

Background

No. 2403
April 21, 2010



Published by The Heritage Foundation

Strengthen the Pentagon's Programs for Sea-Based Missile Defense

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Abstract: *The Administration's new "phased adaptive approach" for missile defense in Europe and the Pentagon's wider sea-based Aegis BMD program have the potential to provide robust missile defense coverage and to operate from advantageous locations at sea. In support of these efforts, Congress needs to ensure that the Aegis BMD program is adequately funded, including funding for increased procurement of interceptors and accelerated development of critical Aegis components to expand its capabilities. Congress also needs to exercise proper oversight to prevent the Administration's arms control agenda from limiting U.S. missile defense options or cooperation with friends and allies.*

On February 1, 2010, the Obama Administration released the Ballistic Missile Defense Review (BMDR) Report, an assessment of U.S. ballistic missile defense (BMD) policy and strategy. The report states that investment in BMD technologies has created new technical opportunities,¹ particularly promising developments in the sea-based Aegis BMD system and its associated Standard Missile-3 (SM-3) family of interceptors. The Aegis BMD system is the Pentagon's primary sea-based BMD program and has been placed at the core of the Administration's new "phased adaptive approach" for installing missile defense systems in Europe and other regions since September 17, 2009, when President Barack Obama abandoned the Bush Administration's commitment to place ground-based BMD systems in the Czech Republic and Poland.

Talking Points

- The Obama Administration's abandonment of the "third site" missile defense systems in Europe in 2009 was imprudent, but the Administration is smartly expanding a different Bush-era program: sea-based missile defenses using Aegis ships and SM-3 interceptors.
- Sea-based missile defense has great potential for success, but it could be slowed, severely undermined, or even reversed without aggressive oversight and support from Congress, adequate funding, and appropriate management.
- Without congressional leadership as negotiations continue, the Administration's arms control initiatives could derail the plans for robust sea-based missile defenses and severely limit America's missile defense options.
- Congress should direct the U.S. Navy to examine the program's requirements and ensure that it does not place excessive strain on the surface fleet or harm the Navy's ability to fulfill its global missions.

This paper, in its entirety, can be found at:
<http://report.heritage.org/bg2403>

Produced by the Douglas and Sarah Allison
Center for Foreign Policy Studies
of the
Kathryn and Shelby Cullom Davis
Institute for International Studies

Published by The Heritage Foundation
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Washington, DC 20002-4999
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Although reducing missile defense funding and canceling the “third site” ground-based BMD systems in Europe were shortsighted decisions, the Administration is wise to continue pursuing the sea-based Aegis BMD system and its land-based variants. Sea-based systems are an essential component of a comprehensive, multilayered global BMD architecture also using air-, land-, and space-based programs.

Congress should aggressively support the ongoing development of the sea-based Aegis BMD program, recognizing its strategic strengths, which include flexibility, mobility, and the potential for interoperability with space-based systems. As Congress evaluates the Administration’s missile defense strategy and its budget request for fiscal year (FY) 2011, Members of Congress should consider accelerating the sea-based missile defense program and take concrete steps to ensure that it succeeds.

The President’s Phased Adaptive Approach

The Obama Administration’s proposed architecture for BMD in Europe involves four phases:

1. Procuring more of the existing systems through 2011. These include the SM-3 Block IA interceptor and the AN/TPY-2 sensor system.
2. Developing and fielding the SM-3 Block IB around 2015 on sea and land to provide broader coverage. It is a more advanced version of the SM-3 and will initially be deployed in southern Europe.
3. Deploying the more advanced SM-3 Block IIA around 2018. It is already under development and will be deployed in Northern Europe to protect NATO allies in Europe against medium-range and intermediate-range missiles.
4. Deploying the SM-3 Block IIB around 2020. This is the most important step because the SM-3 Block IIB will have the potential to counter long-range intercontinental ballistic missiles (ICBMs) that could threaten the U.S. homeland and regional allies and extend the system’s capabilities beyond strictly regional defense.

