

The North Korean Military Threat in 2015: The Threat to the ROK-U.S. Alliance and Peninsula Unification

By Bruce E. Bechtol Jr. Ph.D.
Angelo State University

Abstract

North Korea's nuclear weaponization program and its ballistic missile programs have developed compelling capabilities that can potentially threaten both the region and the United States. North Korea's advances in maritime capabilities are important as well—including a new submarine with long-range capabilities and a developing capability to fire a ballistic missile. The North's ground forces have not been idle during 2015, as high training levels and important initiatives in training have added to potential capabilities. Pyongyang continues to show no hesitation in using its military capabilities against the South, as indicated by violent provocations initiated during the summer of 2015.

Keywords: Nuclear weaponization, ICBM, SLBM, North Korean provocations, North Korea brinkmanship, North Korea military training.

The views expressed in this paper are those of the author and do not necessarily reflect the official policy or position of Angelo State University

Introduction

The year 2014, and thus far (as of the writing of this essay) the year 2015 have each proven to be part of a period of stark contrasts. On the one hand, there has been a strong push on the part of the Republic of Korea (ROK) government and many in the ROK populace to work toward unification and to focus on the study of how to best achieve this goal.¹ Much of this effort has been kicked off by President Park Geun-hye's now famous "Dresden Speech."² Unfortunately, at the same time that an increase in focus and discussion on unification issues has occurred in South Korea, North Korea has shown no meaningful signs of serious talks or confidence building measures regarding this issue. In fact, North Korea has made serious advancements in several of its conventional and unconventional military capabilities. Some analysts

have even stated that North Korea has increased its military capabilities at the same time that the South is moving toward initiatives that have the possibility of ensuring peaceful unification.³ This paper will focus on analyzing North Korea's current capabilities—and the new advances made in these capabilities.

If one is to look at North Korea's military capabilities, certainly the capability that gets the most headlines, and is arguably the biggest threat, is Pyongyang's two-headed (Plutonium and Highly Enriched Uranium) nuclear weapons program. This program has been the focus of discussion, diplomacy, and military planning since the early 1990s. Thus, in this paper, I will address the very latest developments, and analyze some key assessments that have come out in recent times. Closely tied into North Korea's nuclear weaponization program—but often not directly—is North Korea's growing missile program. A nuclear weapon must have an efficient platform to carry it, and there have been several very significant new advances assessed by U.S. officials in announcements and Congressional testimony. But that is not all there is to North Korea's advancing missile programs. There have also been advances in Pyongyang's naval surface-to-surface missiles, and to short-range missiles that form one of the key threats to bases and population centers in and around Seoul. The sections on weapons of mass destruction (WMD), which include nuclear weapons and missiles, will address all of these issues.

There have been other advances in North Korea's capabilities. Maritime forces have fielded systems that show the North Korean navy is finally moving forward in its efforts to go toe-to-toe with South Korean and American naval forces. These maritime advances include new (or improved) types of ships, submarines, and even a developing submarine-launched ballistic missiles (SLBM). In concert with the maritime developments, North Korea's conventional air and ground forces continue to make moves that show an active intention to advance readiness and capabilities. These moves include not only new or improved weapons systems, but exercises and planning that reflect an adjustment to the capabilities of the ROK-U.S. military alliance. One of North Korea's capabilities that has received a significant amount of press coverage is the growing cyber-warfare entity. Much of this is due to the issues surrounding North Korea's response to the release of the American movie "The Interview," but having said that, the cyber-warfare capability North Korea possesses is both real, and growing. All of the

capabilities I have addressed in this section are important. And North Korea proved that it has no hesitation in using these capabilities to conduct provocations by laying mines in the demilitarized zone (DMZ) on the South Korean side and launching artillery into South Korea during August of 2015. In the sections that follow, I will look at details and sources that will give the reader a broad view of not only the new systems, capabilities, and doctrine that has evolved in North Korea's military, but what the likely intentions are for these often compelling moves.

North Korea's Nuclear Weapons Programs in 2015: Advances and Questions

There can be no doubt that the nuclear weapons programs in North Korea receives more attention and debate than any other part of the military threat. The reasons for this in my opinion are twofold. First of all, any rogue nation-state with a nuclear capability will be near the top of the "concerns list" for policymakers in the United States and in the region which the country resides. Secondly, the North Korean conventional threat (and perhaps even the ballistic missile threat as well) is a subject matter that the overwhelming majority of academic personnel know almost nothing about. Thus, it is simply easier when addressing the North Korean threat, to focus on "the nukes," since the conventional and missile threat is far more diverse and complicated for most analysts to address in their research. And even then, most of those in the academic and policy communities tend to focus far more on the politics of the nuclear program, then on North Korea's intent, or the actual capabilities of the nuclear weapons Pyongyang possesses. This is an unfortunate situation, but the fact of the matter is, North Korea's nuclear program is not only a threat, but a growing threat. Thus, in this section, I will address some key recent issues and advances in North Korea's nuclear program—and the effects these issues will have on geopolitics in the region.

