Risk Mitigation Consulting Inc.

Intelligence and Analysis Division

WHITE PAPER SERIES

North Korea Situation Update

February 2022

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North Korea Situation Update

Introduction

North Korea conducted seven missiles in January 2022, breaking a period of relative inactivity. North Korea's missile program has been underway for decades, and the country often conducts missile tests as a provocative act or "show of force" in response to (or in defiance of) international actions taken against North Korea. This paper will briefly examine the history of North Korea's missile program, before providing a summary of recent testing activity and the associated technological advances.

Background

North Korea is one of the most active proliferators of complete ballistic missile systems, components, and technology in the world. The country aims to use its ballistic missile program to ensure the country's security, potentially both offensively and defensively. Additionally, the purchase of these missile systems and technology by other countries generates revenue for North Korea. Beginning in the 1960's North Korea acquired rockets, surface-to-air missiles (SAMs), and anti-ship missiles with the aim to create a national missile program.[1] The country's missile program took a large step forward in the early 1980's, when North Korea acquired short range Scud missiles. These were reverse engineered and used to develop a ballistic missile program. The first versions of these were tested in the summer of 1984. Of the six tests, half exploded upon or immediately after launch. These missiles originally reached a range of 186 miles. However, over time North Korea was able to modify these to reach up to 310 miles.[2] The Extended Range Scuds were tested in 2016. The greater the range, the greater the threat posed by the weapons. North Korea has tested short-range ballistic missiles (SRBMs), intermediate-range ballistic missiles (IRBMs), and intercontinental ballistic missiles (ICBMs).[1]

The North Korean missile program surged in 2011 as Kim Jong-Un (the country's current leader) came to power. A massive increase in tests and innovation has been seen in the last decade. This includes the development and testing of a submarine-launched ballistic missile. Additionally, solid-fueled missiles have been tested. [2] Furthermore, North Korea is the only nation that has withdrawn from the Treaty on the Nonproliferation of Nuclear Weapons. The addition of potential nuclear capacity to missiles would further enhance North Korea's goals of defensive and provocative attack capabilities.[3] In November of 2017, North Korea completed a successful test flight of an ICBM which it claimed was capable of delivering a nuclear weapon to any point within the United States.

It should be noted that one of the most immediate benefits on North Korea's missile program is the ability to use it to make political statements. The timing of missile tests from the country often coincides with or responds to external events it perceives as threatening. Additionally, the testing of missiles is also perceived as a way to boast of the nation's offensive capabilities. [4]

Missile tests from North Korea frequently spark political condemnation from the international community. In additional to diplomatic rebukes, one frequently used tactic to dissuade further missile tests from North Korea is the use of sections, both the implementing and removal of. The US agreeing to lift sanctions on the country lead to a pause on missile testing from 1998-2006. In addition to sanctions, other countries have responded to North Korean missile testing with shows of force. This includes South Korean live-fire military exercises. North Korea's missile testing also spurs the United States to develop and upgrade missile defense systems. For example, North Korea's 1998 missile test prompted the US to develop and utilize the ground-based midcourse defense system.[2] In 2018, Kim Jong-ug committed to "stop nuclear tests and launches of intercontinental ballistic missiles." Short-range missile tests were conducted in 2019 and 2020.[4] An intermediate range ballistic missile was fired for the first time since 2017 in January of this year.[5]

Recent Developments

North Korea agreed to a number of concessions during the previous presidential administration, including gradually moving towards a nuclear-free Korean Peninsula. The result was a "self-imposed moratorium" on testing nuclear weapons and intercontinental ballistic missiles (ICBMs) during discussions with the U.S. and South Korea. However, North Korea continued a series of short-range ballistic missile (SRBM) tests. That moratorium seems to have ended. North Korea conducted seven missile tests in the month of January, which was more than in the entirety of 2021 and the most since the summer of 2019. The tests resumed following a series of sanctions the U.S. placed on five officials after two hypersonic missile tests on 05 and 11 January.[6,7,8]

The two missile tests that followed were conducted with SRBMs. The first test was on 14 January. It included two rail-mobile KN-23s launched 11 minutes apart from northwest North Korea for 430 km at an altitude of 36 km at Mach 6. The SRBMs struck an island off the country's east coast. The second was on 17 January. It included two road-mobile KN-24s launched four minutes apart from Sunan Airport in Pyongyang for approximately 380 km at an altitude of 42 km. They were also directed at an island off North Korea's east coast. Both were likely intended as a response to U.S. sanctions. From a purely tactical perspective, these tests demonstrate only incremental progress on the part of North Korea's missile program.[9]

Next, on 25 January, North Korea launched two unidentified land-attack cruise missiles (LACMs) for an unspecified range into the Sea of Japan. It also launched two road-mobile KN-23s on January 27 that hit a "target island" 1,800 km away following a flight of over 2.5 hours.[10]