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The Administration’s BMD program for Europe has great potential for success, but its success is fragile and could be reversible without adequate and sustained funding, appropriate management, and political commitment. The future of sea-based BMD will also require that neither the Administration nor Congress places policy or programmatic barriers in its way. The most likely policy-related obstacle could inadvertently result from the Administration’s arms control agenda, particularly negotiations at the United Nations Conference on Disarmament over a treaty to prevent the “weaponization” of outer space. Programmatic barriers could also emerge if these systems are made subject to traditional acquisition rules or if their development is managed inappropriately. One potential question for Congress is whether the Missile Defense Agency (MDA) or the U.S. Navy would provide the best management framework for this program over the long term.

History of Sea-Based Missile Defense

Although sea-based BMD developments date back to the early 1990s,² the Aegis BMD midcourse program was created in 2002 by the Bush Administration under the auspices of the MDA’s predecessor. The program was designed to track missiles of all ranges and to intercept short-range and medium-range ballistic missiles during their midcourse phase of flight. The program required adapting the Aegis computer program to use SPY-1 radar to track missiles and arming Aegis ships with BMD-capable versions of the Standard Missile, such as the existing SM-2 Block 4A (as a terminal-phase interceptor), the SM-3 Block 1A, or the SM-3 Block 1B. The Block 1B is a more advanced version that can intercept intermediate-range missiles, but Block 1A and

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1. U.S. Department of Defense, “Ballistic Missile Defense Review Report,” February 1, 2010, p. 29, at http://www.defense.gov/bmdr/docs/BMDR%20as%20of%2026JAN10%200630_for%20web.pdf (April 1, 2010).
 2. Ambassador Henry F. Cooper, “End of Tour Report,” January 20, 1993, Appendix B.

1B missiles in their current configurations are not fast enough to intercept ICBMs.

The Navy's Aegis combat system was originally developed to defend ships against air and surface threats, but Aegis weapons systems have since been successfully updated with the ability to track and intercept ballistic missiles. Aegis BMD systems have already demonstrated significant benefits, such as the ability to operate from advantageous locations at sea, including forward deployments in international waters, and the flexibility to move in response to threats or to evade detection. With further research and development, the Pentagon should be able to increase the interceptors' speed and capabilities by reducing the size and weight of their kill vehicles. The Pentagon should also be able to develop launch-on-remote capabilities that could further enhance the SM-3 missile's capability to intercept longer-range missiles during the ascent or boost phases.

Major Surface Combatant Requirements

Congress should carefully examine the Administration's classified breakdown of defense spending to determine whether it will adequately fund the Aegis BMD programs over the five-year budget plan. The Navy has 84 ships that are equipped with the Aegis system, including 22 *Ticonderoga*-class cruisers (CG-47) and 62 *Arleigh Burke*-class destroyers (DDG-51).³ The Navy plans to modify 38 of these ships for BMD operations by 2015. Over the longer term, it plans to equip most of them (five CG-47s and all 62 DDG-51s) with BMD capabilities.⁴ At present, however, only 20 ships (four cruisers and 16 destroyers) have been modified for BMD operations. The FY 2010 defense budget funds equipping six additional Aegis ships with BMD capabilities,⁵ but the Navy will require significant additional funding to reach its goal of 67 BMD-capable Aegis ships.

The President's FY 2011 defense budget request includes \$2.2 billion for the Aegis BMD system and supporting elements, which are funded through several separate accounts.⁶ This represents an 11 percent increase over the \$1.9 billion in FY 2010 funding. The description of the missile defense budget provides general information about the five-year funding profile for most, but not all, elements of the Aegis program. Overall, the Aegis system is projected to receive more than \$11 billion between FY 2011 and FY 2015.