North Korea's nuclear program goes back to the 1990s and North Korea is now assessed by many to be capable of weaponizing both Plutonium and Highly Enriched Uranium (HEU).⁴ A series of three underground nuclear tests has each produced higher yields. The first underground test in 2006 produced what many analysts assessed to be a yield of 0.5 to one kiloton, while in 2009, an underground nuclear test produced a yield of up to four kilotons.⁵ The third North Korean

underground nuclear test is assessed to have produced a yield of six to seven kilotons.⁶ The third test was not only larger and thus “more successful” than the first two tests, it was also largely more concealed—meaning that unlike the first two tests American and allied intelligence collection was unable to determine if the test was of a Plutonium or HEU weapon.⁷ Reportedly, high-ranking Iranian officials were present at North Korea’s third underground nuclear test.⁸ North Korea is assessed—and has been assessed for several years—to have the designs and probably the capability to build a 500 kilogram HEU warhead that can fit on a missile. The missile is the No-Dong, and the designs for the warhead came from a nuclear deal with Pakistan—which purchased several No-Dong systems from North Korea beginning in the 1990s, and ending around 2002.⁹ The No-Dong missile has a range of up to 1,500 kilometers and can hit key nodes in Japan, including American military bases and Tokyo.¹⁰

While the developments addressed above are quite troubling, highly debated and certainly high on the priorities list for the United States and key players in Northeast Asia, recently other developments and assessments have created yet more debate and challenges for policymakers and military planners. In 2015, the most compelling disclosure regarding North Korea’s nuclear program has been the assessment by high-ranking American officials that North Korea has now developed the technology to build a nuclear warhead that could be placed on a ballistic missile with the range to hit the United States.¹¹ This is a significant upgrade from the previously assessed capability (including by the author) that North Korea has the capability to put a nuclear warhead on one of its key medium-range ballistic missile (MRBM) systems, the No-Dong (which as earlier discussed, can hit Japan), but not on an intercontinental ballistic missile (ICBM).¹²

In early 2015, in Congressional testimony, the head of U.S. Northern Command addressed North Korea’s ability to place a nuclear warhead on its developing (and as of the writing of this paper, untested) mobile ICBM, known as the “KN-08.” Later, when addressing reporters at the Pentagon, Admiral William Gortney stated, “Our assessment is that they have the ability to put a nuclear weapon on a KN-08 and shoot it at the homeland.” The Admiral also responded, “Yes sir” when asked if North Korea had succeeded in the process of miniaturizing a nuclear warhead for an ICBM.¹³ Other high-ranking officials also made similar statements in 2015. The Commander of United States Forces Korea/Combined

Forces Command/United Nations Command (USFK/CFC/UNC), General Curtis Scaparrotti, made very similar statements in his own Congressional testimony in April 2015. The General also made important statements regarding the ICBM, which I will cover in the next section.¹⁴

Adding credibility to the now open assessment of North Korea's new, potentially deadly, long-range strike capability with a nuclear weapon by the American government is the fact that the Pentagon has not rushed to correct or deny the statements made by these high-ranking military officers. In addition, none of the agencies in the intelligence community have corrected these statements or stated disagreement. During April 2015, South Korean officials stated that their government was less confident in making an assessment about North Korea's ability to put a nuclear warhead on an ICBM with the range to hit the United States.¹⁵ Thus, like with many weapons systems North Korea has, there is likely to be continued debate about this new capability assessed by U.S. Department of Defense (DoD) officials. One thing is certain—American officials appear very confident of this assessment. Thus, there is likely some very important information in classified channels behind this assessment—information not yet made available in open sources.

To further complicate matters when it comes to North Korean nuclear weaponization and long-range strike capabilities, Pyongyang decided to “go public” with the development of its ability to place a nuclear warhead on an ICBM capable of hitting the United States. In fact, the National Defense Commission, the top military body in the country—and a powerful political entity within the ruling infrastructure—made an announcement during May 2015 confirming that the Democratic People's Republic of Korea (DPRK) military has now manufactured a warhead small enough to be placed on a long-range missile. To quote the announcement, “It is long since the DPRK's nuclear striking means have entered the stage of producing smaller nukes and diversifying them,” further stating, “The DPRK has reached the stage of ensuring the highest precision and intelligence and best accuracy of not only medium and short-range missiles but long range ones.”¹⁶ North Korea has (at times) exaggerated its military capabilities. But at the same time, the DPRK has often surprised the world with its development of weapons systems.¹⁷ Thus, the North Korean announcement, combined with the public assessments of high-ranking American officials, means that the debate over North Korea's ability to

develop a warhead small enough to be placed on a long-range missile is likely to continue. In the author's opinion, the confidence with which U.S. DoD officials have made their statements means that a test may be in the offing in the future—and that there is more evidence than what has been made available in public channels to date.

DPRK Ballistic Missile Programs in 2015: Compelling Advances in the Threat

North Korea's ballistic missile program has been considered a threat to regional and international security ever since the 1980s—when the DPRK successfully manufactured Scud-B missiles and soon thereafter a) deployed them, pointing them at the South, and b) proliferated them to Iran (Iran almost immediately began firing them at Iraq as the Iran-Iraq war was in “high octane” at the time).¹⁸ Since that time, the array of missiles that North Korea has produced, deployed and proliferated can be considered nothing less than stunning—particularly when one considers the tragic shape Pyongyang's economy is in. The list includes Scud-B/C/D/ER, No-Dong, Musudan, and the Taepodong series. Another key missile is the “KN-02,” the North Korean version of the Soviet “SS-21” (now with a longer range). These are only the ballistic missiles that have actually been deployed and test-launched. There are also other missiles, which I will discuss, that are in development and have caused great concern for American and South Korean policymakers. In this section, I will address developments in North Korea's missile programs that have occurred recently, and address how these developments pose a threat to the ROK-U.S. Alliance, and security in the region (as well as for the United States).

