National Missile Defences and arms control after Clinton's NMD decision

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On 1 September 2000, United States President Bill Clinton announced that he would not proceed with deployment of the proposed national missile defence (NMD) system. Citing the fact that the technology is still unproven and acknowledging that more time is necessary to address concerns among American allies and opposition from Russia and China, he indicated that he would leave any deployment decision to his successor.

Despite President Clinton's wise choice, the attention devoted to American NMD proposals over the last several years is not about to abate. The fast-paced development and testing schedule for the American ground-based NMD system continues with the aim of achieving an initial operational capability by 2006–07. The next integrated flight test of the system is scheduled for January or February 2001. In order to keep pace with this schedule, the next American president will be under pressure to decide, as early as November 2001, whether to begin construction of a key NMD radar site in Alaska.

Among American policy elites, there continues to be widespread concern, which is often overstated,[1] about missile proliferation involving Russia, China, Iraq, Iran, North Korea, India and Pakistan. In addition, some American political leaders now argue that "states of concern" possessing weapons of mass destruction (WMD) and missiles to carry them cannot be deterred from using these weapons.

The disparity between the economic and military capabilities of the United States and Russia will continue to fuel unilateralist sentiment in the Congress and disdain for arms control treaties — particularly the 1972 Anti-Ballistic Missile (ABM) Treaty — which were designed to manage a superpower nuclear arms race. That race appears for now to have ended. But a stable, post-Cold War American-Russian relationship has not yet developed and the framework of international treaties designed to reduce the threat of vertical and horizontal proliferation is under severe stress.

Though far from the end of the NMD debate, President Clinton's 1 September decision does provide the United States and the rest of the international community with some time and an important opportunity to re-examine the case for — and against — NMD. Factors to consider include NMD's technical feasibility and reliability, its cost effectiveness, and its relationship to

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deterrence. Significantly, Clinton's decision provides time to reassess how existing tools, including arms control, diplomacy, and trade and aid programmes, can be better suited to handle existing and emerging threats in the post-Cold War era. In addition, the decision provides some time for possible new initiatives that have the potential of preventing the emergence of new missile threats.

What will Washington do next?

There is no political consensus in Washington on how and whether to pursue NMD deployment or on how to pursue reductions in global strategic nuclear weapons arsenals, and it is not likely that a clear course of action will emerge for some time. Since the Senate voted in March 1999 97–3 in favour of a measure calling for an American policy of NMD deployment "as soon as technologically feasible" and further negotiated strategic nuclear arms reductions, some in Congress have expressed doubts about NMD testing and the effect of NMD deployment on nuclear arms control priorities. The Senate's rejection of the CTBT and the deep scepticism about NMD among American allies has led most Democrats and many Republicans to counsel a more deliberate approach to NMD. With President Clinton's 1 September decision, American NMD deployment — once considered a "sure thing" — is once again in serious question.

The outcome of the November 2000 presidential and congressional elections will be a pivotal factor in the ongoing NMD debate. Although both of the two major American presidential candidates and their respective political parties have voiced their support for research and development of some form of NMD, their approaches to the issue differ markedly. The presidential candidates' respective views mirror the prevailing schools of thought among American policy elites on national missile defences. Both approaches, however, pose enormous risks to international security.

The Democratic nominee, Vice President Al Gore, supports the Clinton Administration's plan to conduct research and testing of a limited NMD with ground-based interceptors at up to two sites using a network of new and upgraded radars and satellites. Like Clinton, Gore has said he would support deployment if it can be done within the framework of a modified ABM Treaty with Russia. Reflecting the view of fellow congressional Democrats and some moderate Republicans, Al Gore opposes more robust missile defence systems "... that would unnecessarily upset strategic stability and threaten to open the gates for a renewed arms race ...".[2] Gore, like the Clinton Administration, argues that the best way to preserve the ABM Treaty and the "strategic stability" it has helped maintain is by forging a sweeping agreement on START III and modifications to the Anti-Ballistic Missile Treaty to allow for a limited American NMD to address the potential threat of a few tens of long-range missiles.

