U.S. National Missile Defense:

Looking Past the Headlines

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I would like to welcome all of you to the Year 2000 Multinational BMD Conference and Exhibition. This is the first year we have not referred to this annual gathering as the international "TMD" conference–and for good reason. The United States, together with its allies and friends, remain committed to deploying a range of proven theater missile defense systems to protect our forces and theater populations and assets from a variety of threats posed by theater ballistic missiles. However, the growing dialogue with our allies on the U.S. National Missile Defense (or NMD) program has changed the way we, as allies and friends, must view the entire BMD mission.

With this in mind, and recognizing the fact that the U.S. NMD program has captured many of the news headlines over the past couple of months, I'd like to use my time today to address these. Because it is frequently the target of criticism in the United States and abroad, many misconceptions have grown up around NMD that have taken on a life of their own. And with that, I'd like to run through and correct some of statements many are making about the NMD program.

"Headline". *The United States does not need national missile defense.* For the latter half of the 20th Century, the United States relied on its strategic offensive nuclear forces to deter the Soviet Union from using its long-range bomber and missile forces against targets on U.S. territory. This was the basis for our security for more than fifty years. Now the game has changed and we must act within a new international security environment. A growing number of countries can do us harm using ballistic missiles, and their views concerning the use of weapons of mass destruction are different from ours.

The Director of the CIA testified before Congress last February that, over the next 15 years, American cities will face ballistic missile threats from a variety of actors. He emphasized that we now must be concerned with a longer list of potential adversaries, and he specifically pointed to North Korea's ability to test its Taepo Dong II missile this year, a missile that may be capable of delivering a nuclear payload to the United States. Over twenty countries now have ballistic missiles of theater range, and the technology for longer-range missiles is spreading. Also, some two dozen countries have, or are capable of developing, weapons of mass destruction. While our potential adversaries may resort at times to suitcase or truck bombs, the plain fact is that they continue to invest their scarce resources in ballistic missiles and weapons of mass destruction. And today, the United States does not have a capability to defend against this threat.

Domestic and foreign critics of NMD have asserted that a missile attack on the United States is highly unlikely and that an NMD system is unnecessary and a considerable waste of money. They do not understand why we cannot simply rely on the overwhelming power of our strategic retaliatory forces as a deterrent. Deterrence remains a fundamental part of the U.S. counterproliferation strategy, but to stop short of examining possibilities for active defense, I believe, may be short-sighted in today's world. Missiles are spreading to dangerous states whose leaders we may not be able to deter in every instance. Our present and future security, therefore, hinges on our ability to defeat these possible threats.

According to the 1998 Rumsfeld Commission report on the proliferation of longer range missiles, Libyan ruler Col Qaddafi gave a speech in 1990 that clearly laid out why the United States needs to be concerned about missile attacks from a far-off nation. He said that "if we [the Libyan nation] had possessed a deterrent–missiles that could reach New York–we would have hit at the same moment" as the United States hit targets in Libya in the 1986 air strike. He was referring to our air strikes against terrorist base camps on Libyan territory. From this experience he concluded that Libya "should build this force so that they and others will no longer think about an attack."

One wonders too, if Saddam Hussein had had longer-range missiles in the 1991 Gulf War, whether he would have threatened to use them or actually used them against the capitals of our coalition partners in Europe to persuade them not to join the coalition, or even against the United States in order to prevent U.S. actions to support our Middle East allies or liberate Kuwait. It's clear he was very willing to use them against Israel and Saudi Arabia.

Missile defense is a reasonable response to a new kind of threat. Active defenses are not just about providing basic protection. They also will help preserve our freedom of action and remove a hostile state's capability to coerce U.S. foreign policy or shape national security decisions.

"Headline": *The NMD system cannot work.* Two central technological problems confront us. The first is the discrimination problem, or can we find the warhead? The second is the so-called "hit-a-bullet-with-a-bullet" problem, or, once we find the warhead, can we hit it? Historically, solutions to both these problems have eluded us, especially against a massive raid involving hundreds of incoming warheads and countermeasures–decoys, radar chaff, and debris. Up to now, the technological immaturity of our sensors did not allow us to discriminate, or pick out, the countermeasures within a target cluster.

During the past decade, we've made significant advances in our sensor and discrimination technologies, including in the areas of new high-resolution radars, digital radars with sophisticated electronic counter-countermeasures, and infrared seekers. Steady improvements in computer processing power, which has been doubling every 18 months for the last 30 years, has helped us to develop an interceptor that flies out quickly, processes the sensor data faster and with greater accuracy, and destroys the warhead.

We also have shown that we can hit another object in space, something like a five-foot ice cream cone, at closing speeds greater than 15,000 mph. Last October, on our first attempt, we demonstrated the ability of the kill vehicle to travel thousands of miles to a very specific location in space–one ultimately defined by inches and

microseconds–discriminate among several objects, identify the right target, divert towards it, and collide into it. The kinetic energy created by this high-speed collision of two masses is significant enough to obliterate the target. Today we don't need nuclear weapons to kill warheads in-flight.