Congress should carefully consider what has been omitted from the Navy's BMD plans. Presently, the Navy does not intend to develop a class of ships exclusively for the BMD mission. Rather, Navy leaders plan to incorporate BMD capabilities into multi-mission cruisers and destroyers and to operate the BMD-capable ships as part of a broader surface fleet, which has other missions around the globe. While budgetary and practical constraints of building a single-mission ship are largely driving this decision, Congress needs to weigh the demands already placed on an overtaxed surface fleet by combatant commanders around the world.

According to Pentagon officials, two or three Aegis BMD ships will be constantly maintained on station near Europe, and a surge of additional ships will be provided when necessary.⁷ However, maintaining each forward deployment could require committing several Aegis ships.⁸ The number of ships required for BMD operations in Europe will surely increase the required number of cruisers and destroyers in the Navy's planned 313-ship fleet. If the demands of sea-based BMD operations exceed the assumptions that the Navy used in calculating its requirement for 88 major surface combatants, Congress should direct the Navy to revise its requirements upward and to procure more destroyers to ensure the health and mission-capability of the fleet. Congress also needs to

3. Ronald O'Rourke, "Sea-Based Ballistic Missile Defense—Background and Issues for Congress," Congressional Research Service Report for Congress, December 22, 2009, p. 2, at <http://www.fas.org/sgp/crs/weapons/RL33745.pdf> (April 1, 2010).

4. *Ibid.*, p. 5.

5. *Ibid.*, p. 1.

6. U.S. Department of Defense, Missile Defense Agency, "Missile Defense Agency Fiscal Year (FY) 2011 Budget Estimates: Overview," January 15, 2010, at <http://www.mda.mil/global/documents/pdf/budgetfy11.pdf> (April 1, 2010).

7. O'Rourke, "Sea-Based Ballistic Missile Defense," p. 15.

8. *Ibid.*, p. 59.

press the Navy to answer what will replace the cancelled CG(X), the next-generation cruiser.

In the FY 2011 defense authorization bill, Congress should request a detailed study of the Navy's major surface combatant requirements. The study should investigate whether the new BMD architecture in Europe will require increasing the number of Aegis BMD-capable ships. If so, the Navy should answer whether the increase can be accommodated by upgrading additional existing Aegis ships or by procuring additional surface combatants. The study should also explain how BMD operations could affect the Navy's ability to meet surface fleet demands in other geographic areas and mission sets.

Overall, the study should evaluate how the Aegis BMD program can succeed as part of a balanced fleet of adequate size and strength to meet the nation's security needs. A thorough study would both highlight current shortfalls and account for the positive impact of expected technological advancements in the sea-based missile defense program. Faster interceptor speeds and more capable command and control systems that provide off-board sensor data to the Aegis system may enable fewer ships to provide equivalent levels of coverage.

The Congressional Budget Office has estimated that current funding levels are far too low to support the Navy's plans for a 313-ship fleet.

This type of comprehensive study will inform Congress's decisions during the FY 2012 defense budget process, specifically on whether to fund additional shipbuilding to address potential cruiser and destroyer shortfalls. If a thorough study finds that the planned surface fleet is too small, the Navy will require additional funding for shipbuilding, and Congress will require a thorough explanation of the Navy's plans for developing new surface platforms.

The Congressional Budget Office has estimated that current funding levels are far too low to support the Navy's plans for a 313-ship fleet.⁹ With the

Administration's cancellation of the *Zumwalt*-class DDG-1000 destroyer program and the CC(X) next-generation cruiser program, the Navy will have little choice but to fill any surface combatant shortfalls by expanding the restart of DDG-51 procurement or to develop a new platform that will not be ready for deployment for many years.