Even if Russia were to shift its position and agree to such an approach, it remains doubtful that Gore, if elected, could assemble the two-thirds Senate majority necessary to approve such a deal. While there is political support for verifiable strategic arms reductions to START III levels, twenty-five Republican Senators are already on record opposing an agreement with Russia to modify the ABM Treaty that allows only a limited NMD system.[3] A Gore Administration would be hard-pressed to win agreement from Russia *and* build a consensus on NMD and strategic nuclear weapons reductions in the Senate in 2001.

The Republican nominee, George W. Bush, like many congressional Republicans, says the Clinton-Gore approach is "flawed" because "the system is initially based on a single site" and because

it rules out sea- and space-based NMD options. Bush has pledged that he will deploy a much larger and broader missile defence "to protect all 50 states and our friends and allies and deployed forces overseas ... at the earliest possible date."[4] Like many of his fellow Republicans in Congress, Bush and his advisors consider the ABM Treaty's effect on curbing offensive strategic build-ups as irrelevant and obsolete due to Russia's economic decline and reduced capacity to maintain its existing nuclear forces, let alone mount an offensive nuclear arms build-up.

Bush says that he would, if elected, propose modifications to the ABM Treaty to allow for American NMD, but if Russia does not agree to the American proposals, he would withdraw from the Treaty. To help to demonstrate to Russia that "America's development of missile defences is a search for security, not a search for advantage," Bush proposes unilateral strategic nuclear weapons reductions and nuclear warhead de-alerting at least to START II levels.[5] Mr. Bush's proposal for defences with offensive strategic force reductions outside the framework of existing treaties would have the support of some in Congress, mainly those who are disdainful of arms control and advocate that the United States should abandon the concept of nuclear deterrence based on the strategy of Mutual Assured Destruction and the ABM Treaty, in favour of a unilateralist national security strategy based on robust missile defences.

However, Mr. Bush has not presented a specific blueprint or cost estimate for his more ambitious and more expensive proposal for land-, air- and sea-based missile defence for the United States and its allies. If Bush is elected, his Administration will likely require a good part of his first year in office to work out the details of his NMD proposal. Once he does, it will be subjected to tough questions from NMD sceptics, as well as supporters who favour one or another of the "alternative" NMD technologies and architectures. The process of developing and organizing support for a "new" NMD proposal could be as time consuming and difficult as it was for the Reagan Administration to develop a proposal for the MX "mobile" missile in the early 1980s. After sharply criticizing President Carter in the 1980 election campaign for its proposed basing mode, President Reagan's advisors struggled for over two years to develop another plan. In the end, the MX was deployed in fixed silos.

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Questions that must be addressed

No matter who is elected or which NMD scheme might be proposed, the next American president will have to make a hard-nosed, realistic assessment of American national missile defence policy. Before the United States or its allies commit themselves to deployment of a system, proponents, opponents and sceptics of NMD must carefully re-examine the following questions.

Can NMD work as advertised?

The United States has shown that it is technically feasible to "hit a bullet with a bullet", but it has not answered the question of whether this can be done reliably in a real-world setting. The ground-based missile defence programme under development and testing is still far from proven. The January and July 2000 flight test failures are but the most visible manifestations of the technical difficulties now facing the project.

The current NMD flight testing programme is not yet scheduled to test against likely countermeasures. As scientists from the Massachusetts Institute of Technology and the Union of Concerned Scientists noted earlier this year, the NMD system under development is not designed to discriminate against warheads accompanied by realistic countermeasures that would be available to any state developing long-range missiles.[6] Independent Pentagon-appointed auditors have suggested that the system must improve its target-decoy discrimination capability.[7] This year, Congress may impose the stringent NMD testing requirements that the Senate narrowly rejected 52–48 in July 2000.

