

CRS Issue Brief for Congress

Received through the CRS Web

National Missile Defense: Issues for Congress

Updated July 17, 2001

Steven A. Hildreth and Amy F. Woolf
Foreign Affairs, Defense, and Trade Division

CONTENTS

SUMMARY

MOST RECENT DEVELOPMENTS

BACKGROUND AND ANALYSIS

Introduction

The 1972 Anti-Ballistic Missile (ABM) Treaty

History of NMD in the United States

- The Sentinel and Safeguard Programs

- The Strategic Defense Initiative (SDI) and Global Protection Against Limited Strikes (GPALS)

- National Missile Defense (NMD) Technology Development Program

Approaches to NMD

- Clinton Administration Program

 - Program Design and Architecture

- Congressional Reaction to the Clinton Administration Program

- Prospective Bush Administration Plan

- Sea-Based NMD

- Boost-Phase NMD

- Focus on Arms Control and Nonproliferation Strategies

Factors Affecting an NMD Deployment Decision

- Threat Assessment

- Technical Feasibility

- Arms Control & Strategic Environment

- Budget Issues

- Environmental Issues

NMD in Congress

- Budget Issues

- Legislative Debate

FOR ADDITIONAL READING

- CRS Products

National Missile Defense: Issues for Congress

SUMMARY

Many in Congress and outside the government have shown strong interest in deploying a ballistic missile defense to protect the United States from attack. The ABM Treaty prohibits nationwide defense but permits the United States to deploy up to 100 interceptors for long-range ballistic missiles at a single site. Many supporters of National Missile Defense (NMD) argue that the United States must amend or abrogate this treaty so that it can pursue a more robust defense.

The United States has pursued the development and deployment of defenses against long-range ballistic missiles since the early 1950s. It deployed a treaty-compliant site in North Dakota in the mid-1970s, but shut it down after only a few months of operation. President Reagan launched a research and development effort into more extensive defenses in the early 1980s, but these plans were scaled back several times during the Reagan and Bush Administrations. The Clinton Administration initially focused NMD efforts on technology development, but, in 1996, outlined a strategy to pursue the development and deployment of an NMD system by 2003 if the threat warranted and the technology was ready. In January 1999, the Administration announced that it had adjusted this program to permit deployment in 2005, and would decide in Summer 2000 whether to proceed with deployment of up to 20 at a single site. This was modified in February 2000 to allow for 100 interceptors. The Bush Administration favors a more robust NMD program, that is likely to include land, sea and space-based assets. The President emphasized his Administration's commitment to missile defenses in a speech on May 1, 2001. Secretary Powell, Secretary Rumsfeld, and the President have all

highlighted this commitment during meetings with allies in Europe.

Many in Congress disagreed with the Clinton Administration's approach arguing that the threat justified the more rapid deployment of an NMD system. Other analysts argued that the United States should modify a Navy theater missile defense system so that it would have the capability to defend against long-range ballistic missiles. Still others maintain that the United States should focus on arms control and nonproliferation strategies, rather than missile defenses, to counter the threats from missile proliferation. The Clinton Administration identified several factors regarding deployment of an NMD system. Technically, these still guide the program. These included an assessment of the threat to the United States from long-range ballistic missiles, an assessment of the maturity of the technology and the feasibility of deploying an effective system, consideration of the implications for the ABM Treaty and the possibility of gaining Russian agreement on amendments, the potential costs of the prospective system, and the environmental implications of deployment. The Bush Administration has emphasized its support for a more robust missile defense research and development program, and for the possible deployment of land, sea, and space-based missile defense components. The Administration requested \$8.3 billion for missile defense in FY2002, an increase of \$3 billion over FY2001. It also noted that it planned to move beyond the constraints in the ABM Treaty. With the Democrats in control in the Senate, and strongly opposed to the Administration's plan, it is unclear how Congress will react and what direction missile defense will take in the future.

MOST RECENT DEVELOPMENTS

The Administration proposes about \$8.3 billion for missile defense spending in FY2002. This includes money for several theater missile defense programs being transferred from BMDO to the services (i.e., Army PAC-3/MEADS, and Navy area-wide) and for several air force programs being transferred to BMDO (i.e., Space-Based Laser, Airborne Laser, and SBIRS-low satellite). BMDO is also being restructured to emphasize the phases of missile flight (i.e., boost, midcourse, and terminal), rather than the more traditional “national” or “theater” missile defense.

The Bush Administration may soon begin construction of a missile defense test site at Ft. Greely, near Fairbanks, Alaska, which could become the basis for an operational missile defense system as early as 2004.

The NMD interceptor tested on July 14, 2001 successfully intercepted its target warhead. Program supporters hailed the results as proof of the U.S. ability to “hit a bullet with a bullet.” Critics argued the test did not support more rapid development and deployment because it was not conducted under realistic circumstances. Pentagon officials noted that more development would be needed and that this intercept was just the first in a “long line of increasingly challenging tests.” Russian officials denounced the test as a threat to the global system of arms control agreements.

BACKGROUND AND ANALYSIS

Introduction

Many in Congress and outside government have a strong interest in deploying a ballistic missile defense (BMD) system to protect the United States from attack. The collapse of the Soviet Union in 1991, Iraq’s use of Scud missiles in the 1991 Persian Gulf War, and the proliferation of ballistic missile technologies, all added to concerns about the risks to the United States. Two events in the summer of 1998 served to amplify these concerns. First, in July, a congressionally-mandated panel chaired by former Secretary of Defense Donald Rumsfeld (now Defense Secretary again) concluded that nations seeking to develop long-range ballistic missiles might be able to achieve that objective within 5 years of deciding to do so, and that the United States might have little warning before the testing and deployment of such missiles. And, second, at the end of August, North Korea flight tested a 3-stage ballistic missile. Although the third stage of this missile apparently failed in flight, and this missile would not have had the range to reach the continental United States, North Korea demonstrated that it had developed the technology for “staged” missiles, a milestone considered critical to the development of longer-range ballistic missiles.

