Foreign Missile Developments and the Ballistic Missile Threat to the United States Through 2015

William Schneider, Jr.
Adjunct Fellow, Hudson Institute

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TESTIMONY OF WILLIAM SCHNEIDER, JR.

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It is a priviledge to have an opportunity to appear before this committee on a subject of great interest to the Congress and importance to US security. I served as a Member of the Commission to Assess the Ballistic Missile Threat to the United States. My testimony on the review of the Intelligence Community's September 1999 assessment, *Foreign Missile Developments and the Ballistic Missile Threat too the Untied States Through 2015* will draw upon information developed during my service on the Commission. The Commission led by former Secretary of Defense Don Rumsfeld filed its report in July 1998. The findings of the Commission remain valid today. Among the most policy-significant conclusions of the Commission are these.

Concerted efforts by a number of overtly or potentially hostile nations to acquire ballistic missiles with biological or nuclear payloads pose a growth threat to the United States, its deployed forces and friends and allies. These newer, developing threats in North Korea, Iran, and Iraq are in addition to those still posed by the existing ballistic missile arsenals of Russia and China, nations with which the United States is not now in conflict but which remain in uncertain transitions. The ewer ballistic missile-equipped nations capabilities will not match those of US systems for accuracy or reliability., However, they would be able to inflict major destruction on the US within about five years of a decision to acquire such a capability (10 years in the case of Iraq), During several of those years, the US might not be aware that such a decision had been made.

The threat to the US posed by these emerging capabilities is broader, more mature, and evolving more rapidly than has been reported in estimates and reports of the Intelligence Community.

The Intelligence Community's ability to provide timely and accurate estimates of ballistic missile threats to the US is eroding. This erosion has roots both within and beyond the intelligence process itself. The Community's capabilities in this area need to be strengthened in terms of both resources and methodology.

The warning times the US can expect of new, threatening ballistic missile deployments are being reduced. Under some plausible scenarios – including rebasing or transfer of operational missiles, sea-and

air launch options, shortened development programs that might include testing in a third country or some combination of these – the US might well have little or no warning before an operational deployment.

The Intelligence Community's most recent assessment of the foreign missile threat to the United States, *Foreign Missile Developments and the Ballistic Missile Threat to the Untied States Through 2015* is a welcome development. The document helps to overcome what is often a misperception about the nature of the missile threat to the United States. The ballistic missile threat to the United States is not the same as the threat posed by intercontinental ballistic missiles (ICBM), although ICBMs are a dimension of the potential threat to the US. The ballistic missile threat refers to any ballistic missile that can deliver weapons to targets in the United States – not only ICBMs.

There are many ways ballistic missiles can pose a threat to the US other than as ICBMs. For example, ballistic missiles can be deployed on the territory of another nation so that missiles with a much shorter range than an ICBM can deliver nuclear or biological weapon warheads against targets in the US. This was attempted by the former Soviet Union in 1962, but was thwarted when we received advance warning that the missiles were to be delivered.

China also accomplished this in 1988 when it delivered and installed its nuclear-capable CSS-2 missiles to Saudi Arabia. In this instance, we were not so fortunate in having advanced notice – the missiles were delivered before the US government learned of the transaction.

Ballistic missiles can also be launched covertly from merchant ships. The US did this in 1962 when it launched and tested a *Polaris* missile, and has been done frequently by other nations as well. The types of ballistic missiles being developed by Iran and North Korea lend themselves very well to this sort of launch platform. The SCUD-derived missiles deployed by Iran and North Korea are deployed on mobile transporter-erector-launchers (TELs) that are somewhat similar to off-road logging vehicles. These TELs can be lowered into the hold of a merchant ship by routine cargo handling equipment so that the ship's contents are not visible. Even a short-range missile (say a 500-km range SCUD missile of which several hundred were fired during the Iran-Iraq War) can be delivered to targets in the United States by this means. Thus, the ballistic missile threat to the US is not necessarily only an ICBM threat.