North Korea has recently—since 2013—made several advances in its missile programs. It has also enhanced training for its missile units (as I will address later). But the focus of much of the debate and controversy for many years has been the Taepodong program. Many pundits and “experts” said that North Korea would never be able to put an ICBM through all three of its stages, which mean it would be able to hit the United States. In fact, some have said that North Korea's ballistic missile program is “fake”—an assessment that can only be considered silly by any serious analysts. To quote RAND analyst Markus Schiller (in a report that some people actually took seriously—in a show of poor judgment),

The security community generally believes that North Korea has obtained its missiles by producing large numbers of reverse-engineered Soviet ballistic missiles. But the data on North Korean missile tests and missile performance raise questions about this explanation: North Korea tests too few missiles to achieve the level of reliability that its missiles appear to possess. North Korea may have achieved this level of reliability by using missiles supplied directly by Russia or produced as part of a licensed production arrangement.¹⁹

Schiller obviously failed to address the tests that other countries conducted of missiles purchased from Pyongyang. He also showed no evidence—zero—to prove his allegation that somehow Russia was supplying any missiles to North Korea. In other words, his assessment is based on a guess with no supporting data.

What data shows us over recent years is that the Chinese may be assisting North Korea with its ballistic missile program. There is no evidence to suggest that this has been going on for many years, but there is certainly evidence that small, yet important initiatives have occurred in recent years. One key example of this is the training that the Chinese have provided to North Korean technicians on the “Beidu” satellite navigation system. North Koreans, along with specialists from seven other nations, received intensive and useful training on the GPS-associated technology from the system—in China—and are most likely to use this technology in systems such as the Taepodong.²⁰ Speaking of the Taepodong, the North Koreans used many components from foreign sources for their successful launch of the three-stage system in 2012 (including from the U.S.).²¹ In other news regarding the ongoing development and testing of the Taepodong series of ballistic missiles, construction at the Sohae launching site near Tongchang-ni in February 2014 showed near completion of a larger rocket launch pad. Imagery from July 2014 showed other improvements to the launch site that would enhance the capability to launch a larger rocket than seen in past launches. New buildings have also been constructed at the site that will add to the efficiency of future launches. Assessments by many analysts indicate the improved facility is being designed to launch a more powerful ballistic missile with a heavier payload.²²

While continued development of the Taepodong series of missiles is certainly troubling, also troubling is the significant increase in the testing

of a variety of missile systems, which has been on the uptick since early 2014. One example of this was the several dozen launches of the “Free Rocket Over Ground” systems conducted during March 2014. The 1950s era system has been in North Korea’s inventory for a long time, and can be aimed at Seoul, but this large a number of launches has not been noted since before even the Kim Jong-il era.²³ Continuing with the trend of conducting a high number of missile launches, during both 2014 and 2015 North Korea conducted several launches of their Scud systems.²⁴ Another interesting set of missile launches occurred when North Korea conducted No-Dong firings during March 2014. Launches were simulated during 2015. The 2014 test launches were reportedly conducted with a modified version of the missile—a version that could carry a nuclear warhead. The firing angle for the launches indicates attempts to modify the missile in order to evade ballistic missile defense systems such as the “Patriot Advanced Capability” (PAC-3).²⁵ Another important—and deadly— missile that was tested several times during the 2014-2015 timeframe was the KN-02. This missile is the North Korean variant of the Soviet SS-21—a missile deployed against North American Treaty Organization (NATO) forces by Soviet and Warsaw Pact forces during the Cold War. The KN-02 has a range of up to 170 kilometers, uses solid fuel (making it easier to transport and fire) and has an advanced GPS system for nearly pinpoint guidance. North Korea reportedly has at least 100 KN-02 systems and at least 30 mobile launches have been deployed with the system.²⁶ The KN-02 will be a key weapon in an attack against the South.

While the number of North Korean missile systems tested has been quite compelling in recent times, there are other systems that the North Koreans did not test that have also caused quite a stir. The North Korean Musudan missile has not been tested on the Korean Peninsula, but has been tested in Iran.²⁷ Despite the fact that many American analysts tend to ignore the fact that the Musudan was tested in Iran and has now been field deployed in North Korea,²⁸ there continues to be quite a bit of debate about whether or not the missile is operational. But if one is to wonder how seriously the U.S. government takes the Musudan threat, one can simply look back to the last time Musudan missiles were deployed on launchers for a possible launch. During April 2013, Pyongyang deployed a Musudan missile in firing mode on its east coast. The United States reacted by deploying a “Terminal High Altitude Area Defense” (THAAD) ballistic missile defense system to Guam—U.S.

sovereign territory within range of the missile.²⁹ Obviously, Washington takes the Musudan threat seriously, and there are now many systems deployed both in North Korea and Iran.

A missile system that has not yet been tested has become the focus of military analysts and policymakers in recent years. This is tied into the “miniaturization debate.” As addressed earlier, this debate began with public assessments by high-ranking policymakers and intelligence specialists that North Korea had the ability to make a nuclear warhead small enough that it could be put on a road-mobile ICBM. The ICBM that these officials have been addressing, in what is now a widely publicized U.S. government assessment, is the KN-08. The KN-08, a road-mobile ICBM deployed on a wheeled transporter-erector-launcher, has been publicly displayed in military parades in Pyongyang. During November 2013, the first high-ranking official to speak of KN-08 capabilities, Commander of U.S. Forces Pacific Admiral Samuel Locklear, stated that the KN-08 was potentially a serious threat to the United States.³⁰ This was followed up by Congressional testimony by James Clapper, the Director of National Intelligence, who in January 2014 stated in part, “North Korea has publicly displayed its KN08 road-mobile ICBM twice. We assess that North Korea has already taken initial steps towards fielding this system, although it remains untested. North Korea is committed to developing long-range missile technology that is capable of posing a direct threat to the United States.”³¹

While there is scant evidence in open sources regarding the capabilities, development, and deployment of the KN-08, military and intelligence officials have been increasingly open and progressively alarming about the missile system. Of course, this missile would be the most compelling threat to the United States from North Korea—ever—if it was to become completely operational. This is because if that was the case, it would a) be a road-mobile system and thus harder to target, b) have the range to target United States territory, and c) have the capability to carry a nuclear warhead.

