

**Opening Remarks by
Lieutenant General Lester L. Lyles, USAF
Before the
Subcommittee on Strategic Forces
Committee on Armed Services**

February 27, 1997

● [Supporting Charts](#)

Good afternoon, Mr. Chairman and Members of the Committee. It is my privilege to appear before you today to present the Department's Ballistic Missile Defense program. I am particularly pleased to report significant progress in all three areas of the BMD program over the past year and look forward to sharing those with you in just a few moments.

At the same time, I think it is equally important that we all recognize the challenges we face in developing and fielding missile defenses -- in many cases this literally is "rocket science." As you all know, we are building highly sophisticated sensor and interceptor systems that utilize state-of-the-art technologies. In most cases, we are the program pushing the envelope of those technologies.

As I came on board BMDO, I immediately appreciated the high level of support and strong commitment the program enjoys within the Department and Congress. It is clear to me that Secretary Cohen, Deputy Secretary White, and my immediate boss, Dr. Kaminski, all strongly support this program and are committed to its successful fielding of improved defenses. As I have had the opportunity to meet with Members of Congress and your staff, again I am encouraged by the strong support for this important mission and program.

When I was nominated to take on the position of Director, BMDO -- I was charged by the Department's leadership to bring my twenty-eight years of acquisition experience to bear on two critical issues: First, ensuring our acquisition programs are executable; and second, structuring our technology programs with an acquisition focus -- namely ensuring that they can be effectively and efficiently transitioned into the acquisition process when the time is appropriate. I consider this to be an important charter. Therefore, my management approach to the BMD program comes down to three simple words: Execute, execute, execute.

We are aggressively moving out to protect our forward deployed forces with improved TMD systems and to protect the U.S. homeland with NMD. As I said, this really is rocket science, and we are proving that the team is up to the task. We have had many significant and "first time" successes in our TMD program during the past year. This includes successful intercept tests by the Army's PATRIOT system, the Navy's Area Defense Program, and Marine Corps HAWK. These intercepts move us closer to our goal of fielding highly effective theater missile defenses.

Recent system tests involving PATRIOT, THAAD, Navy Area and HAWK in various combinations also have provided invaluable data on how to integrate battle management. A key accomplishment was the validation that our systems can receive cueing information from space-based sensors, transfer the data among co-located systems, and use this information to fight as an integrated TMD system. This significant capability supports an integrated battle management approach for our

TMD "family of systems" and ensures more engagement opportunities against the threat.

The PATRIOT Air and Missile Defense System we are fielding today is much more capable than its Gulf War predecessor. We recently completed fielding the first of three improvements that are part of the PATRIOT Advanced Capability-3, or PAC-3, system. We are fielding these improvements in three phases and are now proceeding with phase two. We are on schedule to field the final phase, which consists of the full Configuration 3 system, in Fiscal Year 1999. This will include the new PAC-3 Hit-to-Kill missile.

Compared to the PATRIOT system used in the Gulf War, these improvements provide for a significant increase in defended area coverage and lethality against theater-class ballistic missiles. This improved defensive capability is illustrated in the first two charts in front of you. On February 8, a tactical Fire Unit with PAC-3 Configuration 2 modifications successfully engaged a Scud-class target to demonstrate the increased performance of this system.

The Marine Corps has begun to field its air and missile defense upgrades to the HAWK system. This followed the highly successful operational test series that concluded last August. From December 1995 until August 1996, the Upgraded HAWK Missile program conducted 8 tests against threat representative targets at the White Sands Missile Range in New Mexico. The HAWK missile and the upgraded radar successfully engaged - and destroyed - multiple Lance targets and air breathing drones - with an impressive kill rate. The next chart shows the lethal effects of the improved HAWK system. One thousand lethality enhanced missiles will be fielded over the next two years for the HAWK program.

On January 24, the Navy Area Defense program successfully intercepted a Lance missile at White Sands. The Standard Missile Block IV A intercepted the target using its infrared terminal guidance. The color photograph included in your charts shows the final image the interceptor saw before its blast fragmentation warhead destroyed the target. Dr. Kaminski permitted BMDO and the Navy to take the Area Defense program into the EMD phase.

We have also made significant progress in the Navy Theater Wide Program during the past year. The first hardware deliveries and ground test events supporting the Flight Demonstration Program occurred on schedule. Also, the Department has declared Navy Theater Wide a "core" TMD program. More significantly, the Department has also declared the program a pre-Major Defense Acquisition Program. We have begun the steps to establish Navy Theater Wide as an acquisition program under the DOD 5000 requirements.

Within the next week -- possibly as soon as tomorrow morning -- we are scheduled to conduct a flight test of the THAAD program and we will again attempt to intercept a theater-class target. I emphasize the term "THAAD system" since this will be the first time that the THAAD radar will be used as the primary fire control sensor.

