

## **Chapter 2**

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# **U.S. National Missile Defense (NMD) Program**



The proliferation of ballistic missiles and their related technologies has posed a serious problem to the security of the international community after the Cold War. Amid such developments, there has emerged the possibility that some countries (e.g., North Korea, Iran and Iraq) hostile to the United States may deploy in the near future long-range ballistic missiles that could strike targets in the U.S. mainland. To defend the United States from such a threat, the Clinton administration pressed ahead with a small-scale national missile defense (NMD) program that was designed to intercept 20 to 30 incoming warheads.

The NMD program limits its mission to coping with the threat of ballistic missiles posed by several states of proliferation concern. Nonetheless, since this ballistic missile defense (BMD) program is designed to defend the U.S. homeland, it may upset the mutual deterrent relationships traditionally built on retaliatory capabilities. It is on this score that Russia and China have been denouncing the United States for planning the NMD system. Concerned about the adverse effect the NMD program might have on U.S.-Russia relations and the security environment of Europe, some U.S. allies in Europe also have taken a negative attitude toward it.

President Bill Clinton decided September 1, 2000, to leave the decision to deploy the NMD system to the next administration, in view of the facts that completion of NMD technologies was not verified, that the United States failed to garner support from its allies for deploying the NMD system, and that China and Russia were opposed to it. As George W. Bush advocated during the election campaign deployment of an NMD system on a scale larger than that proposed by the Clinton administration, he is reviewing both the scale and the method of deployment of an NMD system after he takes office.

## **1. Historical Background of the NMD Program**

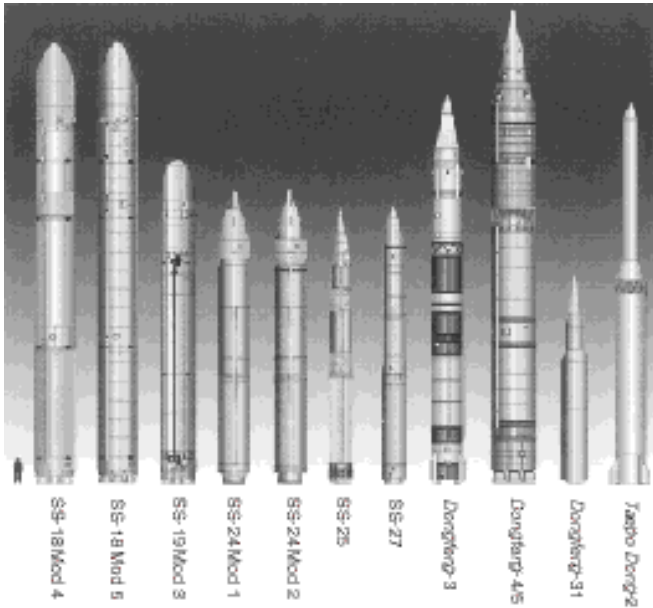
### **(1) Missile Defense Program during Former Bush Administration**

The Clinton administration's NMD program can be traced back to the "Global Protection Against Limited Strikes" (GPALS) initiative the Bush administration announced in January 1991. Unlike the Ronald Reagan administration's Strategic Defense Initiative (SDI), GPALS was not conceived in order to defeat massive ballistic missile attacks from Russia. Rather, it was intended to counter accidental or unauthorized launches of intercontinental ballistic missiles (ICBMs) from China or Russia, or the long-range ballistic missile threat from Third World countries hostile to the United States. This BMD program was to consist of three missile defense systems: first, a space-based system; second, a fixed land-based system to be located in the U.S. homeland; third, a mobile system designed to protect U.S. forces overseas and U.S. allies from theater and tactical ballistic missiles.

What made the Bush administration decide to press ahead with the BMD research and development? One factor is this: the U.S. deterrent strategy that had been based on the nuclear retaliation capability and designed to target the Soviet Union was deemed inadequate for providing protection against threats from states of concern that have risen after the end of the Cold War. Another factor is the growing need for reducing the significance and role of nuclear weapons in order to prevent nuclear proliferation. It was probably in these circumstances that the maximum dependence on conventional weapons including missile defense, was encouraged in coping with regional conflicts. Moreover, the deployment of a BMD network with high intercepting capability was expected to contain the buildup and proliferation of ballistic missiles.