Admiral C.D. Haney, the Commander of United States Strategic Command, testified to Congress on March 19, 2015 that North Korea continues to advance its ballistic missile programs, including the development of a new road-mobile missile (presumably he was referring to the KN-08).³² During the same month, the Vice Director of the Missile Defense Agency, Navy Vice Admiral James Syring stated that both Iran and North Korea could have the ability to launch an ICBM by “this

year,” referring to 2015. He also remarked in February 2015, that the United States was striving to “stay ahead” of the KN-08 missile threat. Syring made his remarks at press briefings.³³ And of course, there were the remarks of North American Aerospace Defense Command (NORAD) Commander, Admiral William Gortney, in April 2015 that left no doubt that the assessment was now the KN-08 missile system was ready to hit the United States. Gortney stated, “We assess that it’s operational today, and so we practice to go against that.”³⁴ And perhaps the most compelling testimony regarding the KN-08 came from the Commander of USFK during April 2015, when he told the Senate Armed Services Committee (in open testimony) that he believed North Korea had the ability to “miniaturize” a nuclear warhead to place on the missile. He also stated that “we must assume” that the North Koreans had the capability to hit the U.S. with a KN-08.³⁵

The KN-08 is an interesting and unique ICBM. Based on analysis from those who have examined the few pictures that exist of it, it appears to be about 17 meters long. It is a three-stage missile, with the first stage likely to be a cluster of four Scud engines, the second stage likely a Musudan engine (“SS-N-6”), and the third stage likely a cluster of Musudan engines (also called the “R-27”).³⁶ It appears to be a simple yet very practical design, and one that is highly mobile. It should be stressed, though, that as of the writing of this paper, the KN-08 remains untested in flight. Thus, the logical analysis would point to the assessment that there is unreleased evidence in classified channels that has led to the flurry of high-ranking military and intelligence officials making statements that clearly show the United States believes this missile is operational—and thus ready to strike at any time. While this evidence has not yet been released, one thing is for sure; North Korea has made much faster progress on this missile that many called a “mock-up” in 2012 than anyone would have predicted. If, as several senior officials have stated, this missile truly is operational—and the North Koreans have successfully manufactured a nuclear warhead that can fit on it—it now presents the most compelling threat to American national security that has ever existed.

North Korea’s Maritime Advances in 2015: Compelling Advances in the Threat

While North Korea’s nuclear capabilities and its ground-based ballistic missile capabilities have certainly been worthy of watching in

recent times, the more traditional military capabilities that the DPRK possesses cannot be overlooked—and the North Korean navy has certainly not been idle. Thus, in this section, I will address the maritime capabilities for North Korea that have grown with almost unprecedented speed in the Kim Jong-un era. Among these many advances I will discuss will be improvements in ships, submarines, missiles, and even base improvements. The rise in capabilities is only matched by the speed in which they have occurred.

One of the most surprising updates in naval capabilities is to North Korea's Najin-class frigate ships. Several long overdue upgrades to weapons systems are apparently being installed on these ships.³⁷ Among the weapons systems now being installed on at least one of North Korea's Najin-class and other ships in the North Korean fleet as well, is an advanced (for the North Koreans) anti-ship missile. The missile system appears to be a North Korean version of the Russian "KH-35", which flies at a speed of 300 kilometers and can also fly at very low altitudes. While South Korea's more advanced ships, such as its Aegis-equipped vessels, are well prepared to defend against this type of missile, its older ships are much more vulnerable.³⁸ There is also an air force version of the missile that the North Koreans could potentially use on their IL-28 bomber aircraft. During one of the tests for the missile, the ship launching it was a recently developed catamaran-hulled missile patrol craft (PTGF) that incorporates stealth technology in its hull, reducing detection from enemy radars. The missile patrol craft is around 38.5 meters long and 13 meters wide. It carries other sophisticated weaponry in addition to the KH-35. The North Koreans have reportedly produced at least six of these ships thus far³⁹. Proliferation of this ship (with sophisticated capabilities) is a concern—especially to Iran. In addition to the KH-35, North Korea continues to make improvements in its "KN-01" anti-ship missile.⁴⁰

Speaking of radar-evading naval craft, North Korea has also built another (very new) highly capable craft that was detected in open sources—and probably deployed—since 2014. The craft is reportedly cylindrical, and is about 30 meters long. It is armed with 30 millimeter guns and torpedoes. It can travel at speeds of 60 miles per hour or more, which makes it even faster than the air-cushion craft North Korea has stationed on both coasts. The biggest threat from this craft appears to be the fact that such a high-speed vessel is designed to infiltrate special operations forces (SOF).⁴¹ The high speed of the vessel, combined with

its formidable weapons systems, means that Pyongyang has now increased the odds of successfully infiltrating SOF into the South during wartime using maritime means.

Ironically, what many analysts consider the most important development in maritime capabilities is one that not many have paid attention to until recently—submarines. North Korea has about 70 submarines, but the majority are the very small Yugo-class or Sango-class infiltration subs—or the now infamous Yeono-class sub (also primarily an infiltration sub) that sank the Cheonan-class South Korean Corvette in 2010.⁴² North Korea also has about 20 Romeo-class submarines, which until recently could be considered the largest of their submarine fleet. The Romeo-class sub is very noisy and, with modern means, relatively easy to detect.⁴³ But in 2014, the world began to pay more attention to North Korean submarines as a regional and international threat.