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Military and political leaders also need to determine how reliable the NMD system is likely to be in order to understand how big a risk they run that a warhead targeted at a city would get through the NMD. The margin for error is very slim. To meet its goals, the Pentagon requires that each kill vehicle must have approximately 90% chance of successful intercept, while as a whole the system is required to have nearly a 100% probability of success. It is very unlikely that this high level of confidence can be achieved even after completion of the Pentagon's nineteen planned intercept tests in 2005 (and perhaps later). All but the last three of these nineteen tests are development tests. Only the last three tests are operational tests, which will use production-quality components and the actual military users to assess how the system would work in the real world.

In addition, Pentagon auditors also warn that the booster rocket now under development of the production version of the NMD booster rocket (which will lift the "kill vehicle" into space) is now nine months behind schedule and may not be ready for its first scheduled test in 2001. Overall, the NMD test programme schedule remains "high risk", and, if the recent testing programme is any guide, new problems and additional delays should be expected.

The technical problems, test failures and schedule delays afflicting the current ground-based NMD programme have prompted some NMD proponents to suggest that there are other, more promising technologies and architectures that are less expensive and could be deployed sooner. Mr. Bush and others[8] point to sea-based NMD technologies as an interim step toward a comprehensive land-, sea- and space-based NMD system. Some advocate upgrading theatre missile interceptors planned for United States Navy AEGIS destroyers and claim that deployment could begin by 2003 and fully deployed by 2009. Others, like physicist Richard Garwin,[9] recommend larger ground- or sea-based "boost-phase" interceptors to be installed near North Korea and in Russia or at sea on converted cargo ships. Like the ground-based NMD system, a sea-based system would use space-based tracking sensors and, in some scenarios, would add space-based interceptors.

However, two new independent critiques of sea-based and boost-phase options conclude that they do not offer easy or quick solutions to the technical challenge of making national missile defences work in a real-world setting.[10] Pentagon assessments of sea-based NMD systems suggest that initial deployment might begin by 2011 at the earliest and could not be completed until 2020. Furthermore, using AEGIS ships for NMD is highly problematic because the theatre missile defence interceptors on AEGIS ships are smaller than those that would be required for boost-phase NMD and it would be impractical to incorporate larger boost-phase interceptors on these platforms.

Like the existing American ground-based programme, sea-based NMD would require the United States and Russia to negotiate changes to the ABM Treaty. Furthermore, difficulties in joint developmental programmes and citing decisions for land-based boost-phanse interceptors would make its cost and implementation both politically and technically uncertain. Even a global, sea-based "mid-course" NMD system would have to be considered limited in its capability and could be stymied by countermeasures. Sea-based NMD platforms would also become potential targets and

require additional military resources to protect. If only a limited sea-based NMD system were pursued, it could cost at least $30–43 billion dollars and take decades to build. NMD does not yet work and there is no quick fix.

Are such active defenses an appropriate response to real or purported missile threats?

Even if a NMD system can be designed to distinguish warheads from decoys, engineered to be reliable and operationally effective, and if it does not prompt a state to build additional offensive missiles to over-saturate missile defences, NMD cannot guard against other, less sophisticated means to deliver a weapon of mass destruction. Should a country decide it wants to attack the United States with a nuclear, chemical or biological weapon, it is likely to choose delivery methods that are more reliable, less expensive, more covertly deliverable, more accurate, and likely to be more effective than long-range ballistic missiles. Without the ability to conduct nuclear-weapon test explosions, initial indigenous nuclear weapon designs are likely to be too large and heavy for a modest-sized ballistic missile, making delivery by ship, truck or even aeroplane more viable. Development and deployment of national missile defences will only make it more likely that such means of delivery are pursued.

Robert Walpole, an analyst at the Central Intelligence Agency told the Senate in February 2000 that ".. we project that in the coming years, American territory is probably more likely to be attacked with WMD from non-missile delivery means (most likely from non-state entities) than by missiles, primarily because non-missile delivery means are less costly and more reliable and accurate. They can also be used without attribution. Their appeal over missiles makes long-range ballistic missile attack on the United States even less likely."