### **(2) Clinton Administration and NMD**

The Clinton administration, inaugurated in January 1993, decid-

**Table 2-1. ICBM Comparison**


Missiles	Country	Warheads	Booster Propellant	Maximum range <sup>a</sup> (km)	Numbers deployed
SS-18 Mod 4	Russia	10	liquid	8,800+	180 (Total for Mod 4 and Mod 5)
SS-18 Mod 5	Russia	10	liquid	9,600+	
SS-19 Mod 3	Russia	6	liquid	8,800+	150
SS-24 Mod 1	Russia	10	solid	8,800+	36
SS-24 Mod 2 <sup>b</sup>	Russia	10	solid	8,800+	10
SS-25	Russia	1	solid	11,200+	360
SS-27	Russia	1	solid	11,200+	20
New ICBM <sup>c</sup>	Russia	—	solid	8,800+	Not yet deployed
Dongfeng-3	China	1	liquid	5,500+	25 or less
Dongfeng-4	China	1	liquid	12,000+	about 20 (Total for DF 4 & 5)
Dongfeng-5	China	1	liquid	12,000+	
Dongfeng-31	China	1	solid	7,200+	Not yet deployed
Dongfeng-41 <sup>c</sup>	China	1	solid	11,200+	Not yet deployed
Taepo Dong-2 <sup>c</sup>	North Korea	1	liquid	5,500+	Not yet deployed

Source: National Air Intelligence Center Wright-Patterson Air Force Base, *Ballistic and Cruise Missile Threat*, September 2000, p. 15.

<sup>a</sup>Maximum ranges are shown in approximate figures, which include no range extension from PBV (post boost vehicles).

<sup>b</sup>The silos of SS-24s Mod 2 are being converted for use by the new SS-27s.

<sup>c</sup>Missile flight testing is not conducted.

ed to place priority on the development and procurement of theater missile defense (TMD), which had constituted part of the previous administration's GPALS program. The decision reflected a serious view the Clinton administration had taken of theater missile threats that it regarded as already existing against U.S. forward-deployed forces and allies. Meanwhile, the threat of long-range ballistic missiles by states of concern against U.S. territories including Hawaii and Alaska was deemed not imminent. The NMD program, designed to defend all the 50 U.S. states, therefore, was not a priority: merely technological research and development would be carried out within the framework of the Anti-Ballistic Missile (ABM) Treaty signed in the Cold War period between the United States and the Soviet Union.

The U.S. Department of Defense conducted a review of the BMD program between August 1995 and February 1996. As a result, it decided to pursue NMD's Deployment Readiness Program while continuing its technological research. The program would make the United States capable of deploying the NMD without delay in case the threat of ballistic missiles to the U.S. territory became a reality. Specifically, the United States came out with the so-called "three plus three program." It meant that Washington would promote NMD research and development for three years from 1997 to the point where the system could become deployable, and would make a decision in June 2000 as to whether to deploy the NMD; that when its deployment was decided on, the initial stage of deployment would begin within three years, or in or about 2003; that even when no deployment decision was made, the United States would continue the NMD research and development while retaining the capability of deploying the system within three years of a deployment decision.

In August 1998, North Korea launched a ballistic missile, which flew over Japan. Its ramifications for the U.S. NMD program were rather serious because the missile was a multistage one, which suggested that North Korea succeeded in the development of a

long-range ballistic missile. In July 1998, the U.S. Commission to Assess the Ballistic Missile Threat to the United States (the Rumsfeld Commission) released a report analyzing that North Korea and Iran could acquire ballistic missiles capable of inflicting a destruction on the United States within five years, or by 2003, at the earliest. The commission's analysis which had differed from a U.S. government projection made earlier was inadvertently substantiated so soon as one and half month later by North Korea's multistage ballistic missile launch.

In January 1999, U.S. Secretary of Defense William Cohen, noting that the threat of ballistic missiles from states of concern was becoming a reality, had the NMD budget supplemented by \$6.6 billion over six years from fiscal 2000 to 2005, appropriations for deployment included. This brought to about \$10.5 billion the total NMD-related budget for the period of six years up to fiscal 2005. Meanwhile, Cohen came out with a new policy on NMD deployment. He went on record to say that a decision as to whether or not to deploy the NMD would be made in June 2000, as originally scheduled. But he made it clear that should a pro-deployment decision was made, the deployment would be made by 2005 or two years behind original schedule, and that the deadline could be moved up if technological breakthroughs were made. Cohen appeared to have made the policy change taking into account the 1998 "Welch Report" (The Report of the Panel on Reducing Risk in Ballistic Missile Defense Flight Test Programs), which warned against any hasty NMD development and deployment.

