



CENTER FOR ARMS CONTROL AND NON-PROLIFERATION

322 Fourth Street NE * Washington, D.C. 20002 * (202) 546-0795
Online at <http://www.armscontrolcenter.org/>

Star Wars Turns 25 Years Old, but Effective and Capable Missile Defense Still Elusive

By Lieutenant General Robert G. Gard, Jr. (USA, ret.) and John Isaacs *
March 2008

Available online: http://www.armscontrolcenter.org/policy/missiledefense/articles/star_wars_turns_25

On March 23, 1983, President Ronald Reagan revived the effort, first launched in the 1950s, to defend the United States against an inter-continental ballistic missile (ICBM) attack by producing a “shield that could protect us from nuclear missiles just as a roof protects a family from rain.” He called it the Strategic Defense Initiative; however, seen as fantasy due to apparently insuperable technical problems, it was popularly dubbed “Star Wars.”

The Pentagon soon began extensive and expensive research and development (R&D). Shortly before the end of his presidency, President Reagan was urged to begin to deploy, or field, components of the system. To his credit, he wisely declined, pointing out that the elements of the missile defense system had not been proved workable through realistic testing.

Research and Development continued on variations of a system to protect the United States from a massive missile attack until the fall of the Soviet Union in 1991. The executive branch then turned its attention to the potential threat of an accidental launch or a limited missile attack from rogue states, particularly Iran, North Korea and Iraq.

In 1995, the U.S. intelligence community released an unclassified summary of a National Intelligence Estimate (NIE) called the *Emerging Missile Threat to North America during the Next 15 Years*. It concluded that no country other than the five major nuclear powers – the United States, Russia, China, France and Great Britain – would be capable of acquiring missiles that could reach Canada or the contiguous United States within 15 years, an estimate that appears to have held up quite well.

Congressional proponents of national missile defense were outraged that their pet program had been undermined and summoned like-minded witnesses to testify at a series of hearings. Congress then established a *Commission to Assess the Ballistic Missile Threat to the United States*, with former and future Defense Secretary Donald Rumsfeld as chair. It began deliberations in mid-January 1998, and issued its final report on July 15 of that year. The report concluded that Iran and North Korea could develop the capability to strike the United States

* **Lieutenant General Robert G. Gard, Jr.** (USA, ret.), a former executive assistant to two secretaries of defense and president of both National Defense University and the Monterey Institute for International Studies, is Senior Military Fellow at the Center for Arms Control and Non-Proliferation. **John Isaacs**, a former Congressional legislative aide and Foreign Service officer in Vietnam, is the Center’s Executive Director.

within five years of a decision to pursue ballistic missile technology, and that we may conceivably have very little, if any, warning. Iraq was judged to require a minimum of 10 years.

This highly publicized report was all Congressional advocates of national missile defense needed to engineer the passage of the National Missile Defense Act of 1999, which endorsed missile defense deployment but with important qualifiers. It directs the Department of Defense “to deploy as soon as is technically possible an *effective* national missile defense system that is *capable* of defending the territory of the United States against a limited ballistic missile defense attack” [emphasis added]. As Dr. Richard Garwin, a distinguished defense scientist and one of the nine Rumsfeld Commission members, pointed out two weeks after release of the *Commission’s* report: there is no defensive system under consideration that can neutralize a ballistic missile threat that employs even relatively simple countermeasures that could be developed by any country able to build a long-range, nuclear tipped missile.

Dr. Garwin’s observation was not new. The Defense Science Board concluded in 1987 that passive infra-red sensors can discriminate only the most primitive decoys and debris. The Office of Technology Assessment reported in 1988 that decoy designs are very difficult to counter with passive infra-red sensors in conjunction with radar.

The 1995 National Intelligence Estimate pointed out that any country that can successfully flight test an ICBM, a complex undertaking, will be able to develop numerous countermeasures to penetrate a missile defense system. More recently, George Rathjens (former chief scientist, then deputy director, of the Defense Advanced Research Projects Agency) and Carl Kaysen (former deputy special assistant for National Security Affairs) expressed strong doubt that the problem of discrimination could be solved in the near future, if ever.