We are testing the concept of hit-to-kill rigorously. Last year, our flight tests went a long way to convincing me that we had winning kill vehicle designs. In 1999, we had 6 successful intercepts using hit-to-kill technology, one in our NMD program, and five more in our theater ballistic missile defense programs.

Do we still have work to do? Absolutely, but I'm increasingly optimistic that we will not have to revisit the basic science associated with hit-to-kill.

"Headline": *Newly armed states can easily defeat the NMD system with countermeasures*. The critics of NMD tend to magnify the capabilities of states like North Korea, Iran, and Iraq. But just because states can build missiles doesn't mean they can or will develop countermeasures. And then, even if they demonstrate a capability to build them, it is not automatically true that they can use them effectively. These countries can invent on a blackboard almost any kind of countermeasure. But can they be certain that they can make them work effectively? I would argue that they can't.

To be confident that these countermeasures can work effectively, these states also will have to test them. The limited amount of ballistic missile and countermeasure testing done by our adversaries, in other words, amplifies the uncertainties that they must face if they are to use their weapons successfully. This uncertainty will act as a deterrent in some situations.

"Headline": *The U.S. NMD system is "Star Wars" by another name.* The threat we must counter today is very different from the old Soviet threat involving thousands of warheads. The U.S. NMD system we will deploy in 2005, if directed, is tailored to counter a very limited threat of a few or a few tens of warheads and simple countermeasures. It's not a global protection system, and it does not feature space-based weapons. "Star Wars" is a misleading and inaccurate label.

The NMD system we are planning to deploy, if authorized, is very modest in capability, a function of the number of interceptors and sensors we plan to deploy. We are building this limited system to meet the threat we'll face over the next several years. It will consist of 20 ground-based interceptors by 2005. Because we expect some states to develop a capability to launch more missiles in that timeframe, we plan to expand that system by 2007 by adding 80 more interceptors, for a total of 100. The ground-based follow-on capabilities we envision today will not enable the United States to defeat a massive ballistic missile attack.

Even though we are designing a modest and limited system, the technological and integration challenges we face with our initial architecture are daunting. We still have major challenges as we try to meet our deadline of 2005–just five years from now. Our greatest challenge with this system is to make sure all NMD elements are properly integrated and work together as they've been designed. The technological and managerial complexity of what we are trying to accomplish is on par with some of our country's past highly challenging programs like the Apollo program, the late

1950s program to deploy its first nuclear ICBM force, and the on-going Space Shuttle program.

"Headline": *U.S. TMD systems can be used to protect U.S. territory.* It's important to understand that our planned theater missile defenses, our Patriot, Navy Area, and THAAD systems, are not capable of intercepting an ICBM warhead. Our TMD systems are designed to intercept a different class of missile, missiles that have a shorter range and fly at significantly slower speeds than an ICBM. Missile speed and range make a profound difference. Conversely, the NMD Ground-Based Interceptor, which flies out at extremely high speeds, cannot defeat short- to intermediate-range missiles. It runs out of engagement battlespace much too quickly for it to be effective.

For all of these reasons, the United States must field different systems to counter a broad range of immediate and emerging threats. While our TMD system may be perfectly good "national missile defense" systems for some countries located in the Middle East, Europe, or Asia the United States must develop a system to protect its cities and infrastructures against intercontinental, high-speed ballistic missiles.

"Headline": *The United States should delay its NMD deployment readiness decision*. I'm frequently asked: why has the DRR been scheduled for this summer? The answer is that the threat is emerging faster than we thought it would just five years ago. For this reason, it is essential that we protect an option for a presidential decision to deploy a system as soon as possible. In order to preserve that option, we need to undertake a technological readiness review soon.

To put the DRR in proper context, you should understand first what it is not. This summer's internal Defense Department review is not a decision to deploy the system. The decision to proceed with deploying missile defenses lies squarely on the desk of the President, in consultation with the Congress. But before the President can formulate informed answers to the questions of whether to deploy by 2005, he must have before him some critical pieces of information concerning four primary criteria: the threat, the technological readiness of the system, the cost of that system, and our national security and arms control objectives. The DRR is actually an on-going internal Secretary of Defense evaluation that focuses only on two of the criteria– technological readiness and the cost of the system.

If the President decides that we need an operational capability by 2005, and you back up all of the activities that we need to do to meet that commitment, it turns out that building the X-band radar must occur early in the process. If this radar needs to be built in Alaska, work must begin next spring because of the short construction season. If work is to begin roughly a year from now, we have to let construction contracts this fall. If we wait another year to begin building that radar, I would not be able to assure the country that we can have the initial system up and running by 2005.

