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## Chronology of North Korea's Missile Flight Tests

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North Korea drew international criticism once again for firing a series of short-range missiles off its east coast. On July 2, 2009, North Korea test-fired four short-range missiles, which were followed by seven missiles launched on July 4, 2009. South Korean military officials reported that the test-firings on the U.S. Independence Day involved Scud and No Dong (or Rodong) ballistic missiles that flew about 240-310 miles off North Korea's eastern coast into the sea separating Japan and North Korea, according to South Korea's Yonhap news agency. The missile tests had been expected as North Korea declared a no-sail zone from June 25 to July 10 in order to conduct military drills, but South Korea and Japan called these military exercises a provocative act that violated a U.N. Security Council resolution barring the rogue nation from conducting missile-launch activities. Britain and France issued similar statements, while Russia and China called all sides to remain calm and urged North Korea to return to the six-party talks. These missile tests came after the U.N. Security Council imposed new sanctions prompted by North Korea's second nuclear test on May 25, 2009.

Flight Test	Missile(s) Tested	Description
April/Sept. 1984	Hwasong-5 (Scud-B)	The Hwasong-5 missile was a reverse-engineered version of the Soviet-made Scud-B missile that North Korea received from Egypt between 1976 and 1981. In 1984, six tests of the Hwasong-5 missile were reportedly conducted with three successes and three failures in April and September. It was believed that missile production began in 1986 following these tests.
June 1990	Hwasong-6 (Scud-C)	North Korea conducted its first test launch of the Hwasong-6 missile from the Musudan-ri launch facility. Earlier reports suggested that the first test actually took place in May 1986, but these events were not confirmed. The 1990 test was reported to be a successful launch.  The Hwasong-6 was an indigenously made version of the Soviet-made Scud-C missile and an upgrade of the Hwasong-5 (Scud-B) missile. The upgrade included an increase in the missile's range to nearly 500 to 600 km. Low-scale production of the Hwasong-6 was believed to have started in 1989, which then went under full-scale production following missile tests in 1990 and 1991.
July 1991	Hwasong-6	The second test of the Scud-C was fired from a transporter erector launcher (TEL) from a Korean People's Army (KPA) base in Kangwon-do province. This test was also believed to have been a success and had a range of about 500 km.
June 1992	No Dong (ND)-1	The test of a No Dong-1 missile had either failed or been

		<p>cancelled, according to Japanese media.</p> <p>The ND-1 was an extended version of the Scud missile. Development began some time during 1988-1989, with the first prototypes being completed in 1991. The missile was designed to have a potential range of 1,000 to 1,300 km. The ND-1 later became integrated into the design of the Taepodong-1 and -2 multi-stage launch vehicles.</p>
May 29-30, 1993	Hwasong-5 Hwasong-6 No Dong-1	<p>Four missiles were reportedly launched from the Musudan-ri launch facility without any notification to the international community. At least one or two Hwasong-5 and Hwasong-6 missiles and one ND-1 missile were test-launched. During the test, the missiles were apparently fired at a target buoy in the direction of Japan's peninsula, which Japan saw as a direct threat to its security. U.S. officials were unable to determine whether any of the missile tests were successful, but it was believed that the ND-1 traveled 500 km and one Hwasong missile traveled 100 km. The other two Hwasong missiles were unable to reach the 100 km mark.</p>
May, 31 1994	Anti-Ship Cruise Missile (ASCM)	<p>Officials from the Pentagon reported that North Korea had tested a cruise missile designed to target ships in the Sea of Japan, but the device missed its target during testing. U.S. officials stated that the missile, which had a range of 85 to 150 km, was developed over the course of 18 months and was an upgrade of China's HY-2 Silkworm missile. According to a Pentagon report released in 1996, North Korea began its cruise missile program in the 1980s when it received technology from China and the Soviet Union.</p>
June 2, 1994	ASCM	<p>A second test of the ASCM was fired over the Sea of Japan but missed its target, according to a senior Pentagon official. The test came as the United States pressed for sanctions against North Korea for its suspected nuclear weapons program.</p>
Mar. 30-31, 1995	ASCM	<p>The Japanese government reported that North Korea conducted another test of the ASCM as "part of normal training" exercises.</p>
May 23, 1997	ASCM	<p>North Korea test-launched a new ASCM called the AG-1 cruise missile from a mobile launcher. The firing of the missile was detected by a United States RC-135 Cobra Ball surveillance aircraft and was the first successful test of an ASCM. The new cruise missile was believed to have a longer range than the Silkworm of as much as 120 km with better guidance technology, but Pentagon officials described it as "unimpressive, old technology."</p>
August 31, 1998	Taepodong (TD)-1	<p>North Korea tested a three-stage Taepodong-1, which North Korean officials said was to place its first satellite into orbit. However, U.S., Japanese, and South Korean officials saw the event as a test of a long-range missile that failed but showed North Korea's technical capabilities to develop multiple-stage missiles. During the test, the first and second stages separated approximately 300 km and 1,380 km respectively from the</p>