During the summer of 2014, it was disclosed that the North Koreans were working on a submarine capable of launching ballistic missiles. According to press sources, U.S. intelligence agencies confirmed a missile launch tube on a North Korean submarine in imagery. The submarine, which would easily be the most sophisticated in Pyongyang's inventory, appears to be either a modified version or a copy of the Soviet era Golf-class submarine. The North Koreans purchased several decommissioned Golf-class submarines from Russia in 1994. The North Koreans also have "SS-N-6" missiles—their own version—that they purchased from "rogue" Russian technocrats during the early 1990s. Those who follow the North and its military know that these missiles are now known as the "Musudan." The technology for the missile tubes spotted in imagery was likely derived from the decommissioned subs the North acquired.⁴⁴ The submarine could potentially be a threat to targets such as Hawaii (with a nuclear-tipped missile if the North Koreans have the technology to do so), as it has a range that takes it out of littoral waters, and with the right missile it would be able to range areas outside of Northeast Asia.⁴⁵ The submarine, which most assess to be a DPRK version of the Golf-class, appears to be well on the way to being operational. It is 67 meters long, has a beam of 6.6 meters, and a diving displacement of approximately 3,000 tons. It is probably capable of carrying a North Korean variant of a nuclear-tipped ballistic missile (which I will address next), and in fact, the North Koreans are driving toward that goal. Analyst Joseph Bermudez confirms the sub houses

vertical launch tubes and has designated it the “Sinpo-class.”⁴⁶

Speaking of the new, longer-range, ballistic missile-carrying submarine that the North Koreans are developing, the missile that it will fire has been the focus of a great deal of analysis since the summer of 2014. The possibility of a North Korean submarine equipped with a submarine-launched ballistic missile was confirmed by South Korean officials during September 2014. During November 2014, it was confirmed that North Korea had conducted tests of an ejection launcher for an SLBM. In March 2015, senior U.S. officials confirmed that in February, the North Koreans had conducted a flight test of the same SLBMs that would go on the new submarine the DPRK had developed (or copied). Perhaps in the most shocking aspect of what looks to be lightning-fast development of both the submarine and the missile that it will fire, in May 2015 the North Korean government claimed it had successfully test-launched an SLBM, from a submarine, while it was submerged. Pyongyang also showed film and images of what it said was a successful test-launch. South Korean defense officials assessed that the North Koreans are still about four to five years away from an operational, SLBM-launching submarine. American officials also reportedly think North Korea is several years away from an operational submarine/SLBM. American intelligence agencies reportedly watched the May test very closely, and in the photos the missile appeared to be a variant of the SS-N-6 or the Musudan. Admiral James Winnefeld of the U.S. Joint Chiefs of Staff suggested the test was a fake—with manipulated photos. Others disagreed though, stating that at the very least, the missile was launched from a submerged barge, which means development and testing is advancing.⁴⁷

According to arms expert Hong Seong-min of the South Korea based think tank Security Policy Networks, the North Koreans developed the launching device for the new SLBM by modeling it after a Soviet era device that the DPRK imported through a (obviously illegal) Japanese trade partner back in 2003. He also said that it was his assessment that the SLBM had actually been successfully mounted on the Sinpo-class submarine (apparently the North Korean variant of the Golf-class). According to press reports, there are some in the South Korean Defense Ministry who assessed in 2015 that the Sinpo-class submarines could operationally deploy equipped with the new SLBM in two to three years.⁴⁸ While the test of the new launching device for the SLBM (and what appears to be an initial testing of the missile itself) has been

downplayed by some analysts, others disagree. According to one report, the test in May reveals a preliminary capability to conduct missile launches beneath the surface of the water. (The missile flew about 150 meters.) If one is to judge the test by assessing that it was to determine if the ejection system and rocket motors are proficient in getting the missile through the water and above the surface successfully, then the test in May 2015 can be seen as a solid first step for the DPRK in moving forward with its SLBM program.⁴⁹

North Korea's Air and Ground Forces in 2015: New Systems and Training Trends

I believe the evidence shows that North Korea has made important strides in its WMD systems and platforms, and also in its development of maritime systems. But especially when it comes to conventional forces, in North Korea the focus has always been on ground forces. Air forces play an ancillary, yet important role as well. In the North Korean military, the systems are important—and often outdated—but the readiness and capabilities of this million-man military are also important. Thus, when it comes to air and ground forces, I will address not only systems, but planning, recent exercises and training as well. In recent times, the North Korean military has reportedly been rife with corruption. Activities such as the trading of classified information for money across the Chinese border (likely to reporters), illegally allowing North Korean citizens to slip across the border into China, and bribing of senior officers in order to obtain furloughs and long leave passes, are reportedly rampant now within the North Korean army.⁵⁰ Thus, one must ask, what is the status of the readiness and capabilities of DPRK air and ground forces?