These shortcomings raise serious questions about the cost-effectiveness of NMD relative to other ways of addressing potential new missile threats. The non-partisan Congressional Budget Office (CBO) puts the total cost of building and deploying the three phases of the United States' proposed "limited" NMD system at $59.4 billion from 1996 through 2015, approximately $3 billion annually. While it is difficult to estimate the costs of a layered, land-, sea- and space-based NMD, in 1996, the Senate Budget Committee estimated it would cost over $100 billion to build and operate a layered system. If the sword is going to be mightier than the shield, why buy an expensive shield?

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On the other hand, if the United States and other Western nations were to take up North Korea on its recent proposal to terminate its testing, development and production of long-range ballistic missiles in exchange for international assistance with satellite launches, the cost of addressing the potential threat of a North Korean ICBM capability would be much lower. If the sword can be eliminated through diplomacy and foreign civilian space launch assistance, why build an expensive shield?

How does NMD affect strategic nuclear deterrence?

For decades, the first line of defence against the threat of nuclear missile attack has been a combination of coherent and active diplomacy, effective arms control regimes, crucial foreign assistance programmes and, finally, deterrence — via the threat of massive retaliation. Deterrence

through "Mutual Assured Destruction" became formalized in 1972 with SALT I and the ABM Treaty. Though the risk of direct military conflict between the United States and Russia is near zero, the war-fighting plans and the weapons that undergird American and Russian nuclear deterrence — and the inherent risks of global nuclear annihilation — have not significantly changed since the end of the Cold War. Today, the United States and Russia maintain approximately 4,000 strategic nuclear weapons on constant, hair-trigger alert. Thousands more remain in strategic reserve.

The renewed interest in NMD in the United States stems, in part, from the belief that deterrence, combined with current diplomacy and arms control efforts, may not be sufficient to deal with potential new WMD threats to the West from states, such as North Korea and Iraq, led by "unpredictable" leaders. According to Walter B. Slocombe, United States Under Secretary of Defense for Policy, NMD "would help the United States to retain — and be seen to retain — our freedom to respond to a regional crisis because they would negate the potential of regional aggressors with small, long-range missile forces to attack the American homeland as a penalty for standing by our commitments."[11]

In making this argument, NMD advocates have failed to make a compelling case for why deterrence is not effective against a state such as North Korea. North Korea is a dictatorship. It has a large army. Its missile development programme is a serious concern and its missile exports a leading cause of proliferation. Its leadership is isolated and difficult to work with, at best. It has engaged in terrorist acts, and it frequently commits minor military provocations against South Korea. This does not mean that North Korea is unpredictable or irrational. To the contrary, the leadership has shown an intent to stay in power and refrains from taking steps it perceives would weaken its hold on the country or lead to outright hostilities with the United States. Similarly, in the Gulf War, Iraq had available missile warheads and gravity bombs loaded with chemical and biological weapons. It is clear from subsequent remarks by Iraqi leaders that they did not use these weapons because of their fear of the consequences, both from the United States and from Israel.

The Clinton-Gore Administration sought NMD to enhance American security against the threat of a few dozen missiles from North Korea while preserving the basic foundation of American-Russian strategic deterrence, including its cornerstone, the ABM Treaty. Even if Moscow and Washington's differences about modifying the ABM Treaty to allow a limited NMD can be bridged, the crucial flaw in the current American approach is that it would perpetuate the inherent dangers of the Cold War era nuclear deterrence doctrine and stymie now stalled efforts to reduce and eventually eliminate nuclear weapons.

NMD's reinforcing effect on Cold War nuclear deterrence policy came into clear focus in May 2000 when confidential American "talking points" on NMD were leaked to *The Bulletin of the Atomic Scientists* and *The New York Times*. The documents show that American negotiators have sought to allay Russian fears about a possible American NMD system by ruling out any future reductions in strategic nuclear warheads below the 1,500–2,000 level and encouraging Russia to maintain its nuclear forces on constant alert. NMD might, in theory, reduce the potential future missile threat from North Korea, but it would perpetuate and perhaps worsen the existing American-Russian strategic missile threat, which threatens global security.[12]

Staunch NMD proponents who are even more concerned about potential new long-range missile threats to the West believe that the arms control treaties that have preserved the superpower nuclear balance of terror — from START to the ABM Treaty — are less relevant due to the more amiable American-Russian relationship and Russia's inability to afford maintaining a large strategic nuclear force. They believe that the United States must pursue the best NMD system possible, at the expense of the ABM Treaty if necessary. Governor Bush and others of this school of thought argue that the United States should demonstrate its benign intentions toward Russia by matching *de facto*

Russian strategic nuclear reductions and reducing the number of American weapons on hair-trigger alert. In this context, they believe even a robust American NMD deployment should not prompt Russia to increase its nuclear arsenal.

