes in political importance. Moscow's acceptance of the U.S. withdrawal from the ABM Treaty does not mean that Russia is indifferent to the Bush administration's missile defense plans. The treaty's demise had obvious symbolic significance but no immediate practical effect. The same cannot be said about actual deployments. Russia will evaluate how the specific technological capabilities of proposed systems affect its national interests. The perspectives

of those in power—and the overall state of relations between the two countries at that time—will inevitably shape those evaluations.

The prospect of Russia's negative reaction to U.S. missile defense deployments is evident from the tensions between Moscow and Washington in early 2002 over offensive nuclear forces.[8] Although both sides agreed in late 2001 to reduce their long-range nuclear arsenals substantially—to between 1,700 and 2,200 operational warheads on the U.S. side and down to 1,500 warheads in Russia—they disagreed over whether to make the cuts irreversible. The Bush administration argued that friendly U.S.-Russian relations made binding ceilings unnecessary and that future events might force the United States to return to a larger nuclear force. To make this option possible, the administration said it would keep many of the retired warheads in a reserve force it could reactivate if events warrant. Russia objected to this laissez-faire approach and pushed for a binding agreement that would limit how many weapons each side could possess. The two sides will likely resolve their differences eventually, though perhaps not to either side's total satisfaction. The relevant lesson for the missile defense debate is that the details of the nuclear balance continue to matter, at least to some in Russia.

Proceeding from initial concepts to operating systems will take years or even decades.

China may be an even more likely source of international opposition. In many respects, U.S. missile defense deployments are more important to Beijing than to Moscow. China, with less than two dozen long-range missiles, is far more vulnerable to a U.S. missile defense than Russia is. China is also more prone to conflict with the United States based on strategic realities. This possibility presents a potential problem for Washington because Beijing has the wherewithal to make the United States pay a substantial strategic price for building missile defenses that China finds threatening. Beijing can expand its plans to upgrade its own nuclear missile force, frustrate U.S. efforts to stem nuclear and ballistic missile proliferation, and obstruct U.S. policy in other areas. The Bush administration's proposal to open a dialogue with China on strategic stability may lessen the chances of a rift, but Beijing will clearly be watching not just what Washington says but also what it does.

The domestic missile defense debate is also likely to revive as Bush's extremely high public approval ratings erode and critics decide that they can question his defense proposals without being labeled unpatriotic. Yet, the debate probably will not be fought on the same terrain that dominated dis-

cussion before September 11, when the debate was primarily theological in nature: Is missile defense good or bad? Should we keep or jettison the ABM Treaty? Are we undermining three decades of arms control? The terrorist attacks and the passing of the ABM Treaty pushed those theological issues into the background, though not entirely off the agenda. In the forefront now are more prosaic questions about the cost and technological feasibility of the system.

This change in the terms of the debate does not necessarily favor proponents of missile defense, and the shift could actually complicate their cause. In U.S. politics, holding coalitions together on abstract principles rather than on specific decisions is usually easier. Should the cost of missile defense be high, or should a deteriorating budgetary picture intensify the competition for federal dollars, weak supporters of missile defense could easily switch sides, as happened during the Reagan defense buildup in the mid-1980s. Moderate northern and midwestern Republicans abandoned that cause when it threatened other programs important to their constituents.

Technological feasibility may be an even bigger stumbling block. Political support typically fades for weapons systems that cannot demonstrate their workability, and missile defense programs have experienced their share, if not more, of developmental snafus. For instance, development of the interceptor rocket that is supposedly part of the existing midcourse system is far behind schedule. That problem has forced the Pentagon to substitute booster rockets that are far slower and do not accurately mimic the stresses and strains that the actual interceptor will place on the kill vehicle during its tests. Secretary of Defense Donald Rumsfeld's decision to exempt missile defense programs from many standard oversight requirements, including oversight by the Pentagon's own test evaluation office, may also fuel doubts about the state of the technology. Ostensibly intended to expedite the development of the missile defense system, the decision will likely raise questions about whether the Pentagon is adequately testing these systems.

A Look Ahead

Three principles that should guide U.S. policy on missile defense in future years stand out:

- Missile defense has a potentially important role to play in U.S. defense and foreign policy. September 11 provided the world with a warning that the unthinkable can happen. Ballistic missile technology may not be spreading rapidly, but it is spreading, and the threat it poses to the United States and its allies will likely grow during the next decade. Having protection against

this threat, especially in the context of the war on terrorism, would be useful. If a terrorist group found refuge on the territory of a state possessing long-range ballistic missiles and warheads outfitted with weapons of mass destruction (WMD), the United States and its allies would face grave difficulties trying to pursue the group or overthrow the regime of the country that harbored it. In other words, without a reliable missile defense system, the United States could not use the strategy that worked so successfully against the Taliban in Operation Enduring Freedom.