The U.S. Congress, led by the Republican Party holding a majority, pressured the Clinton administration by almost annually presenting legislative bills obligating it to deploy the NMD. Congress's call for NMD deployment mounted furthermore following the Rumsfeld Commission's report of July 1998 and North Korea's multistage ballistic missile launch in late August the same year. Consequently in 1999, the Cochran bill (the Senate) and the Weldon bill (the House) calling for an early deployment of NMD

were approved in the Senate and House respectively. President Clinton attempted to veto the Senate-approved Cochran bill, but decided against it after the Senate inserted in the bill amendments stipulating that the United States would promote strategic nuclear force reduction talks with Russia and that the NMD program would be a subject of budgetary deliberation every year.

For long, the Clinton administration has made it known that it will make a decision to, or not to, deploy NMD by weighing the following four points: (1) the ballistic missile threat to the United States by states of concern, (2) technological feasibility of NMD, (3) cost of NMD and (4) impact on arms control and disarmament. The Clinton administration interpreted the amendments to the Cochran bill as giving the administration some discretion about arms control and disarmament, as well as the cost. In late July 1999, President Clinton signed the National Missile Defense Act of 1999, obligating his administration and the next administration as well to deploy NMD upon the confirmation of its technological feasibility. Thus, the question in the U.S. administration and Congress is no longer whether or not NMD should be deployed but when and on what scale it should be deployed.

Congress calls for an early NMD deployment notwithstanding, the technological development of NMD was not going apace. Although sensor flight testing of June 1997 and January 1998, and the intercept test of October 1999 were successful, the intercept test held in January 2000 in a form of integrated system testing and another intercept test in July 2000 consecutively failed. On September 1 the same year, President Clinton announced that he would shelve NMD deployment during his term. His decision reflected the fact that the program's technological feasibility, a condition that had to be met for NMD deployment, had been called into question through the consecutive test failures. Besides the program was not wholeheartedly supported by U.S. allies, and was under fire from Russia and China. A week later, Philip Coyle, director of the Pentagon's office of operational test and evaluation, testified



before the Subcommittee of the House Government Reform Committee that the NMD program would probably be delayed by at least two and a half years owing to delays in the building of booster rockets among others.

## **2. Clinton Administration's NMD System**

### **(1) Outline of NMD System**

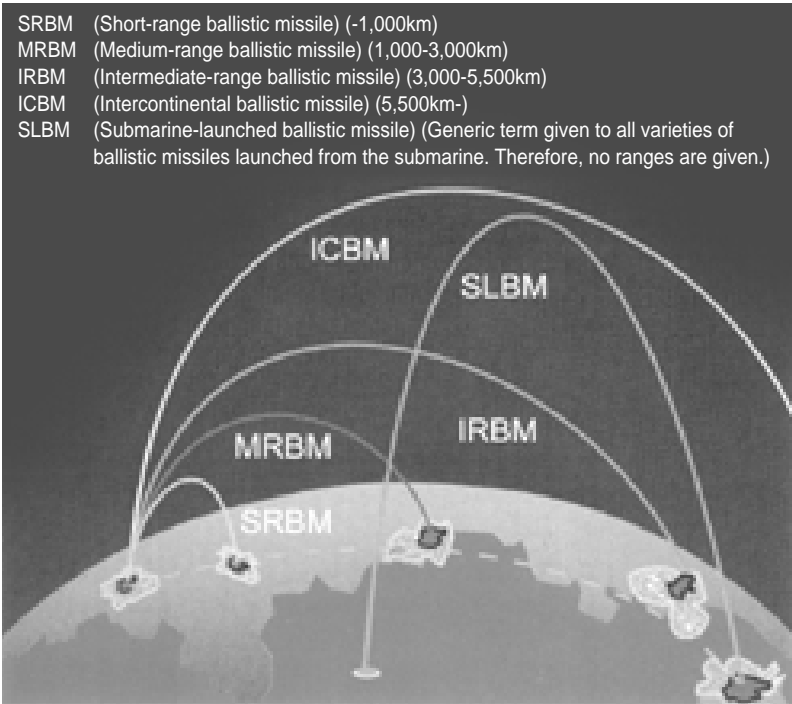
The NMD system conceived by the Clinton administration comprise the following five components of weapons and sensors. The first is a land-based ballistic missile interceptor missile and an Exoatmospheric Kill Vehicle (EKV) mounted on the missile. A fired interceptor missile is fed data on the location of a targeted ballistic missile by the Battle Management, Command and Control (BM/C2) Center via the In-Flight Interceptor Communications System (IFICS). The EKV is equipped with two infrared sensors and one visible light sensor. Even if an X-band radar or Space-Based Infrared System-Low Earth Orbit, which will be discussed later, failed to discriminate a warhead from a decoy, the EKV is capable of making this distinction and hitting the true target. In peacetime, intercept missiles are kept in an underground silo.

