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**DEFENDING AMERICA
REDEFINING THE CONCEPTUAL BORDERS
OF HOMELAND DEFENSE**

**Report on Homeland Defense
and National Missile Defenses**

Executive Summary

FINAL REVIEW DRAFT

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Introduction

The following report is a rough initial draft section of a full report on Homeland Defense being prepared as part of the CSIS Homeland Defense project. It is a rough working draft, and reflects solely the views of the author and not of the CSIS team working on the project. It is being circulated for comment and reaction and will be substantially modified and updated before being included in the final report.

Proliferation poses a broad range of threats to the US homeland, as well as to our allies and coalition partners. The proliferation of long-range missiles armed with weapons of mass destruction is one of these threats, and it has become obvious that nations such as Iran and North Korea may be acquiring the capability to build such missiles, and the ability to arm them with nuclear or highly lethal biological weapons. While such threats are now only potential ones, these shifts in technological and manufacturing capability mean that nations like Iran and North Korea may be able to pose serious threats to the American homeland, possibly as early as during the next few years. Such threats may create a near to mid-term need for national missile defense (NMD).

There is an even greater chance that longer-term threats to the US homeland will emerge that are more serious than the near-term threats that could be posed by nations like Iran and North Korea. Advances in missile and biotechnology, and the spread of related manufacturing capabilities could give a number of nations the capability to develop missiles that can reach American territory and that are armed with warheads capable of causing massive casualties. Even if no near to mid-term missile threat is deployed by proliferating countries, the US may well need to develop a more robust and capable NMD system to deal with such longer term threats.

At the same time, the missile threats from proliferating remain *potential* threats. They are also only part of the spectrum of military threats the US must deal with. The primary missile threat to the US will continue to come from the existing forces of Russia and China, not new proliferators like Iran, Iraq, and North Korea. The decision to deploy an NMD program cannot be decoupled from its potential impact in provoking changes in the very real threats the US already faces from Russia and China and in creating major problems for arms control.

Deploying a National Missile Defense System and the “Delicate Balance of Deterrence”

Other issues compound the problems for US decision-making. First, there are many other ways that an attacker can strike at the American homeland. The currently contemplated national missile defense is only effective against systems with intercontinental ranges. It provides little or no defense against shorter range, sea-launched ballistic missiles, cruise missiles, or bombers. It provides no defense against chemical, biological, radiological, or nuclear (CBRN) weapons smuggled into the US or assembled on its soil. It provides no defense against attacks using new technologies like cyberwarfare.

The primary threats that proliferation poses to the US do not originate from peer competitors or nations that oppose the US per se. They are outgrowths of theater and regional-level conflicts and tensions, primarily in the Gulf, Middle East, Koreas, and Taiwan Straits. National missile defense cannot defend America’s allies, except to the degree it helps ensure that the US cannot be threatened or blackmailed by the risk of attacks on its soil. It cannot defend allied territory, or the sources of America’s key imports and the security of a global economy. National missile defense that is decoupled from theater defense can only defend the American homeland in the narrowest physical sense. It cannot defend the homeland in terms of its economy or American strategic interests.

The currently contemplated national missile defense system also presents major problems in terms of Russia and China. It will have little intercept capability against an accidental or limited launch of the more sophisticated Russian missile systems, whose penetration aids might well defeat the US interceptors. It is not designed to deal with any substantial attack by missile forces as large as those of Russia, and could not deal with a major Chinese build-up of its new ICBMs. Current NMD options cannot provide a shield that can protect the US in ways that are a substitute for strong offensive retaliatory forces, arms control efforts to limit and reduce the Russian and Chinese threat, or efforts to negotiate a solution to regional tensions.

Deploying an NMD system could simply “squeeze the balloon” in the sense it pushes

hostile states and movements to use other forms of attack, many of which are cheaper than missile attacks, harder to attribute and retaliate against, and at least as lethal. Unless NMD is part of a fully balanced homeland defense program, it may well do no good and might do more harm than good. Even if it is part of such a program, it could simply increase the threat to our allies and overseas interests, limit progress in arms control, and create new regional tensions. In this sense, the largely bipolar “delicate balance of terror” that shaped the Cold War has been replaced by a multipolar “delicate balance of deterrence” that requires far more sophisticated US policies and approaches to homeland defense.