		launch site. The third stage failed right before reaching orbit but surprised Western intelligence analysts who believed there would be only two stages. According to CIA national intelligence officer, Robert Walpole, the TD-1 had a range of 1,500 to 2,000 km, but this varied among TD variants. TD-1 was developed concurrently with the ND-1 in 1988. Satellite photographs showed that TD-1 consisted of the ND-1 as the first stage and the Hwasong-6 (Scud) as the second stage.
Feb. 24, 2003	ASCM	North Korea fired an ASCM into the Sea of Japan on the eve of the South Korean President-elect Roh Moo Hyun's inauguration. The missile was classified as a KN-01 or Seersucker short-range missile that traveled 60 km before falling harmlessly into the water. This was the first test since North Korea imposed a moratorium on itself on long-range missile flight tests in 1998 after testing the TD-1.
March 10, 2003	ASCM	Another surface-to-air ASCM, similar to the one fired in Feb. 2003, was test-launched into the Sea of Japan. U.S. and South Korean officials saw the two consecutive ASCM tests as provocative actions to get the United States' attention.
Oct. 20, 2003	ASCM	U.S. officials believed the test was of a modified version of North Korea's ASCM. Yasuo Fukuda, Japan's Chief Cabinet Secretary at the time, stated in response to the launch, "We cannot rule out that it could be a kind of demonstration." There were also unconfirmed reports of several other test launches, including one involving a Silkworm missile.
March 8, 2006	ASCM	U.S. officials confirmed reports by Japan saying that North Korea had fired two short-range missiles in the direction of China.
July 4-5, 2006	Taepodong-2	North Korea launched a series of short- and medium-range missiles, including one long-range Taepodong-2 ballistic missile. The North American Aerospace Defense Command (NORAD) determined that the tests were not a threat to the United States. The TD-2 failed 40 seconds after the launch, but it caused worry among foreign governments because the TD-2 had an estimated range of 3,600 to 4,300 km. North Korea's neighbors and the United States condemned the tests and Japan sought an emergency meeting of the U.N. Security Council to consider penalties. Ri Pyong Dok, a North Korean Foreign Ministry official, stated in response to international protests, "The missile launch is an issue that is entirely within our sovereignty. No one has the right to dispute it." In September 2006, the Japanese and Australian governments imposed economic sanctions on North Korea.
October 9, 2006	Underground Nuclear Test	The UN Security Council held an emergency meeting following North Korea's nuclear test and condemned the country's actions. Resolution 1718 was unanimously adopted by the members of the Security Council. It imposed a series of sanctions and demanded that North Korea not "conduct further nuclear tests or launch ballistic missiles."
May 25, 2007	ASCM	According to the South Korean government, North Korea