Both the Clinton Administration and Congress reacted to these developments. In January 1999, the Administration announced that, for the first time, it had allocated funding in its Future Years Defense Plan (FYDP) for the deployment of a National Missile Defense (NMD) system, even though it would not decide whether to deploy such a system until

Summer 2000. And, in March 1999, Congress passed by a wide margin legislation declaring it the policy of the United States to deploy an NMD.

This issue brief provides an overview of the current debate on NMD. It begins with a brief summary of the provisions of the 1972 ABM Treaty and a short history of U.S. NMD efforts. It then reviews approaches to NMD development and deployment, describing current NMD strategy and major alternative views on how the United States should address missile threats to its territory. The Issue Brief then identifies and describes the factors that the Clinton Administration considered in its September 2000 decision to delay NMD deployment. Finally, the Issue Brief summarizes current debate in Congress about NMD, focusing on budget issues and legislation.

The 1972 Anti-Ballistic Missile (ABM) Treaty

The 1972 U.S.-Soviet Anti-Ballistic Missile (ABM) Treaty prohibits the deployment of ABM systems for the defense of the nations' entire territory. It permits each side to deploy limited ABM systems at two locations, one centered on the nation's capital and one at a location containing ICBM silo launchers. A 1974 Protocol further limited each nation to one ABM site, located either at the nation's capital *or* around an ICBM deployment area. Each ABM site can contain no more than 100 ABM launchers and 100 ABM interceptor missiles. The Treaty also specifies that, in the future, any radars that provide early warning of strategic ballistic missile attack must be located on the periphery of the national territory and oriented outward. The Treaty bans the development, testing, and deployment of sea-based, air-based, space-based, or mobile land-based ABM systems and ABM system components (these include interceptor missiles, launchers, and radars or other sensors that can substitute for radars).

History of NMD in the United States

The Sentinel and Safeguard Programs

The United States has pursued research and development into anti-ballistic missile (ABM) systems since the early 1950s. In the mid-1960s it developed the Sentinel system, which would have used ground-based, nuclear-armed interceptor missiles and would have been deployed around a number of major urban areas to protect against Soviet attack. In 1969, the Nixon Administration renamed the system "Safeguard," and changed its focus to deployment around offensive missile fields, rather than cities, to ensure that these missiles could survive a first strike and retaliate against the Soviet Union. The Senate almost approved an amendment halting construction of the system in 1969, but the program continued when Vice President Agnew broke a tie vote. Nevertheless, sentiment against ABM deployments and in favor of negotiated limits on ABM systems was growing. The United States and Soviet Union concluded negotiations on the ABM Treaty in 1972. The United States completed its ABM site near Grand Forks, North Dakota. It operated for 9 months in 1974 and 1975, then was shut down because it proved to be not cost-effective. Russia continues to operate a modernized ABM site around Moscow. U.S. research and development into ABM systems, especially for ICBM protection, continued, albeit at lower budget levels through the late 1970s, before rising again during the Carter Administration.

The Strategic Defense Initiative (SDI) and Global Protection Against Limited Strikes (GPALS)

In March 1983, President Reagan announced an expansive effort to develop non-nuclear ballistic missile defenses that would protect the United States against a full-scale attack from the Soviet Union. Although the Strategic Defense Initiative (SDI) remained a research and development effort, with little testing and no immediate deployments, President Reagan and the program's supporters envisioned a large-scale defensive system with thousands of land-, sea-, air-, and space-based sensors and interceptors. As cost estimates and technical challenges increased, the Reagan Administration announced it would begin with more limited deployment of land-based and space-based sensors and interceptors that would seek to disrupt, rather than defeat, a Soviet attack. The former Bush Administration further scaled back the goals for U.S. missile defense programs, in part as a result of the demise of the Soviet Union and the changing international political environment. Instead of seeking to protect the United States against a large-scale attack, the United States would seek to deploy a defensive system that could provide Global Protection Against Limited Strikes (GPALS). This type of ballistic missile defense would have sought to protect the United States, its forces, and allies against an accidental or unauthorized attack from the Soviet Union or an attack by other nations who had acquired small numbers of ballistic missiles.

National Missile Defense (NMD) Technology Development Program

After the 1993 Bottom Up Review (a DOD-wide review of U.S. military plans and programs), the Clinton Administration decided to emphasize theater missile defense (TMD) development and deployment efforts, and to focus NMD on technology development. Secretary of Defense Les Aspin noted that these program changes reflected an assessment that the regional ballistic missile threat already existed, while a ballistic missile threat to the United States *per se* might emerge only in the future. Many in Congress disagreed with this assessment and continued to press for the development and deployment of an NMD system. In 1996, the Clinton Administration adopted the 3+3 strategy to guide the development and potential deployment of an NMD system that could defend the United States against attacks from small numbers of long-range ballistic missiles. This strategy envisioned continued development of NMD technologies during the first 3 years (1997-2000), and, if the system were technologically feasible and warranted by prospective threats, deployment in the second three year period (2000-2003). The Administration modified its strategy in January 1999 by adding \$6.6 billion to the FY1999-2005 FYDP to support the possible deployment of an NMD system and moving the planned deployment date from 2003 to 2005. But the Administration emphasized that an NMD deployment decision still would not be made until Summer 2000. On September 1, 2000, President Clinton announced that he had decided **not** to authorize deployment of a National Missile Defense (NMD) system at this time because he did not have "enough confidence in the technology, and the operational effectiveness of the entire NMD system." Research and development would continue, as would discussions with the Russians about modifications to the ABM Treaty, but the planned deployment date would slip until 2006 or 2007. The President further stated that the final decision on deployment would be left to the next Administration.