Reconsidering the Programming Options for Deploying a National Missile Defense System and the “Delicate Balance of Deterrence”

The US is now reaping the costs of politicizing its NMD program. President Clinton has deferred any decision on deploying the first part of an NMD system and left it to his successor. This decision reflects problems in the development and test program, in negotiating an approach to arms control that will allow the US to deploy NMD without weakening its arms control options, and questions about the capability of the particular systems architecture to which the US has been committed.

In theory, the US has been legally required to deploy an NMD system providing national coverage by 2005. In practice, the US has been rushing forward with a one-site system to provide very limited national coverage against an attack coming from the area of North Korea. In doing so, it has adopted an inadequate and underfunded development program, and test and evaluation methods that cannot objectively determine success even if all of the present milestones are met. The creation of a more adequate two-site system, supported by space-based sensors could not be deployed until well after 2010, and that system would have serious limitations and involve significant risks if it had to be scaled up to deal with more sophisticated threats and penetration aids.

The US must now find the proper balance between the value of deploying an NMD system and not deploying one. At the same time, it must now address many of the issues it has

failed to address in moving ahead with a compromised and politicized system that is more a reflection of domestic political battles than valid strategic requirements. There is no simple and decisive answer to the question of whether the US needs to deploy an NMD system to meet its Homeland defense needs. An analysis of the particular missile threats the present system is designed to deal with does, however, raise serious questions in a number of vital areas. These include:

- Just how serious the threat from “rogue states” really is.
- The impact of deploying an NMD system will have on arms control, START and the ABM Treaty.
- The impact deployment will have on the future size of the Russian and Chinese nuclear threats.
- The impact on other threats to the US homeland like air breathers, cruise missiles, covert and terrorist CBRN attacks, and cyber attacks, and the cost and feasibility of creating a cohesive and integrated approach to homeland defense.
- The need, cost, and feasibility of a cohesive approach to missile and CBRN defense that includes protection of our allies and strategic interests overseas.
- The risks inherent in the present schedule, test and evaluation program, and cost estimates shaping the US NMD program, and,
- Whether the current configuration of the NMD system really meets a valid set of homeland defense needs for NMD or some alternative system is needed.

Meeting the Strategic and Technical Requirements for Deploying a National Missile Defense System

These questions cannot be fully resolved on the basis of the information now available, and there is no certain or single “right” set of answers to any of the major the issues and uncertainties raised in this analysis. However, the evidence that is publicly available supports the following conclusions:

- There is no evidence of an *existing* threat from nations like Iran and North Korea to justify the deployment of a full-scale US National Missile Defense system, and there is no certainty that any mix of states will deploy such a threat in the future. At the same time, there is evidence of a *potential* threat. It is also clear that the US cannot count on warning of the deployment of missile threats from these countries, or on the ability to characterize whether such missiles will have the kind of highly lethal biological or nuclear warheads that could make them a serious threat to the American homeland.
- NMD is not a substitute for strong offensive US capabilities, the ability to carry out massive retaliation against a

state or entity that uses weapons of mass destruction using any form of delivery, and ultimately for nuclear retaliatory capabilities. Any nation willing to risk a ballistic missile attack on the US is almost certain to be willing to risk attacks of virtually any kind on both the US and its allies. Missile defenses do not punish hostile regimes or destroy hostile forces. They do not approach the kind of existential ambiguity that mere US possession of a vastly superior nuclear delivery capability creates in the mind of any regime willing to use weapons of mass destruction against the US. If there is a real risk that weapons of mass destruction will be used against the US or its allies in any form, efforts to seek a “zero option” in terms of US nuclear forces are more likely to destabilize a crisis, and lead to the use of weapons of mass destruction, than prevent it. This will be true regardless of whether the US deploys an NMD system.