		tested short-range ASCMs into the Sea of Japan in what was believed to be an annual routine military exercise. Japanese news media reported the missiles had a range of 100 to 200 km and were either modified Silkworm or KN-01 missiles.
June 7, 2007	ASCM	Gordon Johndroe, a national security spokesman for the Bush administration, labeled the test of two ASCMs as “not constructive.” The South Korean government however stated that it would not harm relations with North Korea.
June 27, 2007	ASCM	Three more short-range missiles were fired from North Korea’s coast according to South Korean news reports confirmed by Pentagon officials. At least one of the missiles involved a KN-02, a new solid-fueled missile with an improved precision strike ability and a range of 120 km.
March 28, 2008	ASCM	A series of short-range missiles were fired as North Korea issued a warning for the United States to stop “trying to cook up fictions” on North Korea’s nuclear arsenal.
May 30, 2008	ASCM	Three short-range missiles with a range of nearly 50 km were reportedly test-fired into the sea bordering North Korea’s western border.
March 12, 2009	(Outer Space Treaty signed)	North Korea’s Central News Agency (KCNA) reported that the DPRK had signed the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space including the Moon and Other Celestial Bodies or Outer Space Treaty. According to KCNA, the signing of the treaty would “contribute to enhancing international trust and strengthening cooperation in peaceful space science research and satellite launch.” The treaty forbids countries from deploying weapons of mass destruction in outer space, emphasizing the peaceful use of outer space.
April 5, 2009	Taepodong-2	North Korea launched a three-stage rocket in what North Korean officials said would place its Kwangmyongsong-2 satellite into space. Pak Tok Hun, North Korea’s deputy UN ambassador, responded to international protest of the launch by saying, “Every country has the right, the inalienable right, to use the outer space peacefully” and it was “not democratic” for the Security Council to prevent North Korea from its launch activities. According to NORAD and the United States Northern Command (USNORTHCOM), “stage one of the missile fell into the Sea of Japan. The remaining stages, along with the payload itself, landed in the Pacific Ocean” and “no object entered orbit.” On April 13, 2009, the U.N. Security Council condemned North Korea’s rocket launch and stated that further launch activities would result in sanctions.
May 25, 2009	Underground Nuclear Test; Short-range missiles	North Korea claimed it had conducted a “successful” nuclear test which was more powerful than its first nuclear test in 2006. According to the United States Geological Survey, the detonation created a magnitude 4.7 tremor, which was slightly higher than the 4.1-magnitude seismic event created by the first test. The communist nation also fired at least six short-range missiles into the sea off its eastern coast over the course

		of three days following the nuclear test. North Korea's Central News Agency reported, "The republic has conducted another underground nuclear testing successfully in order to strengthen our defensive nuclear deterrence." President Barack Obama said in a brief statement that "such provocations will only serve to deepen North Korea's isolation." North Korea's nuclear test came after the country quit the six-party talks on April 14th in response to the Security Council's condemnation of the rocket launch on April 5, 2009.
July 2-4, 2009	KN-01 Short-range missiles; Scud-C, Scud-ER; No Dong (or Rodong)	Four short-range missiles and an additional seven missiles were fired on July 2 <sup>nd</sup> and July 4 <sup>th</sup> , respectively. A South Korean military official told Yonhap news agency that the four missiles fired on July 2 <sup>nd</sup> were KN-01 missiles that traveled approximately 60 miles before dropping into the sea. The Independence Day launches reportedly involved two Scud-C missiles, two new Scud-ER missiles, and three medium-range No Dong missiles. Yonhap reported that these missiles traveled 240-310 miles before dropping into the sea. Japanese Chief Cabinet Secretary, Takeo Kawamura, called the tests a "serious act of provocation against the security of neighboring countries" which violated U.N. Security Council resolutions. During a session following the missile firings, the U.N. Security Council "condemned and expressed grave concern" over North Korea's activities.

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