"Headline": *We don't have enough test data to make a deployment decision, and we're not doing adequate testing*. An important part of understanding the error in this headline is understanding the way we have developed and acquired weapon systems in the past, and how we have changed our approach to meet an urgent schedule. The standard approach to weapon-system acquisition has been simply too risk-averse to allow us to develop new system concepts rapidly, especially when the threat drives the urgency for development. With average cycle times for major

acquisition programs over the past decades averaging 8 to 9 years, and that's 8 to 9 years from the time the decision is made to build, it is clear that the traditional way of doing business in defense procurement will not handle many of our future demands.

The NMD program is on a compressed, high-risk schedule to deploy a system by 2005 for one reason and one reason only–the threat. Because we are moving on that fast track, the program we are executing is high-risk, which means that a significant setback in any one element can delay the entire program. Taking such risks is inconsistent with today's acquisition culture. For this reason, we are being accused by some of "rushing," or of pushing a system forward that, once fielded, will not be operationally effective.

But high-risk does not mean reckless. There is a difference between rushing and moving as fast as is prudent. We have every incentive to get a capability into the field as quickly as possible. We also have every incentive to get it right.

A prudent testing program, therefore, will address first the basics of the system. We've scheduled four tests to get two demonstrations of hit-to-kill. The first was successful. The second was partially successful. The next is planned for later this month.

Some suggest that we are not testing the NMD system against realistic targets. But they ignore our decades-long practice for testing other complex systems, such as new aircraft. The first test planned for each new aircraft has always been a high-speed taxi test. After all, there is an understandable interest in making sure the basic mechanics, avionics, and computers work as they should before taking the far more risky step of lifting off the ground. This is the evolutionary nature of the testing approach we must use when we develop highly complex machines–we don't test to the maximum every component of the system the first few times.

Some are proposing that we wait until we get the results of "real-world" tests against real-world countermeasures in order to reduce our risks before we make our decision to deploy. Delay the decision to proceed with deployment, in other words, to sometime in the middle of the coming decade before we begin the multi-year process of constructing the system. A decision to delay on these grounds, of course, will not allow us to achieve initial operational capability until well after the 2005 date, probably around 2010. This risk-averse acquisition approach is not one that is tailored very well to our current national security requirements. It ignores the one factor that is driving us to consider a decision to proceed this year–the threat. As I said earlier, North Korea is capable of testing its Taepo-Dong 2 missile at any time. The more pressing and relevant question, therefore, is this: can the United States afford to wait?

Our flight test last January, when we missed the target warhead, has received a great deal of attention. But that test was a partial success, because hitting the warhead was only one of our objectives. In the context of testing, it was a successful developmental test that proved we could integrate the far-flung and separate major elements and make them work together as one system. The interception phase of the NMD mission is clearly the most visible phase and it is key to our success. Yet we must not lose sight of the fact that the successful integration of the highly interdependent system elements is no less critical. The integration and support

aspects of our testing events are transparent to most people, and we could not do this mission without them.

In the final six seconds of that January test, we had a malfunction in our interceptor sensor system that prevented us from colliding with the target. (We missed by 76 meters.) We've since taken the necessary corrective actions, both on the equipment and in our processes, to mitigate against a recurrence. As a result of the fixes we have had to make, we postponed by two months the next integrated flight test. But we should remember that the one thing that failed in January's test worked last October. At this point in time, we've no reason to conclude that the overall design of the NMD system is flawed.

By the DRR this summer, we'll have tested some 45-50 percent of the functionality of the system, almost 90% of the elements, and we'll have gained enough data to be able to support a decision by the President. Remember, we've been testing and doing simulations to prove the elements of the NMD system for many years now. There has been significant ground testing as well as flight testing against the radars, and we use the data from these tests to validate the results we derive from our extensive modeling and simulations exercises. So, while we view the upcoming flight test to be very important to the progress of the program and the decision to proceed, we will not be developing a recommendation for the President based only on this one flight test. Our entire testing program has given us a lot of good and very valuable data upon which we can base our decisions.

I'd like to close by leaving you with what I think ought to be in the headlines today.

- First, the threat is real, and growing.
- Second, we are making significant technological advances, making a limited missile defense of the United States possible. We can hit a bullet with a bullet. Indeed, we've already demonstrated it.
- Third, the upcoming decisions on whether and how to proceed with the NMD program will influence U.S. defense thinking, shape our offensive and defensive strategic forces, and impact foreign policy for many years to come. The debate over the U.S. NMD program is perhaps one of the most important national security discussions to be held in the United States in the last twenty-five years.

I hope my remarks here today have helped set the record straight on NMD. As we move forward and the United States and its Alliance partners continue our dialogue on this subject, it's important that misconceptions about the US NMD program not cloud our discussions. We come at this issue from a wide range of backgrounds and perspectives, so I'm thankful for the opportunity to speak to you about the U.S. Ballistic Missile Defense program.

My hope is that these next few days will provide several opportunities for expanding our dialogue on this very important mission area.

Thank you.