Within BMDO, our most significant role is to ensure that each TMD system can be interoperable with other TMD systems and provide an effective, layered defense. BMDO is conducting several complex, live tests to demonstrate interoperability. We call these "SIT" or System Integration Tests. SIT 97, held on February 21, was

conducted at the Kwajalein Missile Range involving Army and Navy missile defense hardware and several surveillance sensors.

For example, during this test, in addition to the PATRIOT radar, we also used a THAAD User Operational Evaluation System radar and an AEGIS destroyer to track the missile and pass on target cues to the PATRIOT system. The Joint Tactical Air Ground System - or JTAGS - also passed on satellite information to the PATRIOT radar.

Another notable development is that BMDO and the Army recently fielded its first operational JTAGS unit which provides critical surveillance data directly to the warfighter.

While not a part of the BMDO program, the Air Force's Airborne Laser is part of our TMD architecture. I fully support that program and the need to develop a boost-phase intercept capability.

Let me turn to our National Missile Defense program. It is clear to me that today the BMD program has two top priorities. First, the deployment of highly effective TMD systems to meet the existing and projected threat; and the development for deployment of a highly effective National Missile Defense to beat the arrival of any threat to the United States homeland.

Notwithstanding some very important delays in our management and acquisition strategy for NMD, we are "up and running" and making substantive progress on the program. For example, with our commitment to develop a system ready to deploy on very short notice, we have focused our efforts to firmly define the NMD system, its capabilities and requirements. In addition, we are actively engaged in preliminary deployment planning activities.

Nonetheless, I would characterize the "3 plus 3" NMD program as very high risk. Delays in establishing our management team for NMD has had an impact. The delay in embarking upon our acquisition strategy using a lead systems integration contractor who will act as our "prime" contractor for NMD similarly slowed us down.

However, the schedule's risk is best illustrated by the recent problem we had with launching our exoatmospheric kill vehicle -- or EKV -- seeker test.

BMDO and the Army planned to launch the EKV sensor from the Kwajalein test range to evaluate the seeker's ability to observe a set of targets launched from Vandenberg Air Force Base. While the targets were successfully launched and deployed, the booster set to launch the EKV sensor failed. The problem has been traced to human procedural error.

We are still assessing the test's impact, as well as our options to recover. Our next test opportunity is May of this year, and the second of two EKV sensor flight tests is now likely delayed until January of next year. Since we do not have backup test hardware, this failure will cost us about six months and several tens of millions of dollars.

I want to reemphasize that I fully support the "3 plus 3" NMD strategy -- it makes sense. The schedule, however, is very tough and I will rely on industry, the Services and my staff to identify and assess the program's technical and schedule risks.

The history of the BMD program clearly demonstrates the strength and importance of our technology investments. Yesterday's technology programs are making today's acquisition programs a reality. In particular, I would like to highlight two of our technology accomplishments.

In 1996, we launched the Midcourse Space Experiment as the very first technology demonstration in space to characterize ballistic missile signatures during the "midcourse" phase of flight. During its lifetime, MSX will detect, track, and discriminate realistic targets against earth, earth-limb and space backgrounds. To date, MSX has collected billions of bits of data on missile plumes and targets.

The final chart in front of you illustrates just a few of those images. The image on the left is really dramatic -- at least to our technical experts. From about 2,000 kilometers away, it clearly shows the deployment of reentry vehicles, decoys and test calibration objects from a ballistic missile. Twenty-six objects altogether were flown and observed on this flight. Some are no larger than a football. This is the kind of discrimination our sensors will have to perform.

On the right side of the chart, MSX tracked a reentry vehicle through the very demanding background of the earth's limb. This region combines the cold background of space and the warmer backgrounds of both the earth and atmosphere. We demonstrated the ability to track small reentry objects in this regime. The performance of the MSX long-wave infrared sensors will feed directly into the development of the SMTS program.

Part of BMDO's mission is to look into the future and develop new technology solutions to future problems and/or better solutions to existing challenges. One such program that is a new technical solution is the Space-based Laser program. The latest program success came last week at TRW's Capistrano Test Site when we conducted a high power test integrating the laser with its projecting optics.

We need to protect the technology program as a strategic investment. Our technology efforts today will be the systems solutions to tomorrow's challenges. As such, I consider the BMD tech base just as important as our TMD and NMD missions.

Mr. Chairman, in closing, I would like to address this program's greatest strength. In my six months as Director of BMDO, above all other things, I am absolutely struck by the talent, expertise and dedication of the people working on the program. I have visited our Army, Navy, Air Force, Marine and BMDO centers of excellence throughout the country, as well as our industry partners. Throughout my long career in the research, development and acquisition business, I have encountered many outstanding professionals. But I must tell you that this community sets the standard. With the continued strong support of the Department and Congress, I know this incredible team will make missile defenses a reality.

Mr. Chairman, this completes my statement. I look forward to answering the Committee's questions.