Approaches to NMD

Clinton Administration Program

Program Design and Architecture. The Clinton Administration granted a contract to Boeing North America to serve as the “lead system integrator” for the NMD program. Boeing serves as the prime contractor, and will integrate elements of the program developed by different companies into an NMD system. Boeing also will execute the test program. (Boeing has contracted to provide 20 GBIs for deployment, as well as five spares. It must also build another 14 missiles for flight tests prior to deployment, and another 36 for follow-on test and evaluation flights.)

BMDO initially described 3 notional architectures: C1 (Capability 1); C2; and C3. The C1 architecture might deploy up to 20 interceptors at one site to defend against a very limited threat, such as a small-scale accidental or unauthorized launch, or a small-scale deliberate attack. President Clinton’s September 2000 decision against deployment would delay this initial system by a year or two. The FYDP provided funding for 100 interceptors and the support sensor and weapon infrastructure. This new architecture has been called C-1 Prime.

At the end of the Clinton Administration, the NMD system architecture consisted of: 1) the Ground-Based Interceptor, which includes a booster rocket, kill vehicle, and ground-based command and launch equipment; 2) a Ground Based Radar that will perform acquisition, tracking, discrimination, and kill-assessment functions; 3) the Battle Management, Command, Control, and Communications system that will be used to identify and assess attacks and authorize the launch of interceptor missiles; 4) and space-based sensors for early warning of attack (i.e., Defense Support Program/Space Based Infrared System and the Space and Missile Tracking System/Space Based Infrared System Low Earth Orbit). Other candidate sensors include Upgraded Early Warning Radars, which will provide enhanced capability for the United States to detect and track missile launches, as well as other radars.

Congressional Reaction to the Clinton Administration Program

Many in Congress disagreed with the Clinton Administration’s NMD strategy. Some argued that the threat from uncertainties in Russia and missiles in rogue nations exists now. Some also argued that the United States may have too little warning to respond to emerging threats with the deployment of a missile defense system. And some argued that the Clinton Administration placed the ABM Treaty above U.S. national security, maintaining it at all costs in spite of the demise of the Soviet Union. And many were particularly concerned about the Administration’s refusal to commit to deploy an NMD system immediately. Conversely, some, including Senator Biden, argued that the new NMD strategy represents a turning away from long-term U.S. arms control objectives and nonproliferation policy.

After the Clinton Administration altered its NMD program in January 1999, some Members praised the Administration for adding deployment funds to the budget. Senator Jon Kyl stated, “I’m delighted. I think reality finally caught up with them.” But some continued to question the Administration’s commitment to NMD and they expressed concerns about the delay in the deployment date. For example, Representative Curt Weldon said he remained skeptical because the program still lacked a firm commitment to deployment and Senator

Robert Smith noted that he did not see a commitment to deployment that matched the rhetoric from the Administration. Nevertheless, in the report that accompanied the Senate Armed Services Committee's version of the FY2000 Defense Authorization Bill (S. 1059), the committee praised the Administration for fully funding the development and deployment of an NMD system.

A few Members of Congress argued previously that the Clinton Administration's approach to NMD would have provided too little protection against the range of threats faced by the United States. Some would like to see a program that includes space-based sensors and interceptors. Others believe a sea-based NMD can provide more robust coverage sooner and for less money than the Administration's program (this concept is discussed below). And some Members believe that the United States should continue to pursue the development of a missile defense that can protect the United States from a large-scale attack by Russia. They note that Russian missiles still threaten the United States, and changes in Russian leadership could restore the adversarial relationship between the two nations.

Despite the failed intercept in July 2000, congressional sentiment appeared to support efforts to continue keeping the program on track and pushing forward with a summer 2000 deployment decision. However, a growing number of Members had argued that President Clinton should delay the decision until the next Administration. When the President announced such a delay on September 1, 2000, many Members praised his move. Most Democrats and some Republicans appeared to agree that the technology had not yet proved to be feasible and that further testing should be completed before a final deployment decision. Some Republicans, however, viewed the President's announcement as further evidence that the Clinton Administration was not serious about missile defense and had done little to protect the American public. Senator Trent Lott referred to the decision as "another example of the Clinton-Gore Administration's legacy of missed opportunities. Representative Curt Weldon stated that the President's "misguided decision" would leave Americans "completely unprotected against the weapon of choice for rogue nations and terrorist groups – the missile."

Prospective Bush Administration Plan

The Bush Administration initiated a full review of the NMD program in mid-February 2001. On May 1, 2001, he outlined his Administration's approach to missile defense in a major speech. The President emphasized that his Administration was committed to the development of missile defenses, and, although these defenses would be too limited to undermine Russia's nuclear forces, they would be far more extensive than those planned by the Clinton Administration. The Bush Administration plans to pursue defenses based on land, at sea, and in space, and to seek boost-phase, mid-course, and terminal intercept capabilities. The President did not announce that the U.S. is prepared to withdraw from the ABM Treaty, but he indicated that the Treaty was out of date and that the United States would move beyond its constraints when developing its missile defense technologies. He called on Russia to join the United States in developing a new framework for strategic stability and international security that would replace the Cold War model of deterrence through nuclear retaliation with a new model that included both offensive and defensive capabilities in deterrence.