- Officials must soberly assess the potential capabilities of missile defense technology. Debates about missile defense have frequently oscillated between two poles—arguing either that it cannot work or that only a lack of will stands in the way of success. The reality is more complicated. Missile defense is truly "rocket science." The Pentagon has made progress in the last decade, but destroying ballistic missiles in flight is extraordinarily difficult, especially because the attacker will always look for ways to counter any defense. Consequently, in assessing whether to proceed with deployments, honesty about what proposed systems can and cannot do is crucial. Building systems that do not work, or forgoing ones that do, does not serve U.S. interests.
- The potential benefits of missile defense must be weighed against the costs. The direct budgetary costs of missile defense are important, but so too are the indirect costs. Competing national priorities—within the realms of defense and homeland security as well as nondefense items—argue for restraining the size of missile defense programs that could become major budget busters. Decisionmakers must also take foreign policy interests into account. Proceeding with deployments that threaten Russia or, even more likely, China, could weaken U.S. security. Out of spite or out of a desire to complicate U.S. strategic planning and thereby preserve the viability of their own deterrents, these countries could accelerate the transfer of missile technology to countries hostile to the United States. Moscow and Beijing have behaved badly in this regard in the past, but they could behave far worse in the future. They could also become less willing to work with Washington to improve the security and safety of their existing WMD or to cooperate in the struggle against terrorism. The chances of nuclear theft, accidents, and other catastrophes would then be higher than they should be.

Rather than walk away from the ABM Treaty and leave nothing in its place, the United States might therefore consider accepting some limitations on its future long-range missile defense capabilities. Even if not codified in a treaty, such limitations could be useful. A politically binding framework, or

even a unilateral statement accepting constraints, could help preserve the benefits of cooperation by the great powers on security issues while permitting development and deployment of missile defenses. We suggest that, for the next 15 years or so, the United States pledge to limit any long-range missile defenses for itself and its allies within the original numerical bounds of the ABM Treaty—meaning 200 interceptor missiles. (Airborne lasers might be counted as the equivalent of perhaps five interceptors.) Abiding by such a limit means not giving long-range missile defense capabilities to TMD systems such as THAAD and NTW.

The political feasibility of boost-phase systems rose considerably in 2001.

We also suggest that, for the time being, the United States forgo testing and deployment of missile defense weapons in space. These constraints need not be permanent, but they could help avoid any derailment of the ongoing improvement in the U.S.-Russian partnership while also avoiding excessive disruption in U.S.-Sino relations.

Missile defense, against long-range and short-range threats, continues to make sense for the United States as well as for its allies. Too much missile defense or too little diplomatic care to go along with the defense systems, however, can be harmful to U.S. security. The year 2001 may have ended the old debate about the ABM Treaty, but it hardly changed the list of issues that complicate the pursuit of missile defense.

Notes

1. George W. Bush, "New Leadership on Security," Washington, D.C., May 23, 2000, www.brook.edu/dybdocroot/fp/projects/nmd/bush1.htm (accessed April 2, 2002) .
2. George W. Bush, "Remarks to Students and Faculty at National Defense University," Washington, D.C., May 1, 2001, www.whitehouse.gov/news/releases/2001/05/20010501-10.html (accessed April 2, 2002).
3. U.S. Department of State, Office of International Information Programs, "Secretary Powell Press Conference in Beijing," July 28, 2001, usinfo.state.gov/topical/pol/arms/stories/01072802.htm (accessed April 2, 2002).
4. Excerpts from the Nuclear Posture Review are available at www.globalsecurity.org/wmd/library/policy/dod/npr.htm (accessed April 2, 2002).
5. Congressional Budget Office, "Estimated Costs and Technical Characteristics of Selected National Missile Defense Systems," January 2002, www.cbo.gov/showdoc.cfm?index=3281&sequence=0 (accessed April 2, 2002).
6. National Intelligence Council, "Foreign Missile Developments and the Ballistic Missile Threat through 2015," December 2001, www.cia.gov/nic/pubs/index.htm (accessed April 2, 2002).

7. National Intelligence Council, "Foreign Missile Developments and the Ballistic Missile Threat to the United States through 2015," September 1999, www.brook.edu/dybdocroot/press/companion/defendingamerica/appendix_d.htm (accessed April 2, 2002). Exact comparisons are impossible because the reports discuss their results in different formats.
8. See Ivo H. Daalder and James M. Lindsay, "A New Agenda for Nuclear Weapons," *Brookings Policy Brief*, no. 94 (February 2002), www.brook.edu/dybdocroot/comm/policybriefs/pb94.htm (accessed April 2, 2002).