De-conflicting the Arms Control Agenda from BMD

Current plans for the Aegis BMD program could pave the way for a robust sea-based BMD system that is part of a comprehensive worldwide U.S. BMD architecture. Yet Congress does not have all of the information that it needs to evaluate success and provide oversight. The Administration has not yet determined the eventual role that sea-based systems will play in the greater BMD structure. Specifically, the Administration's arms control agenda needs to include waivers for Aegis BMD, or it will risk jeopardizing the entire system. In this context, Congress should take concrete steps to ensure that the Pentagon's Aegis BMD programs are not slowed, reversed, or abandoned. Further, Members need to ask several key questions to determine whether Navy plans are fully informed or driven primarily by budgetary constraints.

Congress needs to obtain explicit guarantees and appropriate waivers now to ensure that the Administration's larger arms control agenda does not later derail the deployment of sea-based and land-based Aegis systems. During the Cold War, missile defense became a casualty of a misplaced arms control policy, but history does not need to repeat itself. Three arms control initiatives, which could limit U.S. missile defense options, particularly require congressional involvement and oversight as negotiations continue.

On numerous occasions, Administration officials have asserted that New START will place no limits on U.S. missile defense options, but the fact is that language in the treaty's preamble depicts a relationship between strategic offensive and defensive systems in which reductions in the capabilities of offensive strategic nuclear systems must be

9. Eric J. Labs, "The Long-Term Outlook for the U.S. Navy's Fleet," statement before the Subcommittee on Seapower and Expeditionary Forces, Committee on Armed Services, U.S. House of Representatives, January 20, 2010, p. 1, at <http://cbo.gov/ftpdocs/108xx/doc10877/01-20-NavyShipbuilding.pdf> (April 1, 2010).

matched by reductions in defensive capabilities. As a result, many observers are concerned that the Administration had already linked START and missile defense by yielding to Russian pressure to cancel previously planned programs in Poland and the Czech Republic in order to advance the negotiations and is committed to extending this linkage into the future. Not only would any linkage put the START follow-on negotiations on the wrong track,¹⁰ but it could be invoked to force the Administration to cancel elements of the phased adaptive approach. If missile defense and the START agenda remain linked, the START follow-on treaty will not serve U.S. interests. The Senate should carefully evaluate the treaty when the President submits it for the Senate's advice and consent.

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Congress also needs to assert its authority over ongoing negotiations to draft a space arms control agreement at the U.N. Conference on Disarmament. U.S. Assistant Secretary of State Rose Gottemoeller announced that the Obama Administration had accepted the "program of work" for the conference on June 4, 2009.¹¹ A space arms control agreement—or a similar agreement that would establish a "code of conduct" for military space activities—could severely curtail, if not terminate, all missile defense systems that operate outside the earth's atmosphere and capabilities that support such systems. Foremost among these would be Aegis and the SM-3 missiles, which were used to destroy a junk U.S. satellite two years ago. Currently, the hold on the nomination of Philip Coyle to be the Associate Director for National Security and International Affairs in the Office of Science and Technology Policy stems in part from Dr. Coyle's failure to answer a question during his con-

firmation hearing about the potential scope of a space arms control agreement. Congress needs to demand that the Administration clearly outline which military systems will be affected. Further, Congress should make it clear that both a space arms control agreement and a code of conduct agreement for space—whether negotiated at the Conference on Disarmament or elsewhere—must be drafted as treaties and therefore be subject to the Senate's advice and consent.

The Missile Technology Control Regime (MTCR) is a voluntary arrangement among countries, including the U.S., to control the export of ballistic missiles capable of delivering weapons of mass destruction and their components. The only specific restriction in the MTCR is a prohibition on the transfer of missile production facilities. The agreement permits cooperation among member countries, which include many U.S. allies. It still permits transfers as long as the recipient country pledges not to modify any transferred systems to deliver weapons of mass destruction. While this is a worthy initiative to stem the proliferation of ballistic missiles, the MTCR should not curtail U.S. missile defense cooperation with friends and allies. Congress should make it clear to the White House that the MTCR should not be interpreted in ways that limit missile defense cooperation with friends and allies, particularly for those cooperating to develop or field the Aegis system.