The second is the Battle Management, Command, Control and Communications (BM/C3) Center, which is made up of BM/C2 that is the brains of the NMD system, communications networks and 14 land-based IFICS.

The third system is an X-band radar that becomes the center-piece radar of the ABM radar system. It assesses the tracking, discriminating, attacking and destroying an intercept target, with its high-frequency radar, and transmits its assessment data to BM/C2. The X-band radar's prototype is based in the Kwajalein atoll in the central Pacific and is used for testing of NMD system.

The fourth is the land-based Upgraded Early-Warning Radars (UEWR). Early-warning radars are installed in five places — the three U.S. states of California, Alaska and Massachusetts, Britain

### Chart 2-1. Types of Ballistic Missiles



Source: National Air Intelligence Center Wright-Patterson Air Force Base, *Ballistic and Cruise Missile Threat*, September 2000, p. 3.

and Greenland. The United States plans to upgrade and make them capable of tracking warheads.

The fifth is Defense Support Program (DSP) Satellites and their succeeding Space-Based Infrared System (SBIRS). The DSP satellite is designed for an early-warning to detect a ballistic missile from its launch boost phase. It will soon identify the location of the missile launch and its approximate flight course. Current plans are to develop a SBIRS that can carry out such missions more precisely. The SBIRS is divided into two — high orbit and low orbit systems. The low orbit system (SBIRS-Low) is considered to be capable of contributing to the accurate operation of an interceptor mis-

sile by monitoring the whole flight course from the boost phase of a ballistic missile launch through the re-entry of warhead into the atmosphere and distinguishing a warhead from a decoy.

## **(2) NMD Deployment Program**

In October 1999, the Clinton administration came out with a new NMD deployment program, a modified version of the one Pentagon's Ballistic Missile Defense Organization (BMDO) announced in March the same year. The new program was designed to address 20-30 warheads equipped with elementary NMD penetration aids. The NMD system to be deployed by 2005-2006 would feature the following: (1) 100 interceptor missiles to be based in Alaska, (2) one X-band radar installed on Shemya Island of the Aleutian Islands, and (3) upgraded ballistic missile early-warning radars and (4) SBIRS-High are included. Furthermore, the United States planned to deploy, by about 2010 or 2011, NMD system that should be capable of addressing 20-30 warheads equipped with more advanced NMD penetration aids, by increasing the numbers of interceptor missiles and X-band radars (making no references to specific figures) and installing SBIRS-Low. However, this NMD deployment program is subject to reviews under the new Bush administration inaugurated in January 2001.

The U.S. Congressional Budget Office released estimates in April 2000 of NMD costs up to 2015, according to which, an NMD system with 100 interceptor missiles would cost approximately \$29.5 billion. The cost will rise to \$60 billion if 125 more interceptor missiles are to be based in different sites and SBIRS-Low are to be deployed.

## **3. NMD and ABM Treaty**

### **(1) Significance of ABM Treaty in the Cold War Period**

In May 1972, the United States and the Soviet Union concluded the ABM Treaty along with the First Strategic Arms Limitation

Treaty (SALT-I). The ABM Treaty, whose duration was not specified, strictly limits the development and deployment of ABM system that intercept strategic ballistic missiles such as ICBMs. It limits the deployment to two areas for each of the signatories (the July 1974 protocol to the treaty limits it to one area — either state capital or ICBM site). The treaty only allows no more than 100 intercept missiles per one deployment area.

The ABM Treaty was primarily aimed at giving legal endorsement to and institutionalizing the retaliation-based mutual deterrence, then existed as the strategic relationship between the United States and the Soviet Union. The treaty at the same time aimed to stabilize the mutual deterrence by ensuring the validity of retaliatory capabilities by strategic ballistic missiles.

Second, the establishment of mutual deterrence on a stable basis was expected to pave the way for regulating and reducing the strategic offensive force of the United States and the Soviet Union. In the strategic environment where deterrence based on retaliatory capability is dominant, buildup of strategic defense capability such as ABM system and buildup of strategic ballistic missile forces are inevitably interlocked. It was believed then that controlling the deployment of intercept missiles would weaken incentives to modernize the strategic ballistic missile force.

The treaty approves the “point defense” of an ICBM site in order to prevent ICBMs from becoming vulnerable and thus to preserve retaliatory capability. It also approves the defense of the state capital, where top leaders reside with access to the hubs of command and control functions, to allow both signatories to maintain a crisis management capacity.