Undeterred by these scientific considerations, presidential candidate George W. Bush made national missile defense a key plank in his 2000 campaign platform. He promised to modify, or if necessary withdraw from, the Anti-Ballistic Missile (ABM) Treaty in order to deploy an anti-ballistic missile defense to protect the United States. He later decided to pursue a comprehensive layered missile defense system of systems to defend against short, medium and long-range ballistic missiles by attacking them in the launch, ascent, mid-course and terminal phases of their flights.

The new Bush administration gave the Missile Defense Agency (MDA) unprecedented latitude by exempting it from standard budgeting and reporting requirements, and even from accounting for individual systems. To demonstrate concrete results, the President in 2002 ordered deployment of an initial operating capability of national missile defense, now called the ground-based mid-course (GMD) system, by the fall of 2004. This policy entailed implementing a process called “spiral development,” or simultaneous development and production, rather than ensuring the effectiveness of a highly technical weapons system by operational testing before deploying it.

Starting production in advance of completing the development phase, before technical problems have been identified, much less solved, significantly increases the risk of expensive modifications at best, or a return to the drawing boards. The Government Accountability Office (GAO), congressional oversight committees and the Defense Science Board have cautioned about the risks of concurrent development and deployment.

As the GAO noted in 2007, the Missile Defense Agency had allowed “less reliable or inappropriate parts to be incorporated in deployed interceptors, raising questions about their reliability.” In its report released on February 26, 2008, the GAO observed again that “the reliability of some interceptors could be affected by problematic parts that have not been replaced

yet” and that the retrofit effort, costing millions of dollars, is not scheduled for completion until 2012.

In its annual report on missile defense, released on January 18, 2008, the Pentagon’s Director of Operational Test and Evaluation (DOTE) noted that “system deficiencies” in the ground-based mid-course system have “resulted in re-designs, testing and modifications.” While warning that “additional flight test data under realistic conditions is necessary to validate models and simulation,” the Director’s report observes that a recent increase in operational realism in tests of the ground-based mid-course system “has uncovered unanticipated deficiencies that will require additional development and testing.”

The February 2008 GAO report notes that ground-based mid-course tests done to date “are developmental in nature and do not provide sufficient realism” to determine whether the system “is suitable and effective for battle.”

The Missile Defense Agency has introduced a new set of categories for the readiness of its systems: Early, Partial and Full Capability Delivery. Weapons in the Early category provide only an “emergency, low confidence capability,” while those with the Partial designation provide a “medium confidence capability” that supports a war fighter’s partial mission capability. According to the DOTE report of January 18, the Missile Defense Agency has placed the ground-based mid-course interceptor in the Early category.

Yet procurement and deployment of ground-based mid-course interceptors continues. In 2007, 10 interceptors were deployed, bringing the total to 21 at Fort Greely, Alaska, and three at Vandenberg Air Force Base in California. The intent is to reach 54 interceptors – 44 in the United States and 10 in Poland – by 2013.

Surprisingly, the director of the Missile Defense Agency, Lieutenant General Henry Obering, expressed full confidence in October 2007 that the ground-based mid-course system is fully capable of destroying an incoming ICBM that employs only “unsophisticated countermeasures.” This observation came despite the fact that the system intercept tests have not employed realistic decoys, or any decoys at all, in the two most recent tests. Discrimination remains the Achilles’ heel of the ground-based mid-course system.

Lt. Gen. Obering is relying on a Multiple Kill Vehicle System, currently in the preliminary phase of development, to deal with the sophisticated countermeasures problem. Dr. Richard Garwin believes that the smaller, less capable individual kill elements are unlikely to keep pace with the development of decoys and other countermeasures.

It is evident that the ground-based mid-course system does not meet the conditions for deployment specified in the National Missile Defense Act of 1999. It has not demonstrated that it is *effective* in accomplishing its mission or that it is *capable* of defending the territory of the United States. Phillip Coyle, Director of Operational Test and Evaluation during the Clinton administration, has called ground-based mid-course “a scarecrow, not a defense,” and Richard Garwin has said the system is “totally useless.”

According to the Congressional Research Service, more than \$120 billion has been invested in missile defense since President Reagan’s speech 25 years ago, much of it on the system to protect the United States. Given the fact that delivery of a nuclear weapon against the United States is far more likely by means other than an ICBM, which leaves a return address, the opportunity costs are very high in military terms alone, not to mention other higher priority national security and domestic programs. The further deployment of elements of the ground-based mid-course system should be suspended until research and development can demonstrate that the problem of discrimination can be solved successfully.