Methodology for the assessment of the ballistic missile threat to the US

The Rumsfleld Commission found in 1998 that the methodology the Intelligence Community employed to assess information concerning foreign missile developments caused the Community to misconstrue some aspects of the approach taken by the emerging powers. The could cause the Intelligence Community to underestimate the scope and maturity of foreign missile developments. We found this to be so, especially in the case of nations such as Iraq, Iran, and North Korea who are acquiring a capability to for the missile delivery of weapons of mass destruction to the United States. The use of intelligence assessment methodologies inappropriate to post-Cold War circumstances caused the Intelligence Community to sometimes forecast long warning times of the emergence of a threat and even longer estimates of the time required for a threat to be posed to the United States. The Rumsfeld Commission specifically affirmed the impact of its findings for the warning time of the emergence foreign missile threats available to the United States government.

Therefore, we unanimously recommend that US

analyses, practices and policies that depend on

expectations of extended warning of deployment

be reviewed and as appropriate revised to reflect

the reality of an environment in which there may

be little or no warning.

One dimension of assessment methodology will serve to illustrate the point. Prior to the Rumsfeld Commission's report, the Intelligence Community used the former Soviet Union's approach to the development of liquid fueled missiles as a model for the development of similar systems by nations such as Iran and North Korea. The Soviet Union's development of liquid fuel missiles was derived from technology acquired from Germany at the end of World War II. The German V-2 propulsion technology was the basis for the Soviet Union's SCUD series of missiles. The former Soviet Union developed a process for ballistic missile testing that involved 10-30 flight tests before a missile was placed into production. Such a flight test program would be highly visible, and offer several years of warning time before the missile was deployed. Hence, the Intelligence Community was able to offer confident forecasts (e.g. NIE 95-19) that a ballistic missile threat to the United States was fifteen years off.

While such forecasts included some explicit assumptions, most of the assumptions were implicit, but were unsupported by the evidence. The explicit assumption was that foreign assistance to nations such as Iran and North Korea was a "wild card" that could effectively be dismissed. In the case of foreign assistance, the assumption proved to be untrue. Foreign assistance is a pervasive characteristic of the proliferation of both weapons of mass destruction and their means of delivery. Implicit assumptions also caused error to be propagated in the analysis of the ballistic missile threat.

A fundamental epistemological error of assuming the absence of evidence to be evidence of absence was especially troublesome in light of the vast deception and denial efforts undertaken by several nations developing WMD and their means of delivery. For example, a change in the technology of tunnel boring equipment has fundamentally altered the economics of underground construction. The construction of vast underground facilities (e.g. by Iran and North Korea) has become a routine feature of the WMD and ballistic missile programs of nations seeking to acquire them. Thus, much of the R&D work that was visible to US observation during the Soviet period could now be carried out in underground facilities shielded from view, and perhaps pre-emptive attack.

It was also assumed that nations such as Iran or North Korea would require highly reliable, safe, and cost-effective ballistic missile systems before they would deploy them. Such an assumption reflected the mutual assured destruction policy that was characteristic of the Soviet-American competition. The nations acquiring ballistic missiles since the end of the Cold War have wholly different strategic objectives than did the former Soviet Union. Neither extensive testing nor highly reliable and cost-effective systems are needed. North Korea began series production of its 1,300-km. range *No Dong* medium range ballistic missile following its successful flight test in 1993. The system has subsequently been sold to Iran and Pakistan. Both nations have had successful flight tests of their North Korean-derived systems.

Based on some very creative collection and processing efforts (in some cases, revisiting archival data) by the Intelligence Community supported by rigorous hypothesis testing, many of the gaps in our understanding of foreign missile developments were filled. The broadening of the Intelligence Community's methodology for assessing the foreign missile threat is reflected in the current (September 1999) NIE as well as the February 2nd testimony of Mr. George Tenet, the Director of Central Intelligence before the Senate Select Committee on Intelligence. The use of more appropriate assessment methodologies has materially improved the usefulness of the Intelligence Community's assessment(s) of foreign missile developments to officials with policy-related responsibility.

Significant issues in the 1999 Intelligence Community assessment of foreign missile capabilities

Post-Cold War motive(s) and incentives for the acquisition of ballistic missiles and WMD

The NIE correctly identifies the likely motives for the acquisition of ballistic missiles – both short and long-range – by a number of States including Iran and North Korea. Their aspiration to achieve regional dominance may be frustrated if they cannot deter the potential intervention of extra-regional powers such as NATO or the United States. An important contributing factor to the intensification of efforts by several States to acquire WMD and ballistic missiles may also emerge from the overpowering dominance of US conventional military power.