- No form of NMD system can – by itself -- credibly protect the US against rogue threats. The cost to potential attackers of defeating or vitiating an NMD system by using shorter-range systems, covert attacks, and terrorist/proxy attacks is simply too low. In some ways, creating a ballistic missile threat to the American homeland is one of the least attractive ways to wage asymmetric warfare against the US. At the same time, the US may have no other choice than to both deploy NMD and improve its defensive and retaliatory capabilities to deal with all other means of asymmetric warfare.
- No form of NMD system is likely to be leak-proof, even against limited missile threats. The deployment of an NMD system will still leave many of the same needs for civil defense and response capabilities as the emerging CBRN threat posed by asymmetric attacks and terrorism.
- Effective defense of the American homeland requires the US to take a wide range of steps, of which NMD is only one. Diplomacy, regional counterproliferation capabilities, missile defenses, and coalitions to contain rogue states offer tools that are at least as important as NMD systems in dealing with rogue threats. In fact, the inherent limitations of NMD may make it one of the least cost-effective ways of dealing with such threats unless it is clearly linked to a comprehensive approach to dealing with proliferation that gives at least equal priority to other forms of defense.
- The deployment of NMD cannot be decoupled from some clear security concept of how to provide similar defenses for American forces deployed overseas and for our key allies and coalition partners. They already face direct threats in Asia, the Gulf, Middle East, and Asia. If the US deploys convincing missile defenses it may well drive attackers to strike at America’s friends and allies as a means of obtaining strategic leverage, and “theater defense” for the US is “homeland defense” for its allies.
- The study of missile threats cannot be credibly decoupled from the broader threats posed by existing nuclear powers and by other forms of proliferation in justifying an NMD program. Both the broad cost-effectiveness of any aspect of Homeland defense, and the cost of an enemy to defeating a given US capability by shifting resources to other threats, needs explicit analysis.
- There is a strong case to be made for linking the deployment of any NMD system to the successful renegotiation of START and the ABM Treaty and/or the development of suitable confidence measures to make Russia confident that the US will not develop or deploy a “break out” capability that would create the kind of NMD system that could limit Russia’s ability to strike the US. Unlike the potential threat from nations like Iran and North Korea, the nuclear and missile threat from Russia remains tangible and massive. While the risk of any such Russian attack seems minimal, so does the risk of direct attack by so-called rogue states, and the alienation of Russia poses a wide range of other threats to US security interests.
- China presents similar problems, but is a different kind of threat. There is a clear need to reevaluate the potential threat posed by China, and to consider what kind of negotiation – if any – could limit the growth of the Chinese threat so that the deployment of NMD did not result in a net increase in the Chinese threat to the US.

- At the same time, it is nations like Russia and China whose technology transfers have created the possibility of a major threat from rogue states, and the US cannot afford to be paralyzed by the terms of the ABM Treaty or the risk that Russia will maintain higher force levels than are called for under the terms of START II and START III.

Politicizing NMD Into Failure

These strategic issues interact with serious technical problems in the presently contemplated US NMD system. The one-site system the US could deploy between now and 2010 is far more the result of a long series of historical compromises made for partisan political reasons than a system designed to meet national needs.

Some of the strongest political advocates of the current NMD system are its worst enemies in practice. For ideological reasons, they deny the need for a complex, expensive, time-consuming, and comprehensive test program. They deny the technical and cost risks involved. They deny the need to assess possible countermeasures in far more depth, and the trade-offs that funding such a system may force in reducing other US and allied defense capabilities. They also call for a potential effort to rush into the deployment of such a system, an action which could prevent effective negotiations with our European allies and Russia, intensify relations with China, block the renegotiation efforts of present arms control agreements, and stimulate a new arms race.

The irony surrounding such an approach to national missile defense is that those who feel that ideology and policy can overcome the laws of physics, the realities of engineering, and the need for a balanced approach to national security may ultimately do as much to block the real-world deployment of an effective program as those who believe that ideology and policy call for every possible effort to deny that an effective system is possible or can be deployed in ways that reduce the threat to the US homeland.