When it comes to air platforms, North Korea has made advances that have an impact on the way the ROK-U.S. alliance must defend the South against attacks and North Korean based intelligence gathering. Among these airborne platforms that have the potential to make significant impact on the battlespace are the drones the North Koreans have utilized against the South—particularly since early 2014. Among the drones that targeted South Korea—two of which were downed during March 2014—were unmanned aircraft that appeared to be of Chinese design. The downed drones caused a stir in the ROK populace about ROK defenses against these small, newly utilized (at least according to open sources) unmanned aircraft.⁵¹ According to reports from the spring of 2014,

North Korea has developed a drone (now indigenously produced) capable of attacking U.S. and ROK ground targets, based on the American MQM-107 Streaker target drone.⁵² How North Korea got the exact technology to make copies of American unmanned aerial vehicles (UAV) is unclear—but clearly quite compelling. The UAVs now pose a threat to South Korean and American forces on the Korean Peninsula using U.S. technology.

While UAVs are a new aspect of the threat that North Korea poses to the South and to the ROK-U.S. alliance, they are not the only airborne platform that merits interest. While North Korea's jets get a lot of attention, Pyongyang continues to struggle to find spare parts and to gain training time for its best pilots.⁵³ But the aircraft that keeps military planners awake at night is a plane that most would rarely pay much respect to. The AN-2 is a bi-plane that can fly at extremely low altitudes, avoiding radar, and able to carry eight or more fully equipped Special Operations Forces troops. The North Korean air force has about 300 (or more) of these old, yet very reliable and highly capable aircraft. The AN-2 would be the initial platform for airlifting thousands of SOF troops into the South during a war, giving Pyongyang the ability to develop a second front, and forcing troops off of the front lines.⁵⁴ In early 2015, it was confirmed that North Korea had made changes to the camouflage patterns on most or all of its 300 AN-2s. The aircraft are now sky blue on the belly of each plane. The AN-2, which can fly through gorges and small valleys carrying SOF troops on hard to detect paradrops, reportedly was involved in a large number of training events during 2014, with 10,000 to 15,000 SOF troops participating.⁵⁵

North Korea has also continued to improve the numbers and capabilities of its ground forces. The DPRK has around 2,500 armored personnel carriers (APCs) as of 2014—up around 300 units from 2012. This of course also means that the North Korean APCs continue to outnumber those of the ROK.⁵⁶ Meanwhile, North Korea has recently upgraded its main battle tank, known as the “Songun-ho,” with several important features. The tank is reportedly now equipped with 93 mm-round thermobaric rocket launchers and “SA-16” portable missiles.⁵⁷ Other ground based systems are being brought into the North Korean army as well. Throughout 2014, the North Koreans tested—successfully—a 300 mm multiple rocket launcher (MRL) system that can now target all of Seoul and American military bases south of the city. The system has a range of up to 180 kilometers or more and can carry a

payload of 150 kilograms. The MRL system may be based on the Russian “BM-30 SMERCH” or a similar weapon. North Korea already has 13,000 MRLs and artillery systems—many of them deployed along the DMZ. But the deployment of this new 300 mm MRL will enhance the “quick strike” threat the North already poses against the South with its missiles and long-range artillery.⁵⁸ Finally, in Congressional testimony, former Central Intelligence Agency Director James Woolsey warned that North Korea is developing and expected to soon be capable of fielding electromagnetic pulse weapons (EMP). Reportedly, the South Korean Defense Ministry agrees that the weapons are being developed in North Korea, but does not assess that the EMP weaponry has been fielded. If and when the EMP weapons are fielded, they could neutralize airborne defense systems, radar, ships at sea, and aircraft.⁵⁹

While North Korea has been active in developing and upgrading its military capabilities, it has not been idle in the exercises and training that are used to maintain the readiness of its military units. This is not strictly limited to conventional units. In fact, North Korea carried out at least a dozen biological and chemical exercises between February 2014 and February 2015. The drills were assessed to be offensive in nature, being used to plan for a bio-chemical attack. This is also assessed to be a significant increase in bio-chemical training, as in the past these exercises have typically been limited to small drills during the summer time. North Korea is assessed to have at least 4,500 tons of chemical agents, to include hydrogen cyanide, mustard gas, sarin, phosgene, tabun, and chlorine. But North Korea’s drills since 2014 have not been limited to chemical weapons exercises. There has reportedly been an increase in offensive exercises, to include coastal landings and river-crossing exercises.⁶⁰

During January 2015, the scope and focus of North Korean military exercises was quite compelling. In early January, several units from the frontline corps conducted recoilless gun-firing drills (recoilless rifles are deployed along the DMZ opposite South Korean guard posts). Later in the month, fighter and attack squadrons conducted drills that involved MiG-23, MiG-29 and Su-25 aircraft. On January 27, the Korean People’s Army conducted a large-scale river-crossing drill, and on January 31, an anti-naval drill was conducted on the east coast.⁶¹ Also during January 2015, and perhaps the most compelling event seen that month, the DPRK reportedly conducted an exercise simulating a raid on Incheon airport. The exercise involved SOF troops and infiltration

aircraft (likely the AN-2). The North Korea military is also said to have a plan—and has conducted drills to support it—to invade and occupy the five islands along the Northern Limit Line (NLL) on the western border of the two nations.⁶² But there is more on what has been happening along the NLL—directly related to North Korea’s ambitions for military action there.