## **(2) Relations between NMD and ABM Treaty**

The Clinton administration's NMD program is not aimed at addressing strategic ballistic missile attacks from Russia. However, because it is aimed at defending the 50 U.S. states from the threat of ballistic missiles by states of concern, the NMD is not deployable

as long as Article 1 of the ABM Treaty, which disallows the defense of the whole national territories, continues to be in effect.

The United States has cited the states of Alaska and North Dakota as potential bases of intercept missile systems, but deploying them in Alaska or a plural number of sites requires treaty revisions. Moreover, the contemplated deployment of the ABM radar (X-band radar) on Shemya Island of the Aleutian Islands is not complying with the Article 3 provision limiting the ABM radar sites within the deployment area of ABM system.

The SBIRS-Low, which can substitute for land-based ABM radar, violates Article 5, which bans the development, testing and deployment of sea-based, air-based, space-based and mobile land-based ABM systems and components. Not to mention the deployment of more than 100 intercept missiles, upgrading early-warnings radars for ballistic missiles in the three U.S. states of California, Alaska and Massachusetts, Britain and Greenland may necessitate a revision of the ABM Treaty. Thus, the Clinton plan for NMD system called for some amendments to the ABM Treaty.

The Clinton administration proceeded with NMD research and development in a way not contrary to the ABM Treaty. But its deployment phase required treaty revisions as mentioned if it was to be implemented. The Clinton administration, recognizing the ABM Treaty as the cornerstone of the U.S.-Soviet strategic stability, and the reduction of the strategic offensive forces, believed it was feasible to deploy an NMD to cope with ballistic missiles from states of concern, without undermining the fundamental significance of the treaty. Namely, the United States thought it would be possible to revise the ABM Treaty with Russia without seriously damaging Russia's deterrent force vis-à-vis the United States. The administration believed that the ABM Treaty had to be revised to adapt to the new strategic environment marked by the emergence of threats that had not existed when the treaty was signed in 1972. During U.S.-Russian summit held in Cologne, Germany, in June 1999, President Clinton obtained agreement on the opening of U.S. and

Russian high working-level dialogue on the NMD and ABM Treaty, and since August that year the dialogue was held intermittently.

Among American advocates of NMD deployment are people like Senator Jesse Helms who argue that the United States is no longer bound by the ABM Treaty, which, they say, became null and void upon the dissolution of the Soviet Union. Other pro-NMD people demand withdrawal from the ABM Treaty, arguing that the treaty has lost its *raison d'être* with the end of U.S.-Russian Cold War confrontation. However, the Clinton administration made clear that Russia, Ukraine, Belarus and Kazakhstan, where ABM-related facilities of the former Soviet Union were located, have become parties to the ABM Treaty. At times, Defense Secretary Cohen and Deputy Defense Secretary John Hamre suggested the possibility of the United States withdrawing from the ABM Treaty depending on Russia's attitude toward talks over the treaty. It would be safe to take such remarks, however, as lip service to NMD advocates at home, or as part of tactics to bring Russia to the negotiating table for an ABM Treaty revision, from a perspective of the Clinton administration's high regard for the treaty as the cornerstone of strategic stability.

## **4. Reactions of the Countries Concerned**

### **(1) Russia and China**

As discussed earlier, the Clinton administration's NMD program was aimed at intercepting 20-30 ballistic missile warheads. NMD capability of such a limited scale is unlikely to damage the retaliatory capability of Russia which deploys numerous strategic warheads. Russia, however, is opposing the proposed U.S. NMD program for the following reasons. First, Russia is concerned about potential NMD capability buildup once the deployment gets started. Because deployment includes the establishment of not only intercept missile technology but the base for ABM systems such as radar, Russia fears that political pressure for an additional buildup

of intercept missiles may grow in the United States. Second, ballistic missiles in possession of Russia are obsolete and are decreasing in number. Russia has been unable to replace the aging stockpile of ICBMs, except SS-27 missiles, with new and better missiles as its production capability has declined from the days of the Soviet Union. As a result, Russia's missile force is bound to decline for the long run. Given the situation, Moscow believes that the NMD deployment will further weaken Russia's retaliatory capability against the United States.

China is vehemently opposed to the NMD, arguing that it will directly endanger China's strategic security interest. The NMD deployment capable of intercepting 20-30 warheads is very likely to make China's nuclear deterrence against the United States useless because the number of Chinese ICBMs capable of reaching the U.S. mainland is estimated at about 20. China holds that the United States is seeking world hegemony in the 21st century by ensuring absolute security for itself by means of the NMD deployment. China accuses the United States of spoiling the fruits of arms control and disarmament talks to date, and triggering an arms race.