More than that, they also are limiting consideration of alternative or supplemental programs like boost-phase defense, and sea, air, and space-based options. The US has largely ceased to debate the need for effective defense against limited and accidental launches by nations as sophisticated as Russia. It is dodging the need to come to grips with the potential threat posed by China. It is segmenting the national debate over homeland defense in ways that mean the need

for NMD is kept separate from the need for other forms of missile and airbreather defense, and defense against covert and terrorist CBRN attacks and cyber attacks.

A Risk Prone Test and Evaluation Program

The resulting compromises have limited the capabilities of the present NMD system, and have forced the creation of a development and deployment schedule with a high element of risk, and have politicized the test and evaluation schedule. The current US NMD program is not the proper course of action for deploying even the present NMD system. The technical risks are unacceptably high and this had been made clear by the most senior technical experts in the Department of Defense.

No result of the current limited NMD test program could produce fully credible results in terms of program effectiveness. This test and evaluation program is too limited in scope, and there are no precedents for the successful deployment of such a complex combat system without years of practical experience and modification based on the field trials of an operational system. Learning from deployment is almost certainly the only way to evolve an effective system.

Put differently, the present deployment program seems to be based on the technical myth that a test and evaluation methodology can substitute for the actual deployment of a test-bed system that puts all of the required capabilities into the field, and which involves the necessary changes and modifications needed to ensure a truly combat-capable system.

Deferral is the Right Decision, but It is Far From an Adequate Approach

President Clinton's decision on September 1, 2000 to defer the award of contracts to begin building a new high-powered radar in the Aleutian Islands as an initial step towards deployment of the present NMD system is a wise one. This is true even though it means leaving deployment decisions to the project into the next presidency, and delaying initial deployment to at least 2006 or 2007, rather than 2005. It seems equally wise to postpone the next test of a national missile defense system until at least January 2001. There is no reason to force the pace

of the test program and good reason to delay it and restructure it.

Simply delaying the present program, however, is neither effective leadership nor an answer to the strategic and technical issues that now surround the NMD program. Far more serious changes are needed to address *all* of the following critical problems:

- Failure to integrate theater and homeland offensive/defense issues.
- Failure to honestly examine the “balloon effect”: forcing attackers to use other methods, and strike at US allies or external vulnerabilities like oil and Asian trade.
- Rushing forward with half-defined interim single-site system with SIBRS without any clear picture of ultimate system requirements and costs.
- Deployment schedule makes effective test and evaluation impossible. Costing and effectiveness models are badly politicized.
- Freezing on current system in purely homeland context means ignoring boost-phase and theater-homeland options.
- Lack of Net Technical Assessment and realistic evaluation of cost to defeat proposed programs and solutions.
- Failure to explicitly consider offensive and retaliatory options.

The Minimum Step: Shifting to a Success-Driven Approach

At a minimum, the next Administration should restructure the current NMD program to focus on a success-oriented, rather than schedule-driven program. The technology proposed for the present US NMD system still involves major risks and systems integration problems. These risks tend to be understated by those advocating an NMD system, and overstated by those who oppose one. However, the methods BMDO has so far publicly proposed for risk analysis and test and evaluation simply raise too many critical questions.

Over-reliance on a limited number of tests at an accelerated schedule makes it seem very doubtful that the current number of tests can at best do more than provide technical proof of concept. An uncertain proof of concept is not adequate for an NMD system that is so complex that an accurate picture of its cost and effectiveness cannot be counted on through such methods.

This argues strongly for shifting from reliance on any kind of limited test and evaluation program, and for a shift to a full scale, “test bed” approach. It seems likely that the full-scale field trial of a working US NMD system with at least one interceptor site will prove to be the only way in which the US can evolve the level of real-world NMD capabilities it needs. A shift to such a “test bed system” that evolves according to a success-driven schedule would give the US a high probability that the result will be a successful field-proven development platform. It is also the kind of approach that will enable the US to deal with the currently contemplated threat, and to rapidly scale up its NMD capabilities if serious new threats materialize.