Secretary of Defense, Donald Rumsfeld, outlined the Administration's general goals for missile defense in a speech at the Munich Conference on European Security Policy. At that event he stated that the United States intends to develop and deploy a missile defense designed to defend our people and forces against a limited ballistic missile attack..." He said that the United States would consult with its allies about this deployment and that it had "every interest in seeing that our friends and allies... are defended from attack." Secretary Rumsfeld offered further support for the Administration's missile defense policies during meetings with NATO defense ministers in early June 2001. He offered the allies briefings that reportedly highlighted the growing threat from ballistic missile proliferation and emphasized that the United States would build a system of "layered defenses" involving ground, sea and space-based weapons to cope with a growing threat of ballistic missiles in the hands of unpredictable foes. He also stated that the need to move beyond the ABM treaty was "inescapable."

Reports indicated that the Bush Administration is exploring alternatives that would allow the quick deployment of a rudimentary missile defense system before the end of the President's first term in 2004. The lead contractor for national missile defense, Boeing, has outlined an alternative that would allow the United States to deploy a small number of interceptor missiles at a site in Alaska, without the completion of the X-Band radar at Shemya, in that time frame. Secretary Rumsfeld has indicated that such a system would not be fully tested and may not even be very effective, but it would represent a first step in the deployment of a layered defense system. The Administration has also indicated that it plans to construct a test bed for missile defense interceptors at Fort Greeley, in Alaska, and that these test facilities could become an operational site around 2004 if an emerging threat warranted that change.

Critics of this approach argue that the system would represent a "scarecrow" that would do nothing to protect the United States but would require the near-term withdrawal from the ABM Treaty. Some also argue that this system could undermine U.S. nonproliferation goals, by encouraging nations to acquire missiles and threaten the United States sooner, rather than later, while the defensive system remained so simple and limited. Members of Congress have also criticized this approach. Senator Carl Levin, the new chair of the Senate Armed Services Committee has stated that he supports research and development on missile defenses, but that the United States should not deploy a system until it is fully tested and proven to work.

In testimony before the Senate Armed Services Committee on July 12, Deputy Secretary of Defense Wolfowitz outlined the Administration's program for missile defense. He noted that the Administration planned to fund a robust research and development program with the \$8.3 billion requested in the FY2002 budget, and that the Administration would eventually seek to deploy a layered defensive system, with technologies that could intercept missiles in their boost-phase, at mid-course, and in their terminal phase. The Administration has reorganized the Ballistic Missile Defense Organization to reflect this new focus, and no longer distinguished between technologies intended for theater ballistic missile defenses and those intended for defenses against long-range strategic ballistic missiles.

Sea-Based NMD

Some NMD supporters, and increasingly senior Navy military leaders, have advocated an alternative sea-based NMD program. The Heritage Foundation, for instance, examined

current and future ballistic missile threats in 1995 and 1996 and proposed a sea-based NMD to meet these threats. The Foundation's most recent (March 1999) report, *Defending America: A Plan to Meet the Urgent Missile Threat*, outlined a plan "to achieve the most cost effective, most affordable global anti-missile protection in the shortest time." The plan, supported by other conservatives as well, calls for deploying an NMD system based aboard the U.S. Navy's Aegis ships. Currently, the United States has about 27 Aegis cruisers and about 26 Aegis destroyers (by about 2008, there will be 57 destroyers).

There was some movement in 1999 on this issue. In the report that accompanied the Senate Armed Services Committee's version of the FY2000 Defense Authorization Bill (S. 1059), the Committee called on the Secretary of Defense to prepare a new report evaluating options for supplementing a land-based NMD architecture with sea-based assets. It mandated that the report address the engineering steps that would be needed to develop a sea-based NMD system and that it evaluate requirements, performance benefits, design trade-offs, operational impacts, and refined cost estimates for sea-based NMD assets. Meanwhile, the Navy has proceeded to examine more closely some of the many technical and cost hurdles. But a recent, comprehensive review ("*Taking National Missile Defense to Sea: A Critique of Sea-Based and Boost-Phase Proposals*,") counters supporters' claims that a sea-based NMD system would be inexpensive and easy to deploy quickly [<http://www.clw.org/ef/seanmd.html>].

Boost-Phase NMD

By mid-2000, a growing number of analysts and critics of the Administration's NMD program, from across the political spectrum, had begun to argue that the United States should pursue boost-phase, rather than mid-course ballistic missile defenses. A boost-phase defense would attack an enemy's missiles early in flight, before they had left the atmosphere and before they had time to deploy multiple warheads or decoys. The interceptors could be deployed at sea, on land, or in space, as long as they were close enough to intercept an enemy's missiles within the first few minutes of its launch. Some critics, such as Richard Garwin, argued that this type of defense would be the only way to protect the United States against missile attack because a land-based, mid-course NMD would not be able to distinguish between decoys and actual warheads. Others, including then Governor George Bush, argued that the United States should pursue boost-phase defenses as a part of a more robust system, because that would give the United States multiple opportunities to intercept attacking missiles.

Officials in Russia have also argued for the development of boost-phase defenses. In early June, President Putin proposed that the United States and Russia cooperate on the development of boost-phase defenses that could "put a cap" on rogue nations and their missiles. He also proposed that Russia share its technology for these missiles with nations in Europe. He stated that this type of defense would not violate the ABM Treaty because it could be directed against theater-range ballistic missiles. The Clinton Administration was skeptical of the Russian proposal because it lacked details. Furthermore, the Clinton Administration argued that this would not replace the U.S. NMD program because it could not protect against long-range strategic ballistic missiles.