As an important follow-up to the apparent increase in scope and focus of North Korean military exercises, it has recently been revealed that in 2012, Kim Jong-un and his senior military officials hastened in developing a new war plan for the invasion of the South at a meeting in August 2012. The plan, called the “Seven Day War,” assesses that the invasion can be ended in 15 days (much more than that would be disastrous for the North Korean army). It calls for the use of asymmetric weapons to kick off the attack—long-range artillery, missiles, chemical and biological weapons, and perhaps, nuclear weapons. SOF troops would open up a second front, and then conventional forces would move into the gaps created by this confusion and destruction. Kim Jong-un is said to have ordered his corps commanders to come up with operational level plans to support the “Seven Day War.”⁶³

In direct correlation to the war plan and tied into violence in the NLL that has occurred off and on continuously since 1999, there have been more incidents in the disputed area since the winter of 2014. During March 2014, the North and South Koreans exchanged artillery fire (hundreds of shells) along the NLL—causing residents on the five islands along the violent border to be evacuated to shelters. North Korea continues to beef up its forces facing the islands and the waters in the NLL area. The DPRK has up to a thousand coastal artillery guns and MRLs facing the islands. They also have anti-ship cruise missiles along the shoreline, and naval bases to launch hovercraft carrying invading troops nearby. As recently as May 2015, it was confirmed that North Korea had built new bunkers to support 122 mm MRL units on the island of Gal, which is only 4.5 kilometers from Yeonpyeong Island—an island previously targeted for artillery attack with the very same weaponry during 2010. Tied into all of the military construction and brinkmanship in the disputed area, during May 2014 North Korea fired artillery rounds at a South Korean ship conducting routine patrols near the NLL. Continued tension and rhetoric remains a norm for this area, and violent North Korean actions there are likely to continue.⁶⁴

North Korea and Cyber-Warfare: A Growing Threat

The focus that the international press and policymakers have had on North Korea's cyber-warfare capabilities has drastically increased since the highly publicized hacking of Sony Corporation in response to the projected release of "The Interview" in late 2014.⁶⁵ But the North Koreans have been building up their cyber-warfare capability for a number of years. And in recent years, North Korea has hacked South Korean business, government, and non-profit entities several times—to the extent that it has caused Seoul to increase its own counter-cyber capabilities.⁶⁶ Thus, in this section, it will be my goal to introduce the reader to the growing threat that North Korea's cyber-warfare force presents to the security and stability of networks in both South Korea and the United States.

Experts in South Korea now assess that cyber-warfare is among North Korea's highest priorities.⁶⁷ Experts also say that South Korea is highly vulnerable to cyber-warfare conducted by North Korea.⁶⁸ In addition, reports indicate North Korea has doubled the number of "cyber-warriors" in its arsenal since 2012.⁶⁹ North Korea has bolstered its cyber-warfare capabilities by deploying agents outside of its borders. Current estimates place the number of personnel working in this field to be around 6,000—many of them working in the Reconnaissance Bureau.⁷⁰ During December 2014 the United States sought the help of the Chinese government in blocking hacking attempts against ROK and U.S. targets—though Beijing did not respond with action that would stop these activities.⁷¹

Because the Reconnaissance General Bureau (RGB) is in reality subordinate to the National Defense Commission—and not the Ministry of Peoples Armed Forces (MPAF) like the rest of the military—it is able to operate in a less bureaucratic environment than most military units. The RGB is where the largest portion of North Korea's cyber-warriors are housed. According to a high-ranking defector, most of those highly trained specialists who go to cyber units are educated and trained at Mirim University. They are treated better and live better than most military personnel, and many are children of the elite families in North Korea. North Korea has been able to achieve the technological capabilities necessary to conduct sophisticated operations using cyber-warfare thanks to a variety of sources and resources—including help from China. Reportedly, those gifted students (largely from elite families in North Korea) who show outstanding math skills are targeted

by the DPRK regime for service within units that conduct cyber-warfare.⁷²

The skilled set of cyber experts that are now housed in North Korea's RGB and other units, have proven their technical skills both in attacks on the South and in other instances. In late 2014, a nuclear power plant in South Korea was targeted, but this is only the most recent in a spate of attacks that has been on an ongoing uptick for at least the past four years. Of course the most infamous episode of successful cyber warfare was not targeted against South Korea, but the United States. American Federal Bureau of Investigation officials have formally and publicly confirmed that North Korean operatives working for the RGB hacked into Sony's networks. The operatives were reportedly working out of Shenyang in China, and were part of "Office 121," a unit subordinate to the RGB and manned by highly trusted personnel. Why China allows North Korea to operate such a unit within its sovereign territory is an open question, but claiming ignorance is an excuse not likely to be taken seriously by officials in the United States.⁷³

Using Its Military Capabilities: North Korea and Violent Provocations in 2015

North Korea has made interesting advances in its military capabilities, but the DPRK is not hesitant to use its capabilities in violent actions against the South. North Korea's violent provocations—almost always—have four key things in common (as I have written about previously): 1) they are intentionally initiated at moments when they have the likelihood of garnering the greatest attention on the regional and, perhaps even, the world stage; 2) they initially appear to be incidents that are relatively small, easily contained, and quickly "resolved;" 3) they involve continuously changing tactics and techniques; and 4) North Korea denies responsibility for the event.⁷⁴

On August 4, 2015, two South Korean soldiers on patrol 1,440 feet south of the military demarcation line stepped on what were clearly North Korean "wooden box" mines. Both South Korean troops were severely wounded, with one soldier needing to have one of his feet amputated, and the other needing to have parts of both of his legs amputated.⁷⁵ The mines were planted well south of the North-South demarcation line, which means North Korean troops (likely Special Operations Forces personnel) successfully snuck into the DMZ, planted the mines, and then snuck back out—without taking any casualties from

South Korean troops on guard in the area. This was the first successful DPRK violent provocation since the artillery attack on Yeonpyeong Island during November 2010.⁷⁶