The Leadership and Program the Nation Needs

Creating a truly effective program, however, means going far beyond simply adjusting the present program to use a most realistic schedule and approach to testing evaluation. What is needed is action that goes far beyond simply deferring the present program. The next Administration should take the following steps to shape the kind of National Missile Defense system necessary to be an effective component of a Homeland defense program:

- Reshape the test and deployment schedule of its initial NMD system, and the budget and program, to ensure a fully successful program development over a longer period of time -- rather than attempt to rush forward in response to an exaggerated view of the threat.
- Greatly expand the test and evaluation effort of the program to ensure success.
- Require a full-scale Net Technical Assessment, including a realistic evaluation of the cost to defeat proposed NMD programs options.
- Fully examine the decoy and countermeasure issue, and adopt a more demanding and sophisticated test program.
- Maintain the research and development program necessary to ensure that the US can deploy a much more sophisticated NMD system over time if a more sophisticated threat should materialize in the period beyond 2010.
- Keep the commitment to the present NMD architecture flexible. Continuously examine credible boost phase options, and particularly the use of airborne and sea-based forward intercept systems.
- Adequately fund the development and deployment program on a less driven by actual success or kill it. Don't “nickel and dime” it, or try to force the pace, in ways that ensure failure.
- Give the decisions affecting each stage of NMD deployment the transparency that the American people and

Congress need, and which can shape an informed and less partisan debate. Clearly define the different phases of the NMD system, their architecture, their cost, and the estimated effectiveness of each phase in dealing with potential threats. Develop an annual report on the evolution of this plan, with a supporting net assessment defining the threat and the capability of the proposed system relative to proposed countermeasures. Make it clear that national coverage does not mean true national coverage with uniform probability of intercept and show the actual differences in coverage by area.

- Tie the schedule, deployment, and architecture of the US NMD system to the changing nature of the threat. Do not assume that the US can have precise intelligence and strategic warning on the deployment of missile threats, or identify potential threat states years in advance. Evolve a program that can react to real-world uncertainties regarding strategic warning and real-world deployment lead-times. At the same time, do not demonize currently hostile states, or ignore progress in moderating the threat they pose to the US.
- Explicitly examine the trade-offs between expenditures on NMD and other aspects of US military capabilities such as offensive capabilities and conventional power projection. NMD is not a religion. It has no more inherent value than other aspects of US military strength, and any argument for NMD must be explicitly justified in terms of its advantages and disadvantages relative to other uses of the defense budget.
- Carry out a zero-based review of the trade-offs between the present NMD system and boost-phase, sea-based, and airborne laser defense systems. Provide a rolling analysis of all of the RDT&E and deployment options available to creating an effective NMD system, rather than optimize rigidly around the current architecture.
- Give equal priority to other threats against the American homeland such as shorter-range delivery systems, air breathers, and covert or terrorist attacks using weapons of mass destruction. There is no worse solution to the threat posed by asymmetric weapons and mass destruction than to focus on NMD, and one threat such as nuclear weapons, in the face of so many alternative methods of attack and advances in other areas such as biological weapons.
- Fully evaluate the overall threat that all forms of missiles, weapons of mass destruction, and asymmetric warfare pose to the allies and friends of the US. Recognize the fact that missile threats to the US are now largely theater-driven and that the US cannot deploy a national missile defense and leave its allies without such defenses, without make them the potential targets of intimidation and retaliation. Make theater missile defenses, other defenses, US offensive capabilities, and “extended deterrence” part of an integrated approach to revising US strategy and force plans.
- Link NMD to a clearly defined Theater Missile Defense system and plan that shows the interaction between the deployment of NMD and TMD, the political impacts, costs, and shifts in theater capabilities. Examine the related costs in terms of improving theater air and cruise missile defense. The isolation of NMD and TMD planning makes no sense in a world where conflicts and threats are theater-driven, tangible missile threats already exist at the theater level, and the decoupling of NMD and TMD architectures has only limited real-world war fighting capability.
- Give equal priority to the development of clearly superior offensive and retaliatory capabilities to ensure a high level of deterrence and carry out massive retaliation. Preserve a nuclear option and develop new approaches to extended deterrence.
- Re-evaluate the threat and include Russia and China, arms control risks: Examine the threat in terms of both deployment and non-deployment, and impact of deployment on pushing threats to use other forms of attack.
- Conduct a “zero-based” look at the interaction between missile defense and arms control. Examine missile defense as a partner to arms control