In order to keep the United States from deploying its NMD, China and Russia are opposed to a revision of the ABM Treaty, and proposed twice to the United Nations General Assembly a resolution calling for support of the ABM Treaty. In July 2000, China and Russia issued a joint statement on the ABM Treaty. It says that (1) the ABM Treaty is the foundation of global strategic stability, and reduction or nonproliferation of weapons of mass destruction, including nuclear weapons, (2) the two countries strongly oppose the NMD program because it has damaging effects on the security of not only China, Russia and other countries, but the United States itself, as it disrupts the international strategic balance, and that (3) a revision of the ABM Treaty is tantamount to the treaty's abrogation.

However, in mid-November 2000 some discernible changes occurred in the attitude of Russia, which had steadfastly opposed a

revision of the ABM Treaty, as well as the proposed U.S. NMD program. On November 13, Vladimir Yakovlev, commander in chief of the Russian strategic rocket force, hinted at new arms control plans that would set “tie-in” upper limits to the deployment of strategic ballistic missiles and intercept missiles. Under the plans, if the number of missiles of one of the two categories is to be increased, the number of missiles of the other category is to be decreased. This suggestion indicates that Russia, while taking a strong position against ABM Treaty revisions and the NMD program, is worried that the U.S. government may become unable to resist domestic pressures for the deployment and is compelled to withdraw from the treaty and go ahead with NMD program. In short, Russia, which is unable to build up its missile force as it likes, is fearful that such U.S. unilateral movement may further tilt the nuclear balance between the two countries in the United States’ favor.

Russia must avoid such a situation and maintain its current nuclear deterrence against the United States. To this end, it would be evidently better for Russia, even at the expense of permitting the limited NMD deployment, to agree to an ABM Treaty revision in a way that forestalls the possibility of NMD buildup and demand substantial reduction in U.S. strategic ballistic missiles. On balance, Yakovlev’s proposal can be viewed as a practical proposal reflecting Russia’s current position. President Vladimir Putin while reiterating Russia’s opposition to revising the ABM Treaty, declared that “Russia is prepared to pursue the dialogue begun more than a year ago concerning the ABM issues.” We need to continue watching Russia’s changing position on the ABM Treaty.

## **(2) Reactions from U.S. Allies**

North Atlantic Treaty Organization (NATO) member countries took negative or opposite positions toward the proposed U.S. NMD program during a foreign ministers’ meeting in May and a defense



ministers' meeting in June 2000. The background behind the stances may be as follows:

First, many NATO members consider the existing ABM Treaty as an important element of strategic stability. They are afraid that the NMD will necessarily lead to ABM Treaty revision or abrogation and think therefore that the NMD is pregnant with the dangers of prodding Russia and China to strengthen their ballistic missiles and endangering strategic stability.

Second, NMD deployment is likely to change the security environment of Europe. There are roughly two views about the likely change. One view is that the U.S. defense commitment to its allies may decline with its interest in overseas involvement receding because NMD deployment enables the United States to unilaterally cope with the threat of ballistic missiles from states of concern to the U.S. mainland. The other is conjecture that NMD deployment, which mitigates the U.S. vulnerability and thus heightens the unilateral military intervention capability, may lead to a relative fall in the position of European countries in resolving conflicts.

Third, America's NMD deployment, carried out arbitrarily, or legitimately through ABM Treaty revision, is expected to have negative impacts on British and French nuclear deterrence against Russia. This is because the U.S. move is likely to prompt Russia to develop a "Russian version of NMD." In the light of today's Russian economy and finances, there is little likelihood that Russia will shortly initiate the development and deployment of a full-scale BMD network. But if Russia regains its national strength and sets about constructing a "Russian version of NMD," that will inevitably affect British and French nuclear policies.

And fourth, missile defense is not a matter of greatest interest for European nations. The most important challenge facing Europe today is how to solve regional conflicts inside or near Europe, like the civil war in former Yugoslavia. During the European Union summit at Helsinki in December 1999, the leaders agreed to orga-

nize a Rapid Reaction Force with 50-60,000 personnel by 2003. Due to the priority given to this task, the European countries cannot help but be negative about NMD, which they consider may give rise to a host of new issues.

From the background mentioned above, it was no surprise that European countries unanimously welcomed President Clinton's statement in September 2000 to postpone a decision on NMD deployment. How to dispel European fears and anxieties about NMD and the ABM Treaty is likely to become a major U.S. task.