The Clinton Administration did not deny the potential for boost-phase defenses for NMD, but noted that the technologies for this type of system were not as advanced as the

technologies for mid-course defenses, and that the United States would not be able to deploy such defenses until years after the current 2005 goal for NMD deployment. Furthermore, some critics have argued that, because the defenses would have to respond instantaneously to the launch of an enemy missile, the United States would have to trust computers, rather than human beings, to interpret events and initiate a conflict.

Focus on Arms Control and Nonproliferation Strategies

Some Members of Congress and analysts outside government argue that the United States does not need a national missile defense to address the threat of missile attack from rogue nations. Some believe that the United States will not be able to develop and deploy a cost-effective NMD because of daunting technical challenges and certain high costs that would be associated with such a complex weapon system. Others argue that rogue nations with weapons of mass destruction could attack the United States with lower cost, and less obvious, means than ballistic missiles. They note that a BMD system would do nothing to stop cargo ships, small aircraft, or other unconventional or simpler means of delivery. Some also argue that a U.S. NMD could actually intensify missile threats to the United States if Russia slows or stops its offensive force reductions in response to U.S. proposals for changes in the ABM Treaty. They note that the strategic arms reduction treaties will eliminate thousands of warheads that could destroy the United States, while an NMD would only attempt to defend against a few dozen warheads.

Most critics of proposals to deploy an NMD do not dispute that some nations hostile to the United States may be seeking long-range ballistic missiles. They would, however, address these threats with a combination of diplomatic, arms control, and nonproliferation tools. They believe that economic, political, and military incentives, could help persuade nations not to pursue missile technologies or sell them to countries of concern. And they argue that a strong international nonproliferation regime could bring more pressure to bear on rogue nations than a U.S. NMD. And if cooperative methods are less than successful, many note that the United States could still deter missile attacks from rogue nations with its overwhelming military superiority in nuclear and conventional forces. They believe that no nation, even one led by a leader with less-than-rational objectives, would risk attacking the United States if it believed that its own survival would be threatened in response.

Factors Affecting an NMD Deployment Decision

The Clinton Administration identified four broad criteria to consider in its Deployment Readiness Review: an assessment of the threat, an assessment of the arms control and strategic environment, a technical assessment of the program, and an assessment of the cost of the NMD system. Additionally, however, an environmental impact assessment was prepared. These are discussed further below. The degree to which these may be applied to NMD deployment plans in the Bush Administration has not been made clear.

Threat Assessment

In 1995, Intelligence Community concluded in its November 1995 report, *Emerging Missile Threats to North America During the Next 15 Years, NIE 95-19*, that “no country, other than the major declared nuclear powers, will develop or otherwise acquire a ballistic

missile in the next 15 years that threaten the contiguous 48 states.” Some Members of Congress disputed this finding, noting that it did not address threats to Alaska and Hawaii, and did not consider the possibility that nations might accelerate missile programs by buying technologies, or full missile systems, from other nations. Some in Congress argued that the Administration had directed the report’s findings to support the slow pace of its NMD program. Congress mandated that an independent panel review the underlying assumptions and conclusions of NIE 95-19. This panel, known as the Gates Commission, noted that the study may have been conducted in haste and that its conclusions were politically naive because they did not examine the entire range of issues associated with foreign missile developments. However, it concluded that the study had not been politicized with a result directed by the White House.

In 1997, the intelligence community reaffirmed that the United States would not face a new long-range missile threat for 10-15 years. Members of Congress, however, continued to question this conclusion, and in the FY1997 Defense Authorization Act, Congress mandated that the CIA appoint an independent panel to review the emerging missile threat to the United States. In July 1998, this panel, chaired by former Secretary of Defense Donald Rumsfeld (now Defense Secretary again), reported that a threat to the United States could emerge sooner than 2010, and that countries such as North Korea or Iran might have long-range missiles within 5 years of deciding to develop such systems. In January 1999, the Clinton Administration appeared to accept the Rumsfeld Commission’s conclusions. Secretary Cohen noted that “there is a threat, and the threat is growing, and... it will soon pose a danger... to Americans here at home.” He highlighted North Korea as a potential source of this threat.

At around the same time, the intelligence community appeared to alter its assessment of the threat from North Korea. In late 1998, Robert Walpole, the National Intelligence Officer for Strategic and Nuclear Programs spoke about the results of an assessment completed in October 1998. This study concluded that North Korea’s Taepo Dong II missile, which is still under development, might have the range needed to reach most of the United States, albeit with an inaccurate and very light payload. And, in testimony before Congress in late February 1999, General Lester Lyles, the director of the Ballistic Missile Defense Organization, stated that North Korea might acquire that capability by the year 2000. The Director of Central Intelligence, George Tenet, also noted in testimony in February that North Korea’s Taepo Dong II missile might have the capability to reach Alaska and Hawaii with a larger warhead and the rest of the United States with a smaller, inaccurate warhead.

In early September 1999, the intelligence community released a new estimate of the projected ballistic missile threat to the United States. This report indicates that Russia, China, and North Korea are all likely to have ICBMs that can reach U.S. territory in the next 15 years, that Iran probably will have such a capability, and Iraq possibly may have that capability. The report indicated that Russia will have the most robust force, but, because of economic constraints, its force levels are likely to decline below the levels permitted by existing arms control agreements. China may also have tens of missiles armed with nuclear warheads that could target the United States, and that the Chinese threat would, in part, be influenced by technology gained through espionage. The report also stated that North Korea might test its Taepo-Dong II missile at any time, and that this missile could have the capability to deliver an early-generation nuclear weapon to U.S. territory. The Taepo-Dong I missile,

which was tested in August 1998, might also reach U.S. territory, but only with a lighter chemical or biological weapons payload, and with significant inaccuracies.