The early demonstration of the integration of information-dominated conventional warfare technology in *Operation Desert Storm* in 1991 has had a powerful impact on the thinking of many States with whom the US has an adversarial relationship. US conventional warfare dominance is swiftly rendering traditional conventional forces obsolescent, and leaving them powerless to influence the course of a regional security crisis if the US is determined to intervene. The 78-day air campaign in Kosovo last year has reinforced the futility of confronting US conventional military power. US conventional dominance may be having the unintended consequence of causing resources to be shifted from conventional modernization to the acquisition of WMD and ballistic missiles as the only way to deter or defeat US military intervention.

The use of missile-delivered WMD against deployed military forces is perhaps the only means available to nations such as Iran and North Korea to defeat a determined conventional military assault by the US and its allies. However, to deter such intervention in the first instance, a threat must be posed to the national territory of the US or its allies in Western Europe and East Asia. This strategic requirement helps to explain why nations with only regional security aspirations are working to create missiles capable of intercontinental range.

The motive for nations such as Iran and North Korea to acquire WMD and their means of delivery has been strengthened by the failure of the US to react to a decade or more of proliferation related developments to devalue their investment. Significant deployments of planned systems including advanced national and theater level systems are a decade away. The sustained vulnerability of US theater forces and their allies (apart from Israel) as well as US territory from missile attack has served to increase the diplomatic utility of WMD and ballistic missiles. This observation may explain the increase in the tempo of proliferation related activities over the past three years.

Threat availability "before deployment"

The technology choice made by Iran and North Korea – mature and robust SCUD-derived ballistic missiles – helps produce a system that requires little testing to achieve a reasonable level of confidence. Thousands of ballistic missiles based on SCUD technology have been launched in peace and war over the half-century they have been in service. North Korea's 1993 decision to initiate series production of its SCUD-derived *No Dong* missile following a single successful test appears to be justified. Both Iran and Pakistan have successfully launched the missile acquired from North Korea (and in Iran's case upgraded with Russian assistance). Both nations now have deployed the missile, and Pakistan is reported to be seeking foreign buyers. Thus, although the missiles appear to have a good record of reliability, it is not crucial that this be so.

To achieve the strategic objectives of several of nations seeking to acquire WMD and their means of delivery, it is not necessary to deploy systems in large numbers. Nor is it necessary that the systems be affirmed to be highly reliable through a robust test program. Indeed, no test may be required when proven subsystems are used. Thus a small number of long-range missile systems enjoying a high level of pre-launch survivability gained through mobility and concealment in underground storage areas may be sufficient to achieve the desired deterrent effect. Based on several observations, it is reasonable to conclude that deployment is likely to be concurrent with the completion of missile development.

ICBM threats to the United States

An ICBM threat already exists to the United States from North Korea in addition to the deployed ICBMs of China and Russia. The North Korean *Taepo-dong 1* tested in August 1998 could strike targets in the United States with a biological weapons payload (~ 100 kg.). If North Korea uses submunition technology

developed by the US and the former Soviet Union in the 1950s, the biological payload could be widely distributed over US territory.

It is more likely that the *Taepo dong II* missile will be used for the ICBM role since it will be able to carry a larger payload – including first and second generation nuclear weapon. According to Director Tenet's February 2nd testimony, North Korea "has the capability to test its *Taepo dong II* this year." Because the system uses previously tested components, the missile could be deployed without an integrated system test, or transferred to another country where it could be flight-tested.

Iran's ballistic missile force is emerging as a joint product of Russian system improvements to the underlying North Korean design. China is also a significant contributor to Iran's long-range missile programs. Iran has expressed its intention to develop a missile capable of intercontinental range. As Iran has the financial resources, industrial infrastructure, and foreign assistance to permit them to develop, manufacture, deploy and support an intercontinental missile, it is reasonable to anticipate that they will soon be able to deploy such a system.

Any nation with a capability to place a payload in orbit has crossed the technological frontier that permits the intercontinental delivery of military payload. In conjunction with the well-advanced deployments of short and medium range ballistic missile systems in countries such as Iraq, Iran, and North Korea, the coming decade is likely to witness a high tempo of ballistic missile deployments.

Foreign assistance to WMD and ballistic missile development

Foreign assistance is a universal characteristic of the contemporary ballistic missile development environment. The nature of foreign assistance rarely takes the form of dramatic surreptitious deliveries of missile-related contraband from one nation to another (although this feature is not entirely absent). Russia's material assistance to Iran is more frequently provided through technical assistance than through the delivery of equipment.