While European countries are negative about NMD, Australia has said that it supports NMD deployment if Russia agrees on ABM Treaty revision and if NMD is deployed with the consent of Russia. The Japanese government, on the other hand, has not made its position clear about NMD. It has said, however, to the effect that it understands the United States studying the NMD program, in addition to diplomatic efforts, to cope with ballistic missile proliferation, which the United States views as a serious threat to its national security. Japan has not taken a deterrence policy by building up its offensive force but relied on the U.S. nuclear umbrella. However, noting the fact that a growing number of countries are now in possession of ballistic missiles, Japan in August 1999 exchanged instruments and concluded a memorandum of understanding with the United States for Japan-U.S. joint technological research on BMD. This approach is based upon the concept of defending the country from a "spear" with a "shield" but not of countering a "spear" with a "spear."

## **5. Strategic Significance of the NMD Program**

### **(1) NMD and U.S.-Russia Relations, and U.S.-China Relations**

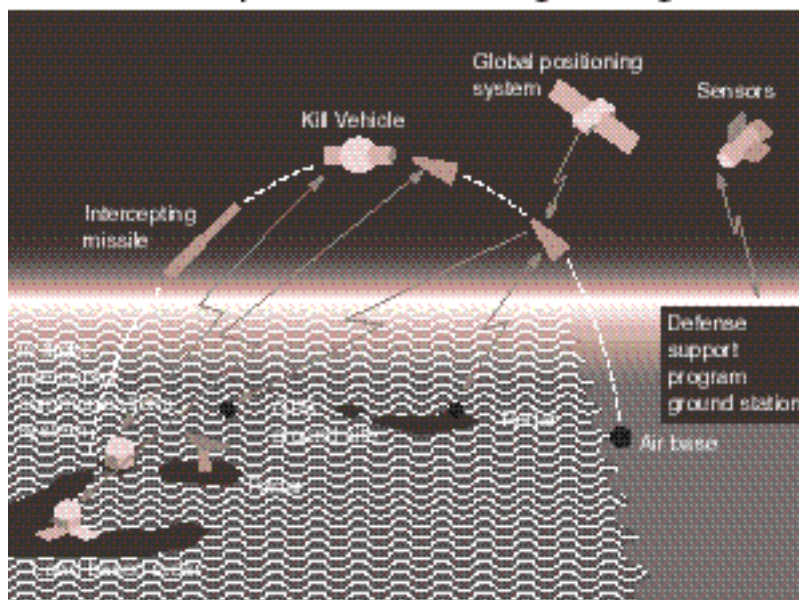
The NMD program promoted under the Clinton administration was not aimed at a ballistic missile threat from Russia or China, but at defending the United States from a ballistic missile attack from states of concern, such as North Korea, Iran and Iraq. But the

reality is that the NMD, once in place, will be able to intercept ballistic missiles launched from any countries, Russia and China included, to hit targets in the United States. Thus Russia and China are worried that the NMD will be able to intercept also their missiles.

The United States and Russia are still keyed to a mutual deterrence relationship, which is built on a nuclear retaliatory capability of each country. Given the balance, the NMD can potentially endanger Russia's deterrence against the United States, depending on the scale and intercepting capability of the NMD and the capability of the Russian strategic ballistic missile force. To counter the NMD which the United States may deploy unilaterally and reinforce, Russia will have to increase its stockpile of strategic ballistic missiles and enhance the survivability of ICBMs by turning them into a mobile type. Russia, however, cannot financially afford these and other countermeasures as it is constrained by economic difficulties and insufficient tax systems. An alternative left for Russia in maintaining a reasonable level of nuclear deterrence would be to have the United States reduce strategic ballistic missiles commensurate with the NMD capability, as Yakovlev, who is in charge of Russia's strategic rocket force, suggested.

Obviously it is politically difficult for the United States to accept such a Russian demand that may institutionalize its numerical inferiority to Russia in terms of its strategic ballistic missiles. However, promoting NMD deployment without such a compromise through revising the ABM Treaty is destined to undermine U.S.-Russian relations and affects U.S. national security. Even though the U.S.-Russian relationship is different from what it was in the Cold War period when the two countries openly confronted each other, the fact remains that the United States and Russia keep ready a large number of strategic ballistic missiles capable of reaching each other's homeland. In such circumstances, the ABM Treaty regulating the strategic relationship of both countries still remains significant.