Technical Feasibility

The meaning of technical feasibility as a criteria for deployment has been relatively open to interpretation. In the NMD debate, it generally carries two meanings. First, there is a political connotation. Many in Congress and elsewhere who want an NMD system deployed as soon as technologically possible tend to believe that this criteria would be met as soon as the United States develops and tests all the components of a prospective system. This generally means that when a system can be built, it should be built. A second meaning of technical feasibility refers to specific criteria established within the Defense Department in order for a weapon system to proceed toward deployment. Until recently, these included a number of precise and technical criteria to be achieved within the program before a positive recommendation for NMD deployment could be made to the White House.

The NMD program office in the Pentagon has stated that two successful test intercepts will be required to move the program forward. Site construction contracts can be awarded after one successful intercept, but two successes must be achieved before actual site construction can begin. Additionally, a new NMD milestone was established called the "site authority to proceed." This requires that the Secretary of Defense authorize the start of site construction in April 2001 based on the decisions the United States has made regarding the ABM Treaty. (A decision at this time is necessary to meet the scheduled 2005 NMD fielding date.) Last year, the number of flight tests that could occur before the Deployment Readiness Review (DRR) was reduced from four to three. The pace of the program has caused senior technical experts in and outside of the Pentagon to warn that significant program risk exists, which could lead to negative program developments down the road. They warn that the program is being schedule, rather than event driven.

Recent intercept attempts confirm that unambiguous success remains elusive. On October 2, 1999, BMDO reported it had successfully intercepted an intercontinental ballistic missile over the Pacific Ocean. Reportedly, the test demonstrated the "hit-to-kill" technology being pursued in the current NMD program. But, reports of test anomalies surfaced in Jan. 2000, which DoD officials confirmed were true, but who argued nonetheless that the kill vehicle "worked in spite of that." On January 18, 2000, a second test failed to destroy its target over the Pacific Ocean as planned. Defense officials pointed out, however, that other test objectives such as system integration were achieved. Preliminary analyses suggested that the two infrared sensors on the kill vehicle failed in the last seconds of the test, causing it to miss the target. Then, on July 7, 2000, the kill vehicle failed to separate from the booster rocket, so the test of its capabilities never occurred. BMDO repeated this test on July 14, 2001, and the interceptor successfully collided with the target warhead.

In February 2000, additional criticism of the NMD program surfaced from within the Pentagon's Operational Test & Evaluation directorate, warning of undo pressure placed on the NMD program to meet an artificial decision point in the development process. This echoed similar criticism from a November 1999 Pentagon sponsored panel of technical and national security experts (the Welch panel). Some critics outside the government have focused on the system's ability to discriminate between warheads and decoys on an attacking missile. They note that adversaries are likely to deploy decoys in an effort to defeat the

system, and, therefore, the system will be ineffective as soon as it is deployed. Some conclude that this weakness means the United States should not proceed with the development and deployment of NMD; others conclude that the United States should pursue more robust and advanced NMD technologies, including advanced space-based sensors and boost-phase interceptors.

By July 2000, a growing number of analysts and Members of Congress had called on the Clinton Administration to delay its NMD deployment decision. Some argued that the technology had not proven feasible; others wanted the decision to be made by a new President in January 2001. In late August, 2000, Philip Coyle, the Director of Operational Testing at the Department of Defense, stated that the United States would not be able to deploy an NMD system by the target date of 2005 because testing of the system's components had fallen behind schedule. He contended that a more aggressive testing program would be needed to achieve a deployment date of 2005.

By late July and early August, reports indicated that Secretary of Defense Cohen was likely to advise the President to proceed with early steps in the contracting process for the construction of the X-band radar in Alaska. This construction would have to begin by Spring 2001 to support a 2005 deployment date. But the process could be stopped, before construction began, if the next President decided to pursue a different path on NMD. However, President Clinton did not accept this recommendation, and, when he announced that he would not authorize deployment of an NMD system, he cited the test failures and questions about technical feasibility as his primary concerns.

Arms Control & Strategic Environment

In January 1999, Secretary of Defense Cohen stated that NMD deployment "might require modifications to the [ABM] Treaty and the Administration is working to determine the nature and scope of these modifications." In late February 1999, Deputy Secretary of State Strobe Talbott met with Russian officials in Moscow to begin discussions about ABM Treaty modifications. The U.S. team sought to reassure Russia that the planned NMD would not interfere with Russia's strategic nuclear forces and that the United States still views the ABM Treaty as central to the U.S.-Russian strategic balance. The Russians were reportedly unconvinced, and continued to argue that the United States overstated the threat from rogue nations so that it could build a defense capable of intercepting Russian missiles. When discussions resumed in mid-August 1999, the two sides again reaffirmed that the Treaty is the "cornerstone of strategic stability," but Russian officials continued to reject the idea that the treaty could be amended and argued that any changes to the treaty would upset strategic stability, undermine Russia's national security, and undermine the whole offensive arms control process. In November 1999, President Yeltsin warned that any U.S. attempt to move beyond the existing limits in the ABM Treaty would "have extremely negative consequences" for other arms control treaties. Russian officials have frequently repeated their criticisms of U.S. missile defense plans, and their threats to walk away from other arms control agreements. This criticism was evident again, after the successful intercept test on July 14, 2001, which Russia denounced as a "threat to the global system of arms control."