- Continue to seek to modify the barriers that current arms control agreements pose to the deployment of NMD without abandoning the search for arms control and improved relations with potential threat states. NMD is not a substitute for arms control and negotiation.
- Shape deployment of the initial components of NMD as a “test bed” system in ways that minimize the impact on US arms control efforts and stimulating higher levels of threat from Russia and China than would otherwise be the case

Some of these criteria set competing goals, and all involve a high degree of uncertainty and the need for a flexible and evolutionary US approach. It should be clear that the program that makes sense today may require major changes to respond to events over a period as short as the next two to three years, and there is little room for ideology as distinguished from pragmatism. There is an equal need to accept the full complexity of the issues and uncertainties involved.

The exact nature of any time schedule and cost estimate for a revised NMD system that grew out of such a review and reduced the risks in the present system to more acceptable levels is speculative. However -- regardless of how the system is changed -- the US must be prepared for much higher life-cycle costs. The data so far made public on the estimated costs of an NMD system indicate that a properly structured program is likely to cost at least 50% more than BMDO currently estimates. Such cost escalation is typical of the history of programs that are at the current level of sophistication of the NMD program. It could cost anywhere from two to six times the currently estimated cost over the next 10 years, with the high side of this cost escalation tied to the need to deploy a much larger and more sophisticated system than the US now contemplates.

This could delay deploying any components of the initial NMD system several years, although any assessment of the precise details of such a system must follow a major program review and would require a comprehensive redesign of the program schedule by the Ballistic Missile Defense Organization (BMDO)). Even so, it is still possible that a suitable test bed system could evolve quickly enough to deploy some elements of a combat effective system with advanced features like the Space-Based Infrared System (SBIRS) by 2010-2012.

No Deployment Option Can Make Some Level of Strategic Competition Go Away

Regardless of the technical solution, the US decides upon, major strategic and political problems will continue to exist. The problem in dealing with Russia, China, and our allies will remain serious. Every negotiating effort will need to be made to limit the potential backlash in terms of the impact of a US deployment on Russian and Chinese behavior, arms control, and our allies to “acceptable” levels. The US should not commit itself to NMD blindly and without regard to the evolution of the threat and progress in arms control.

At the same time, the various cases for and against the near-term deployment of an NMD system have closely balanced merit. The US cannot allow a rigid adherence to the ABM Treaty to paralyze its efforts to serve its own vital national security interests. The pivotal argument for moving forward NMD may well prove to be the lack of warning and reaction time in reacting to potential threats if hostile states continue to develop new forces of intercontinental missiles. The US cannot wait to develop an NMD system until such a threat can be proven to exist and then suddenly deploy a suitable defense.

Some negative consequences may have to be accepted if the US is to make any progress in Homeland defense. There is no practical prospect that any US deployment of any form of NMD system can totally eliminate the risk that such deployment will lead to higher levels of a Russian and Chinese threat, or some political costs. The US must be equally prepared for the prospect that the successful deployment of an NMD system will lead hostile states to adapt by developing improved capabilities to use covert, short range, and proxy methods of attacking the American homeland or stepping up their capabilities to attack America’s friends and allies as a substitute for attacking the US.

Put bluntly, NMD is probably purposeless unless it is linked to a steadily strengthened global counterproliferation strategy, an integrated approach to homeland defense, and the ongoing search to balance NMD against both arms control programs and US efforts to improve its offensive and retaliatory options. Sometimes policy really does have to be complex to be effective!