**Chart 2-2. Conceptual Illustration of Integrated Flight Test**



Source: Made from the U.S. Defense Department Web site

China, on the other hand, given its limited ICBM force, is likely to continue to reinforce its ICBM force, regardless of whether or not the United States deploys the NMD. Provided some of about 20 Chinese ICBMs survive a pre-emptive nuclear attack from the United States and remain capable of striking back, even a limited NMD program capable of intercepting 20-30 warheads is bound to produce a serious effect on China. If it is to maintain deterrence against the United States, China must reinforce its ICBM arsenal and the NMD penetration capability of the currently available ICBMs.

If China's existing ICBM force should have no survivability in the first place, namely, no nuclear deterrence capability against the United States, NMD deployment by the United States would compel China to spend more years for the establishment of its nuclear deterrence against the United States. Although it is not cer-

tain whether China's ICBM force has a retaliatory capability against the United States, China will most certainly work to upgrade its ICBM force, as indicated in its recent DF-31 flight testing, regardless of NMD deployment. But it is highly likely that the NMD deployment may make China think that the United States has no respect for China's security, and thus will serve to reinforce antagonism between the two countries.

## **(2) NMD and Ballistic Missiles of States of Concern**

The NMD system will have both favorable and unfavorable effects upon efforts to prevent proliferation of ballistic missiles and weapons of mass destruction among states of concern.

On the side conducive to nonproliferation: First, the deployment of NMD with a high interception probability may lower states of concern's incentives in possessing or increasing ballistic missiles targeting the United States, and thus is considered to play a certain role in the nonproliferation policy, as expected by the Clinton administration. Second, because the NMD leads to strengthening deterrence by denial, reliance on nuclear retaliation and deterrence by punishment will decrease. And this can be expected to give support to the nuclear nonproliferation policy.

On the other hand, the NMD may give impetus to states of concern to increase ballistic missiles and weapons of mass destruction. First, NMD deployment could provide an incentive for ballistic missiles buildup to states of concern that, from a cost-effectiveness point of view, think that ballistic missiles outdo NMD. Second, should NMD be considered to surpass ballistic missiles in terms of cost-effectiveness, it is still possible for states of concern to find delivery means other than ballistic missiles for weapons of mass destruction. Moreover, the validity of ballistic missiles remains for many countries having no BMD development programs. In the light of these, NMD may not work to effectively check the spread of weapons of mass destruction, such as nuclear weapons.

### **(3) NMD and U.S. Allies' Security**

Being a missile defense network against a limited ballistic missile threat from states of concern, the NMD deployed in the United States can be a vehicle for damage-limitation to its homeland. As a result, United States is able to carry on military campaigns without fearing retaliation to its homeland, as far as conflicts with states of concern are concerned. And Washington could afford greater defense commitment to its allies or enhanced credibility in extended deterrence against states of concern. The fact that its homeland is shielded from a missile attack from states of concern could preclude negative views that would otherwise arise among U.S. citizens should the United States militarily intervene in a regional conflict involving a state of concern that has ballistic missiles capable of striking the U.S. homeland. In other words, NMD will make it easier for the United States to reassure its allies or friendly countries with the use of the conventional military capability.

Some observers in Europe take a view that the NMD, which enhances the security of the U.S. homeland, can create the danger of "decoupling" the United States and European allies. The decoupling in this context means lowering U.S. defense commitment to its allies because the NMD can make the United States less interested in foreign security affairs. It may be true that such a problem can arise if the United States should come to think that its security can be maintained without foreign engagement. But the NMD is a defense network only against ballistic missile attacks from states of concern, and is not able to defend the U.S. mainland from Russian ballistic missiles or a reinforced ballistic missile force of China. The U.S. security policy therefore, cannot be free from foreign security commitments of some form, including those against China and Russia. The fact that NMD deployment will enable the United States to intervene in regional conflicts without fear of exposing its mainland to attack from outside makes the decoupling issues a remote prospect.

In relation to states of concern, NMD is expected to heighten U.S. military commitment to its allies and credibility in extended deterrence, be it in Europe, East Asia or elsewhere. But NMD's implications in Europe and East Asia are not the same when it comes to relations involving China and Russia. In Europe where China's nuclear force has less impact, most of the negative problems to be created by NMD will be solved if the United States and Russia can reach agreement regarding the ABM Treaty. In East Asia, on the other hand, China's nuclear arsenal carries a large weight in regional security. China is seen continuing to reinforce its ICBM potential no matter what policy the United States may develop as to NMD. And NMD may only quicken the Chinese pace for its modernization. It is unknown whether China will actually take steps to accelerate its ICBM buildup in response to future deployment of the NMD. But to keep China from taking the buildup course, it would be necessary for the United States to conduct strategic consultations with China on NMD as closely as possible.