In practice, however, this approach is self-defeating. Military planners and political leaders of states with histories of adversarial relations respond to capabilities, not just intentions. While unilateral reciprocal nuclear weapons reductions should be pursued in the absence of prompt implementation of START II and START III, if the United States pursues a significant missile defence system as Governor Bush proposes, Russia would feel compelled to keep a large number of strategic nuclear forces on high alert and increase the number of warheads on their ballistic missiles to preserve their ability to launch an overwhelming counterattack. In addition, China could be expected to increase its deployed strategic nuclear arsenal tenfold.[13] A heightened Russian posture and accelerated Chinese build-up would lead American military planners and congressional leaders to oppose unilateral strategic nuclear reductions.

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Given the uncertainties and tension between Washington, Moscow and Beijing, offensive and defensive missile control treaties continue to provide a valuable degree of transparency, confidence and stability and should be the preferred method of achieving nuclear risk reduction and elimination. If technical problems with NMD and political barriers between Washington and Moscow can be overcome, a very limited American NMD might conceivably be deployed without severely destabilizing the American-Russian nuclear deterrent relationship, but could promote dangerous offensive build-ups in other regions, particularly in East and South Asia, and create a floor below which American-Russian nuclear arsenals would not fall. But even the intelligence estimates of the United States suggest that open-ended NMD plans in the absence of ABM Treaty limitations and in the absence of a global regime to eliminate WMD-armed ballistic missiles will foster a dangerous, global action-reaction cycle of symmetrical and asymmetrical actions.

The choice, however, is not simply deterrence or missile defence. There is an alternative approach which merits serious consideration: avoiding further destabilization of the existing deterrence/arms control framework through American restraint on NMD and respect for the ABM Treaty, combined with more aggressive American and Russian arms reductions and a steady transition away from Cold War nuclear deterrence policies. To achieve near-term progress on reducing American-Russian strategic missile dangers, the next American administration should de-link agreement on ABM Treaty changes to allow for a limited American NMD system from full-scale negotiations and agreement on START III. While these talks proceed, both countries should pursue immediate, bilateral de-alerting and de-activation of weapons scheduled for elimination under START II and START III.

Diplomacy and arms control

The technical and political shortcomings of NMD mean that the international community *must* make effective use of diplomacy, trade and assistance, and new mechanisms to control and reduce existing and potential ballistic missiles threats worldwide. Given that North Korea has by far the most developed missile programme among states newly pursuing missile technology, the near-term priority effort should be focused on securing a lasting and enforceable framework agreement freezing the North Korean missile programme. There are clear precedents that provide hope: the 1994 Agreed Framework halting North Korea's known nuclear weapons programme and the current North Korean freeze on its missile flight testing programme.

While North Korea's tough bargaining style and closed society has made diplomacy with Pyongyang unpopular in Washington for many years, leaders in Moscow, Beijing, Seoul and Tokyo have recognized the possibility of a diplomatic resolution to the missile issue. Recent history shows that while North Korea has been a major ballistic missile proliferation irritant, it is interested in a missile deal but is unwilling to give up its programme without some security and/or economic benefits in return.

Russian President Vladimir Putin's discussions with North Korean leader Kim Jong Il on the concept of termination of North Korea's testing, development and production of long-range missiles in exchange for international assistance with satellite launches from the territory of other countries provides a good starting point. In the context of the thaw in North-South Korean relations and a renewed dialogue between Washington and Pyongyang, now is the time for all sides to work together to conclude such an agreement. The next American administration should build on Secretary of State Madeleine Albright's visit to Pyongyang last year.

