

## North Korean Strategic Delivery Systems

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*May 31, 2005*

Possible Delivery System	Estimated Development Date	Maximum Range (kilometers)	Payload (kilograms)	Flight Test	Comments
Scud B	Bought Soviet made Scud-B and launchers from Egypt 1976-81; most likely received aid from China in missile technology	320	1,000	April 1984; May 1993	Reverse-engineered Soviet Scud B
Scud C	Development began on the Scud C almost as soon as North Korea bought Scud technology from Egypt in late 1970s.	570	770	May 1986; May 1993	Conventional explosives, chemical and cluster warheads
No-Dong (ND)-1	1988, concurrently with TD-1	1,480	1,200	Successful May 1993; flew 500 kilometers.	Designed to carry nuclear payload. Less than 50 launchers deployed
Taepo-Dong (TD)-1	1988, concurrently with ND-1	2,300	1,000-1,500	Test-launched Aug. 1998 over Japan into Pacific Ocean. North Korea claimed it was a three	Not yet deployed

				stage missile intended to launch a satellite, however the third stage did not succeed.	
Taepo-Dong (TD)-2 (two-stage)	unknown	6,200+	700-1,000	Not yet tested.	Intelligence estimates that if it exists, TD-2 would be capable of striking Alaska, Hawaii and parts of Western United States.
Taepo-Dong (TD)-2 (three-stage)	unknown	15,000	?	Highly theoretical. Not yet tested.	More than a decade away. If it were to exist, it may be capable of striking all of North America.

### Estimated Fissile Material

Year	Amount of Plutonium	Number nuclear devices – assuming 5 kg plutonium per weapon <sup>1</sup>	Number nuclear devices – assuming 8 kg plutonium per weapon <sup>2</sup>	Comments
1989	6-8 kg	1	1	
2002-2003	25-30 kg	5-6	3	The fissile material was produced between 1989 and 1993, but under IAEA inspection until collapse of the Agreed Framework in late 2002.
2005	12-19 kg	2-3	1-2	North Korea claimed on

				May 11, 2005 that it had completed removal the of 8,000 fuel rods from Yongbyon. Any material will require a period of several months to cool before it can be processed to weapons-grade.
<b>Total</b>	<b>43-57 kg</b>	<b>8-11</b>	<b>5-7</b>	

Year	Amount of Highly Enriched Uranium (HEU)	Number nuclear devices assuming 15-20 kg HEU per weapon	Number nuclear devices assuming 25 kg HEU per weapon	Comments
<b>2002</b>	?	?	?	According to U.S. State Department officials, North Korea acknowledged in October 2002 that it had a uranium enrichment program. North Korea later denied this claim. The amount of HEU North Korea might possess or to what level it may be enriched is unknown. The IAEA defines 25 kg HEU as sufficient for a nuclear device; however according to Nuclear Threat Initiative, with high technical capability, North Korean scientists could produce a weapon with 15-20 kg of HEU.

*Madelyn Gee*  
*CDI Research Assistant*  
[mgee@cdi.org](mailto:mgee@cdi.org)

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<sup>1</sup> The amount of plutonium required for each nuclear device varies according to yield, warhead design and the technical capability of the scientists producing them. The Carnegie Endowment for International Peace assumes that any existing North Korean weapons would require a minimum of 5 kg of plutonium.

<sup>2</sup> The International Atomic Energy Agency assumes 8 kg of plutonium are required per nuclear device.