Following North Korea's attack on South Korean troops, South Korea resumed (for the first time in 11 years) loudspeaker broadcasts across the DMZ—including “K-Pop” music. These broadcasts clearly were a sore spot for the leadership in the DPRK, which initially responded with rhetoric. On August 20, 2015, the North raised the ante. At 3:52 pm, North Korean troops fired a rocket round (caliber undetermined) into South Korean territory just south of the DMZ. Twenty minutes later the North attacked again—this time firing several rounds from what was reported to be a 7.62 mm direct fire weapon. South Korea responded by firing several rounds (reportedly several dozen rounds) into North Korea, using 155 millimeter artillery, aimed at the attacking forces in the North. As a result of the incident, South Korea temporarily evacuated two villages near the DMZ. The North Koreans had constantly been threatening to attack the South Korean loudspeakers broadcasting into North Korea.⁷⁷ Several days later the North (which had started all of this “tit-for-tat” in the first place) called for talks at Panmunjom—but at the same time was threatening “all-out war” if South Korea did not cease its loudspeaker broadcasts. As the talks were progressing, about 70 percent of North Korea's submarines were suddenly reported to be missing from port. As this was occurring, the North was in the process of beefing up its artillery and other combat forces along the DMZ.⁷⁸ These moves were likely meant to intimidate Seoul as the North-South talks progressed at Panmunjom. After 43 hours of talks, the North and South released a six-point communique in which the North “expressed regret” (but did not apologize or take the credit for the landmines that badly wounded two South Korean troops), and the South agreed to cease the loudspeaker broadcasts.⁷⁹

Following the landmine provocation, several key initiatives reportedly occurred for South Korean military forces deployed along the DMZ. First of all, important rules of engagement changes were initiated. Before the incident, ROK troops would broadcast warnings to North Korean troops making incursions into the DMZ on the South side, and then fire warning shots. Now, ROK troops will fire aimed shots initially at DPRK troops infiltrating into the south side of the DMZ. South Korean troops now will also wear “mine-proof” boots, and carry mine detectors.⁸⁰ These moves are important and will enhance the safety of

ROK troops.

If one is to look at the "tension period" during August 2015, it is quite clear that the original violent provocation that set this whole thing off meets all four of the criteria I referenced earlier about violent provocations. It seems to me that the threat of violent provocations was (obviously) just as compelling in 2015 as it was in 2010. If anything, the cyber threat exacerbated since around 2011 has made the threat more diverse. If one is to add the ongoing instability in the Kim Jong-un led regime, it makes the threat from North Korea an issue that military planners and policymakers can and should continue to take very seriously. The spate of provocations during August 2015 was—without a doubt—pre-planned. The provocation cycle closely mirrored my previously described “Four Things Violent Provocations have in Common” agenda (articulated live in 2012).⁸¹ And after the South Koreans had suffered casualties, and after the loudspeakers were turned off, one must consider: did North Korea actually accomplish pretty much everything they wanted with this obviously pre-planned and carefully carried out provocation cycle?

Conclusion

The evidence shows—clearly—that North Korea in the Kim Jong-un era has continued to pursue the weapons programs and the brinkmanship that Kim Jong-il was well known for. The only difference is that this appears to be happening at a stepped up rate under Kim Jong-un. Thus, one is forced to ponder, what are the reasons for this? There have been no real moves to engage in realistic talks with South Korea. There have also been no moves to ramp down tensions that exist on the Korean Peninsula. In fact, missile firings, incidents in disputed areas, and bombastic rhetoric from North Korean government authorized sources have been the order of the day. This leads one to believe that there has to be specific motivations for the spate of military developments, testing of advanced systems, and stepped up exercises occurring in North Korea since late 2013.

Based on the evidence, one would tend to believe there are two key reasons why there has been a flurry of diverse military activity in North Korea since late 2013. The first reason is that it may be a reaction to the increase in unification focus and planning that has been coming from Seoul during this time period. This increased focus on unification may be a motivator for Pyongyang to show that it remains a strong military

power, having no intention of compromising with the South. In fact, this is what has actually occurred during the Kim Jong-un regime. There has been no real engagement and the focus has been on showing off and developing new and advanced weapons systems that would be used for offensive purposes against South Korea and/or the United States

There is another reason that North Korea may be conducting this flurry of activity relating to its military. Kim Jong-un still has not fully consolidated his power in the three key institutions of the DPRK—the party, the security services, and the military. But the military has been the institution with the most instability. The constant rotating of senior level uniformed officials, the purges and executions, the anecdotal reports of corruption and morale issues in a number of units and the high number of defense chiefs are evidence that Kim Jong-un is still attempting to build a power base in the military—but has not even come close to building the loyalty and security that his father commanded. Anecdotal incidents like those discussed above (and worse) also occurred under Kim Jong-il—including a corps-wide mutiny in 6th corps. The difference is that now—and this is key—much of the corruption, confusion and fear exists at the very highest levels. This is as a result of the misjudged overcompensation and purges conducted by Kim Jong-un. His father always had the loyalty of the army and knew how to pay off or coerce high-ranking officials to get the loyalty of those that mattered—despite the problems with maintaining a 1.2 million man military in a country of 24 million people, with an economy in the toilet. Kim Jong-un still has no real power base in the military. This may—may—be what brings him down. Thus, one way to gain credibility with the military would be to support the building of new systems, to provide resources for advanced and sophisticated exercises, to conduct violent provocations, and to take a strong military approach in policymaking.

It is not clear if the DPRK's reasons for stepped up military activity—and provocations—over the past 18 months are internal or external (as discussed previously)—or both. What is clear is that Kim Jong-un continues to struggle to consolidate his power and to maintain stability within the North Korean government. Unless or until this happens to the degree that North Korea becomes more stable, there will be many challenges to establishing realistic engagement that could one day lead to peaceful reunification.

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