Over the longer term, multilateral efforts to freeze and reduce the military missile capabilities of all states may be the most effective tool to address missile threats. The Missile Technology Control Regime (MTCR), established in 1987, constitutes the most significant effort in this area. It seeks to control the transfer of WMD delivery systems. These systems include missiles, unmanned air vehicles and related technology capable of carrying a 500 kilogram payload a distance of at least 300 kilometres. Currently thirty-two countries, including Russia and Ukraine, participate in the MTCR; other countries, including China, adhere to its principles (although not necessarily to its lists of material and technology not to be exported).

The MTCR provides a valuable check on missile proliferation, but it is limited in its value. The MTCR is not a treaty but rather a voluntary agreement among countries and does not have clear verification and enforcement mechanisms; it does not address existing ballistic missile arsenals, including the many short-range missiles deployed in developing states and missiles deployed by the nuclear-weapon states; and it is perceived by some nations as discriminatory. MTCR met in October of last year and among other matters, discussed proposals for strengthening MTCR export controls and pre-launch notification for missile and space launches.

MTCR states and other leaders in international non-proliferation efforts should be willing to pursue additional discussions on new proposals and options for building a stronger missile non-proliferation regime. In June 1999, Russian President Boris Yeltsin proposed a Global Control System for the Non-Proliferation of Missiles and Missile Technology (GCS). The Russian government has continued to develop and promote the concept as an adjunct to MTCR. The Russian Foreign Ministry hosted a conference on the GCS proposal in Moscow on 16 March 2000 involving representatives from forty-six states and the United Nations Department for Disarmament Affairs.[14] The GCS calls for: a multilateral missile launch notification regime; an international missile launch data exchange centre; a verification regime to monitor missile launches; and assistance in peaceful uses of outer space to GCS member states renouncing missiles. It further proposes that states that would participate in the GCS that do not possess or that "renounce the possession of missile delivery systems for WMD" should be given assurances by states possessing WMD-armed missiles that they will not be used against them, and if they are threatened or attacked with such missiles, the Security Council and GCS participants will take immediate steps in accordance with the United Nations Charter.

As some observers have pointed out, GCS could be a useful mechanism, but in its current form it fails to require states already possessing ballistic missiles to make progress toward eliminating their missile stockpiles, significantly decreasing the possible effectiveness of such a regime.[15] Rather, governments and non-governmental organizations might explore proposals and options for progress toward the elimination of offensive, military-purpose ballistic missiles, as efforts on the control,

reduction and elimination of chemical, biological and nuclear weapons continues. A useful proposal for such a regime was developed in 1992 by experts at the Federation of American Scientists.[16] That proposal, dubbed Zero-Ballistic Missile (ZBM) regime, outlines a four-stage process involving an international missile control conference, establishment of ballistic missile-free zones, an international agency for ballistic missile control, and an agreement on phased elimination of ballistic missile capability.

Though the development and implementation of a regime like ZBM is an ambitious, long-range endeavour, interim steps can and should be pursued. Progress on the elimination of American and Russian long-range nuclear-armed missiles, country-specific missile development, testing and production freeze agreements, as well as regional initiatives to freeze further missile development, testing and deployment could provide a more stable security environment while building consensus on longer-term solutions.

Conclusions

The interest in ballistic missile defences is nearly as old as the ballistic missile. As long as there is a potential for chemical, biological and nuclear weapons proliferation and access to ballistic missile technology with which such weapons can be delivered, some states will seek to possess ballistic missiles and consider deployment of active theatre and strategic missile defences. The difficult political and technical challenges and risks of implementing complex NMD schemes provide valuable time for the United States and the international community to develop multilateral norms governing existing missile arsenals and the global missile proliferation threat.

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Government and non-governmental leaders from around the world should use the next year or two to energetically pursue possible new initiatives to reduce potential new missile threats, and provide stronger leadership on traditional arms control and diplomacy initiatives, which continue to be more practical, cost-effective and reliable than NMD.

Notes

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