When the Russian parliament approved ratification of the START II Treaty in April 2000, it indicated that U.S. withdrawal from the ABM Treaty could be considered an extraordinary event that would lead to Russia's withdrawal from START II. Furthermore,

in June 2000, Defense Minister Sergeyev repeated Russia's contention that the U.S. NMD system could be easily expanded and, therefore would undermine Russia's nuclear deterrent. He argued that the United States would use its NMD system along with its offensive forces to achieve superiority over Russia and China. Presidents Clinton and Putin discussed ABM Treaty issues at their summit meeting in Moscow in June 2000. However, they made little progress on resolving their differences. In a Joint Statement on the Principles of Strategic Stability, they agreed that the ABM Treaty remains the "cornerstone of strategic stability," but that it could be modified in response to changes in the international security environment. They also agreed that the international community faces a growing threat from the proliferation of weapons of mass destruction, but Russia did not agree that this justified any change in the ABM Treaty.

President Clinton cited the continuing impasse with Russia on ABM Treaty modifications when he announced that he would not proceed with NMD deployment. A delay in construction at Shemya Island would, according to the President, give the United States more time to pursue discussions with Russia in an effort to "narrow our differences" on the nature of threat and the U.S. interest in NMD. In late November, 2000, President Putin stated that Russia would be willing to reduce its offensive forces below 1,500 warheads if the United States remained committed to the ABM Treaty. This proposal did not break the deadlock because the United States had shown little interest in such deep reductions in offensive forces, and U.S. officials have stated that the United States would only accept Russian proposals for deep cuts if Russia were to accept U.S. proposals to modify the ABM Treaty.

Although the Bush Administration has indicated that it would discuss U.S. NMD plans with Russian officials, it has not set an agenda or a timeline for negotiations on modifications to the ABM Treaty. Officials in the Administration have, however, referred to the ABM Treaty as "ancient history" and "no longer relevant to the new strategic environment." In testimony before the Senate Armed Services Committee on July 12, 2001, Deputy Secretary of Defense Wolfowitz indicated that the Administration's plans for missile defense in FY 2002 could "bump up" against the ABM Treaty in "months rather than years." He said that the Administration was not designing missile defense tests specifically so that they would violate the treaty, but that it also was not avoiding tests that could raise compliance questions. Specifically, he noted that the Administration was planning tests that might use an Aegis radar to track a strategic ballistic missile target. This could be inconsistent with the Treaty's prohibition on giving non-ABM components (i.e. a TMD radar) capabilities to counter strategic ballistic missiles and requirement not to test non-ABM components in an ABM mode. However, because some concepts in the Treaty are ambiguous, Wolfowitz noted that the U.S. Compliance Review Group had not yet determined whether this type of test would violate the Treaty. He did note, however, that the United States had no intention of violating the Treaty outright. Instead, it would hold discussions with Russia. He did not indicate that the Administration would seek to amend the Treaty; instead, it appears that the Administration would like to replace the Treaty with a different framework and understanding with the Russians. And Secretary Wolfowitz noted that, if Russia did not agree with the U.S. approach, the United States could exercise its right to withdraw from the Treaty.

In addition to considering the arms control objectives, U.S. officials have also considered the effect that missile defense deployment would have on relations with NATO allies and China. Within these countries there is little enthusiasm for the United States deploying an NMD system, and in some cases (including NATO countries), there are strong negative

reactions. President Clinton also acknowledged the opposition from U.S. allies when he announced his decision not to proceed with NMD deployment, noting the United States must have allied support because key components of the system would be on their territories. He expressed a willingness to consult with U.S. allies about NMD, even though his Administration did not begin these consultations until months after it began to plan for NMD deployment.

President Bush has also recognized that China and U.S. allies have expressed opposition to NMD. Officials from the Administration have simply stated that China has nothing to fear from U.S. NMD because it would not be directed against China's missiles. The Administration has, however, taken a more active role in consulting with U.S. allies about NMD and in ensuring the allies that the United States would include them in its missile defense efforts. Initially, this active effort appeared to have eased the allies' concerns. President Bush spoke with several European and NATO leaders prior to his May 1, 2001 speech on missile defense, and he sent several delegations to Europe and Asia after the speech to consult with the allies about missile defenses. However, these consultations did not win widespread support for the Administration's position. Officials in many NATO nations have argued that the Administration's representatives offered few details of the U.S. plans for a missile defense architecture and failed to answer questions about the new strategic framework envisioned by the Administration. They also have not seen or heard any details about the effect that their concerns might have on the Administration's plans.

When Secretary of State Powell attended a meeting of NATO Foreign ministers at the end of May, he failed to convince the allies to accept the U.S. view of emerging ballistic missile threats. Then, during meetings with NATO defense ministers on June 7, 2001, Secretary of Defense Rumsfeld emphasized that the Administration would press ahead with the development of missile defenses and that scrapping of the ABM Treaty was "inevitable" because it constrained both testing and deployment of missile defenses. This was followed on June 12, when during his first visit to Europe, President Bush stated that "the ABM Treaty is a relic of the past." He added that it "prevents freedom-loving people from exploring the future. And that's why we've got to lay it aside."

Budget Issues

There has never been a clear, consensus cost figure for deploying an NMD system. For several years, the Clinton Administration estimated that a limited NMD system would cost \$9 to \$11 billion to develop, test, and deploy. In January 1999, the Administration estimated that an initial system of 20 interceptors would cost about \$10.6 billion. In February 2000, the Administration provided a life-cycle cost estimate of \$26.6 billion for an initial system of 100 ground-based interceptors, presumably in Alaska. A couple of months later, the Pentagon provided a life-cycle estimate of \$30.2 billion for the NMD system (FY1991). By May 2000, the General Accounting Office reported a cost figure of \$36.2 billion (GAO/NSIAD-00-131), which number BMDO also apparently was using.