The missile tests culminated on 30 January with a demonstration of North Korea's Hwasong-12, which is an intermediate-range ballistic missile (IRBM). It was first introduced in 2017 and is capable of reaching Guam. The missile was reportedly launched on a trajectory high enough to avoid border incursions against neighboring countries. It reportedly reached a maximum altitude of 2,000 km, traveling 800 km into the Sea of Japan. The missile is the longest range that North Korea has tested since launching the Hwasong-15 ICBM in November 2017.[6,11]

The rapid pace of tests in January suggests a return to a more contentious relationship between North Korea and the U.S. North Korea's economy has suffered amid COVID-19 restrictions. However, it would prefer that foreign aid be tied to mutual arms reduction, rather than nuclear disarmament. The U.S. has condemned this latest round of testing and promised a response, which has yet to be announced. North Korea was expected to temporarily disengage from missile tests during the Beijing 2022 Winter Olympics, which ends on Sunday, 20 February 2022.[11]

Advancements in Missile Technology

In the seven missile tests North Korea conducted in January 2022, the tests have displayed hypersonic capabilities as well as the use of SRBMs and IRBMs. Due to a variety of missile tests consisting of different range capabilities, each missile consists of specific missile technologies which have advanced since North Korea began its missile program. These advancements in missile technology, as seen in recent tests, can potentially impact states within North Korea's target range (varies by missile type).[12]

Since the Fall of 2021, North Korea has conducted a succession of tests designed to diversify and expand its arsenal with a variety of new missile systems. Kim Jong-Un last year announced a new five-year plan for developing weapons and issued a "wish list" that included hypersonic weapons, spy satellites, solid-fuel intercontinental ballistic missiles, and submarine-launched nuclear missiles. January 2022 tied the record set in the summer of 2019 for the most test launches in a 30-day period.[13,14]

In 2017, North Korea tested several missiles demonstrating that are reported to be rapid advances in its military technology. The Hwasong-12 was thought to be able to reach as far as 2,800 miles, putting US military bases on the Pacific Island of Guam well within striking distance. Another missile, the Hwasong-15 demonstrated even greater potential, with a maximum range of just over 8,000 miles if fired on a more conventional "flatter" trajectory. This missile would put all the continental US in range.

Prior to the recent 2022 missile tests, North Korea's most advanced missile technology carried out a launch in March 2021 which, in theory, could carry a nuclear warhead. This has been reported as "new-type tactical guided projectile" that is able to carry up to 2.5 tons of material. Some experts have suggested that the missile could have features enabling it to maneuver more easily, making it harder to detect by states such as the U.S. seeking to intercept the missile.

In January 2022, North Korea announced it had tested hypersonic missiles, short-range ballistic missiles and a new, long-range cruise missile system. Each weapon system has its own unique characteristics that are described in depth below.

Hypersonic weapons consist of missiles that fly at low-altitude trajectories which travel at more than five times the speed of sound. North Korea has now claimed to have successfully tested a hypersonic weapons system as part of its military advancement in technology. From a technical standpoint, the speed, but mostly the maneuverability, of such weapons gives them the potential to evade defensive systems. Not only are they difficult to detect, but their ability to make radical course changes as they get close to a target is meant to evade interception. These hypersonic

missile systems are an evolving advancement in warfare and are the focus of a burgeoning arms race between the United States, Russia, China, and now North Korea. It is important to note that some hypersonic missile systems can also carry nuclear warheads.[15,16]

Ballistic missiles, such as the short-range and cruise systems North Korea recently tested, are powered initially by a rocket or series of rockets in stages, but then follow an unpowered trajectory that arches upwards before descending to reach its intended target. Ballistic missiles can carry either nuclear or conventional warheads. Short-range missiles travel less than 620 miles. Cruise missiles are unmanned vehicles that are propelled by jet engines, much like an airplane. They can be launched from ground, air, or sea platforms. As advanced cruise missiles approach their target, remote operators can use a camera in the nose of the missile to see what the missile sees. This gives them the option to manually guide the missile to its target or to abort the strike. Since cruise missiles can fly so low to the Earth's surface, it makes this specific missile system difficult to detect. The cruise missiles fired by North Korea State were fired from launcher trucks and could reportedly strike targets 932 miles away.[17,18]

Outlook

RMC's Intelligence & Analysis Division continues to monitor North Korean missile development and testing activities, particularly as such activity relates to DoD interests in the Pacific Command Area of Responsibility (to include Japan and Guam). North Korea will almost certainly continue to test various missile technologies in defiance of international sanctions. Traditional diplomatic and economic approaches to the North Korean threat have historically been largely ineffective, as the country generally does not adhere to international norms. With that said, despite the country's increasing missile capabilities and a recent history of missile testing, there is little evidence to suggest that North Korea intends to conduct a conventional military strike on the U.S. homeland or U.S. assets in the region at this time.

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