Aegis BMD Funding and Management

Congress should consider providing the Navy with an additional \$350 million for Aegis ballistic missile defense in FY 2011 to accelerate and expand both the development and procurement of the Aegis weapons system and the SM-3 family of interceptors. While the Administration's commitment to the Aegis system is commendable and the FY 2011 funding is fairly robust, there remains room for improvement.

10. Baker Spring, "A Flawed Approach to Arms Control: START Negotiations Will Not Service U.S. Interests," Heritage Foundation *WebMemo* No. 2649, October 13, 2009, at <http://www.heritage.org/Research/Reports/2009/10/A-Flawed-Approach-to-Arms-Control-START-Negotiations-Will-Not-Serve-US-Interests>.

11. Rose Gottemoeller, "Statement to the Conference on Disarmament," U.S. Department of State, June 4, 2009, at <http://www.state.gov/t/vci/rls/124463.htm> (April 1, 2010).

Specifically, Congress should:

- **Accelerate the development of the interceptors and the associated fire control software.** Upgraded fire control software should then be reinforced by a broader command and control system optimized to support the Aegis system's access to off-board sensor data. The current five-year budget plan provides funding for the Space Tracking and Surveillance System (STSS) satellite program, a demonstration project for feeding the satellite data to the Aegis BMD fire control system via the command and control system to permit remote engagement. The study should investigate the potential effects of this program and other research and development initiatives that could enhance the Aegis BMD system's capabilities.
- **Expand procurement of Standard Missiles in FY 2011.** The Navy plans to have roughly 300 SM-3s by 2015. For an additional \$170 million, the Navy could accelerate production of these interceptors and build a larger inventory.
- **Fund development of smaller and lighter kill vehicles for the SM-3 interceptors.** Increasing the speed of the SM-3 interceptors will expand their capabilities, enabling them to protect larger areas, engage long-range missiles, and intercept missiles in the ascent phase. Higher interceptor speeds of 6 to 7 kilometers per second can best be achieved by using smaller and lighter kill vehicles. This should permit the U.S. to use the more advanced SM-3s to destroy ballistic missiles launched from ships off the U.S. coast, such as missiles armed with electromagnetic pulse warheads.
- **Explore whether to expand management authority over the program.** The Navy's vision for the Aegis missile defense system is to integrate it into today's multi-mission fleet with multi-mission ships rather than building stand-alone missile defense ships. This wiser approach takes advantage of the sunk costs in the Aegis ships already in the fleet. It could help to prepare the Navy to assume a missile defense mission in a way that preserves the health of the entire fleet. Clearly, the Navy is far better positioned than the MDA to choose the best and most efficient way to apply the Administration's new phased adaptive approach for missile defense to the Aegis program and to

incorporate the emerging technologies into individual ships and across the fleet. As additional funds are provided to the Navy for missile defense, its authority to manage those funds and the programs they support should be expanded.

Preventing Backsliding in Sea-Based Missile Defense

The Administration's new phased adaptive approach for missile defense in Europe and the Pentagon's wider sea-based Aegis BMD program have the potential to provide robust missile defense coverage and to operate from advantageous locations at sea. The program's success will depend on adequate and sustained funding, appropriate management, and the sincerity of the Administration's political commitment to the programs. Congress needs to be a full partner with the executive branch and obtain additional information to conduct an informed assessment of the program's requirements.

Congress is ultimately responsible for providing adequate funding for shipbuilding to enable the Navy to meet the demands of its many varied missions around the globe. Additional steps to allow sea-based missile defense programs to succeed will involve transitioning management authority to the Navy, purchasing additional SM-3 interceptors, and funding research and development to increase the speed and capability of the interceptors. Most importantly, Congress needs to ensure that additional forward deployments of BMD-capable Aegis ships to European waters will not negatively affect the Navy's health and ability to meet mission demands in other areas. Congress also needs to prevent the Administration's arms control agenda from derailing the entire enterprise.

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