A late April 2000 study by the Congressional Budget Office (CBO) estimated that it would cost about \$29.5 billion to develop, build, and operate an initial NMD system (the expanded Capability 1 system) through 2015. This total cost was comparable to the Administration's estimate of \$30.2 billion (now apparently \$36.2 billion). CBO estimates it will cost another \$19 billion through 2015 to expand the initial system of 100 interceptors and

build what is called a Capability 2 and Capability 3 system designed for greater numbers of more sophisticated potential missile threats. Additional space-based sensors would bring the total costs for NMD to around \$60 billion through 2015. NMD critics argue that the true costs will be even higher, perhaps as much as \$120 billion, to include other items some NMD supporters want: space-based and naval-based NMD interceptors.

Environmental Issues

In November 1998, the Administration filed a Notice of Intent in the *Federal Register* that BMDO would begin to hold public scoping hearings in conjunction with its plan to conduct an environmental impact analysis of potential locations for elements of an NMD system (*Federal Register* 63915-16). Thus far, these locations include only Alaska and North Dakota, with Alaska being chosen for the first phase.

The purpose of the public scoping hearings was to gather information from interested parties regarding specific environmental concerns. This input was considered in a draft Environmental Impact Statement (EIS). More public meetings were held prior to the final EIS in the spring of 2000.

In late September 1999, the draft EIS was reported to include language for a possible two-site deployment of NMD interceptors—Alaska and North Dakota. It suggested that up to 100 interceptor silos could be located in one location or up to 100 could be deployed in both one site in Alaska or North Dakota. This appears to represent a change from the original focus on one NMD site.

NMD in Congress

Budget Issues

Despite the addition of \$6.6 billion to the FYDP starting in FY2000 for NMD deployment, some continued to express doubts about the Clinton Administration's commitment to NMD. Some supporters argued that an NMD system could be deployed earlier than 2005 if the Administration allocated more money. But program managers in DOD and BMDO believed little more could be done without introducing significant program risk. Time and engineering effort, not more money, will lead to effective NMD development as soon as possible, according to this view. An additional \$2.2 billion was added to the FYDP in FY2001.

In June 2001, the Bush Administration released its amended budget for DOD for FY2002. This budget included \$8.3 billion for missile defense, an increase of \$3 billion, or 57%, over the FY2002 budgets. Program supporters hailed the new figures as an indication of the Administration's commitment to missile defense; critics argued that the Administration was funding missile defense at the expense of other defense and military priorities.

Legislative Debate

Although many in Congress disagreed with the Clinton Administration's plans for NMD, they were not able to enact legislation that would mandate the deployment of nationwide ballistic missile defenses until March 1999. President Clinton vetoed the Defense Authorization Bill for FY1996, in part, because it contained such a mandate. In 1996 and 1997 Congress considered, but failed to pass, independent legislation that would mandate the deployment of an NMD system. On April 21, 1998, the Senate Armed Services Committee approved the American Missile Protection Act of 1998 (S. 1873, S.Rept. 105-175). This legislation called for the deployment of a national missile defense system as soon as the technology was ready. When the bill came to the floor in May 1998, Democrats succeeded with a filibuster. The effort to invoke cloture failed by one vote, 59 to 41, with only 4 Democrats joining all 55 Republicans in support of the legislation. The Senate failed, again, to invoke cloture, in a vote held on September 9, 1998. Once again, the vote was 59-41.

Senator Cochran introduced this bill again in January 1999 (S. 257). After failing to win changes in the language, the Administration reportedly threatened to veto the legislation because it would only use the state of technology as the measure for deployment, and would ignore considerations about cost, threat, and treaty-compliance. Nevertheless, the Senate Armed Services Committee approved the legislation, by a vote of 11-7, on February 9, 1999. The full Senate approved the bill, by a vote of 97-3, on March 17, 1999. Democrats dropped their opposition to the Senate bill, and the White House withdrew its threat of a veto, after the Senate approved an amendment stating that it is U.S. policy to continue to negotiate with Russia on reductions in offensive nuclear weapons and an amendment noting that NMD programs remained subject to annual authorization and appropriations for funding.

Representative Curt Weldon introduced similar legislation in the House on August 5, 1998 (H.R. 4402) and, again, in early February 1999 (H.R. 4). This legislation simply states that it is "the policy of the United States to deploy a National Missile Defense." Although it does not specify when or how much missile defense the United States should deploy, supporters argued that it would produce a major change in U.S. policy because although Administration policy at the time supported development, it left a deployment decision for the future. This legislation passed the House Armed Services Committee, by a vote of 50-3, on February 25, 1999, and the full House, by a vote of 317-105, on March 18, 1999.

The Senate took up H.R. 4 on May 18, 1999. It struck all but the enacting clause with the language of S. 257, then approved the modified bill by unanimous consent. The House debated the new version of H.R. 4 on May 20, 1999, and approved the bill with the Senate language by a vote of 345-71. Congress sent the legislation to the President on July 12, 1999, and the President signed in on July 23. Some Members of Congress were angered by the Administration's interpretation of the legislation. They noted that Administration was not prepared to implement the law because it still planned on deciding whether to proceed with NMD deployment after the program review in Summer 2000. Members, including Representative Weldon, argued that the legislation eliminated the need for this decision by indicating that the United States would proceed with deployment as soon as the technology was ready. Yet, in a statement issued when he signed the law, President Clinton noted that "by specifying that any NMD deployment must be subject to the authorization and appropriation process, the legislation makes it clear that no decision on deployment had been made."

FOR ADDITIONAL READING

CRS Products

CRS Report RS20052. *National Missile Defense: The Alaska Option*, by Steven A. Hildreth.

CRS Report RS20062. *National Missile Defense and the ABM Treaty: Overview of Recent Events*, by Amy F. Woolf.

CRS Issue Brief IB98028. *Theater Missile Defense: Issues for Congress*, by Robert Shuey.