The liberalization of high tech export controls has sharply diminished their utility as an instrument to contain proliferation. The scale of decontrol can be illustrated through my service as an official of the Department of State in the mid-1980s with export control responsibility. At the time, the US Department of Commerce issued nearly 150,000 validated dual-use export licenses per year. In 1998, only 11,000 export licenses were issued. Access to modern scientific and industrial technology through commerce by Iran and North Korea make it and foreign assistance account for the very rapid pace of development of WMD and ballistic missile proliferation. The sharply reduced role of export controls in non-proliferation policy has been accompanied by a policy on the declassification of nuclear weapons information that has made the US government the most important provider of technical information on nuclear weapon design, test, manufacturing, and support. The declassification policy has induced the release of nuclear weapon information that is of material benefit to nations seeking to develop nuclear weapons.

Notice also needs to be taken of a wholly new form of foreign technical assistance. The cumulative impact of foreign assistance to Iraq, Iran, North Korea, Pakistan, and Syria has been to create a scientific and industrial infrastructure that is now largely independent of their benefactors. Despite the very different political settings in which each of the nations operate, their shared interest in access to WMD and ballistic missiles unites them. The traditional incentives for cooperation and a specialization of labor among these like-minded nations are powerful. Moreover, sustaining their WMD and missile industry infrastructure will almost certainly require the development of export markets – as Pakistan's reported efforts to sell its North Korean-derived *Ghauri* missile attest. Thus, the basis for an enduring process of proliferation is now established, and will be nurtured if efforts are not made that have the effect of devaluing such investment.

Proliferation of countermeasures to ballistic missile defenses

The process that has produced the diffusion of WMD and ballistic missile technology is also likely to proliferate countermeasures to hedge against anticipated (or in the case of Israel – actual) ballistic missile defense deployments. Commerce in many types of countermeasures is not even prohibited by the Missile Technology Control Regime although it would matter little if it were. The use of submunitions for the delivery of biological organisms is a likely form of countermeasures since the technology is mature. A

Member of the Rumsfeld Commission, Dr. Richard Garwin, who currently serves as Chairman of Secretary of State Albright's Arms Control Advisory Committee has proposed a simple system to address the countermeasure issue. Dr. Garwin has proposed the deployment of sea or land-based interceptor missiles in the region where the hostile missiles are deployed. These forward-deployed interceptors are designed to attack ballistic missiles in their ascent phase before the countermeasures can be deployed. Garwin's approach is a useful contribution to the debate about how we can most effectively devalue the investment several nations are now making.

Terrorist use of WMD

Addressing the terrorist use of WMD has a far larger claim on appropriated funds than does ballistic missile defense. More than $10 billion is requested in the President's FY 2001 budget – the most costly element in the non-proliferation budget. However, ballistic (and in the near future, cruise) missiles are the delivery system of choice for WMD because of their reliability and effectiveness. Terrorist use of WMD – especially biological weapons – remains an important threat that can be wielded by deranged individuals, sub-national terrorist organizations, as well as States. Fortunately, the risk of discovery of efforts by terrorists to use WMD against the US by law enforcement and intelligence organizations is much higher than the probability of intercepting a ballistic missile once it has been launched. Hence, the incentive for States to concentrate their investment in ballistic missiles rather than the terrorist delivery of WMD remains high.

Conclusion

The current assessment of the ballistic missile threat, *Foreign Missile developments and the Ballistic Missile Threat to the United States Through 2015* is a valuable contribution to our understanding of the nature, scope, and maturity of the foreign missile threat. In the past two days, press coverage continues to reinforce the accuracy of the Intelligence Community's characterization of the foreign missile threat. The *Financial Times* reported yesterday (February 8, 2000) on Pakistan's successful launch of its *Hatf-1* short range ballistic missile. Today, *The Washington Times* (February 9, 2000) reports on North Korea's transfer of *No Dong* missile engines to Iran – in spite of a commitment made to the US not to do so. Copies of these articles are attached to my testimony. The Intelligence Community has now given credible strategic warning of a ballistic missile threat to the United States. The next step is left to the Legislative and Executive branches of government to develop a timely and effective responses that will devalue foreign investment in WMD and ballistic missiles.