

Democratic People's Republic of Korea

(North Korea)

1. Location and capability of nuclear facilities

North Korea's first nuclear energy research complex was created at Yongbyon in 1964. Other facilities at that site, including a Soviet research reactor and a plutonium reprocessing plant, were soon added. Most arms control experts suspect North Korea pursued an active weapons program up to 1994, when it signed an agreement (known as the 1994 Agreed Framework) with the US to freeze all nuclear weapons-related activities in exchange for the supply of heavy fuel oil, two power-generating reactors and improved bilateral ties, including security assurances.

In December 2002, North Korea restarted its nuclear reactor at Yongbyon, expelled the IAEA inspectors from the country and broke seals and disabled cameras that had been installed by the IAEA to monitor the freeze. On 10 January 2003, North Korea declared its withdrawal from the NPT, claiming immediate efficacy. In February 2003, North Korea restarted its reactor, and on 2 October, the North Korean Foreign Ministry declared that the reprocessing of 8,000 spent fuel rods had been completed "to increase its nuclear deterrent force." By February 2005, North Korea announced that it had successfully produced nuclear weapons.

On 4-5 July 2006, North Korea launched seven missiles, to which the Security Council responded by adopting Resolution 1695. The resolution urges North Korea to return to six-party talks, and prohibits member states from transferring weapons-related technology to North Korea. North Korea denounced the resolution, and on 9 October 2006 conducted an underground nuclear test. On 14 October, the Security Council adopted Resolution 1718 condemning the test; demanding that no further nuclear tests or launches of ballistic missiles take place; demanding that North Korea immediately return to the NPT; and imposing an embargo of military technology and luxury goods.

In December 2006, six-party talks failed to make any progress. In January 2007, top negotiators from the US and North Korea met bilaterally to discuss the situation. Their agreements led to success at the February 2007 six-party talks, which resulted in an agreement on North Korea's nuclear disarmament. The deal gives North Korea economic, energy, and humanitarian aid in exchange for shutting down its main nuclear reactor, and seeks to normalize relations between North Korea and the US and North Korea and Japan. It does not expressly require the North to give up existing weapons or testing. <http://www.reachingcriticalwill.org/legal/northkorea.html>; <http://www.nti.org>; <http://www.fas.org>; <http://www.ieer.org/op-eds/radio/4nkorea.html>

Nuclear facilities

The status of facilities at the Yongbyon complex are unknown, though these facilities include:

- An atomic reactor, with a capacity of about 5 electrical megawatts, constructed between 1980 and 1987, reportedly capable of expending enough uranium fuel to produce about 7 kilograms of plutonium annually.

- Two larger (estimated 50 electrical megawatts and 200 electrical megawatts) atomic reactors under construction since 1984. North Korean officials stated in early 2005 that construction of the 50 MWe reactor had resumed, though satellite images since then do not show any substantial construction activity.

- The Radiochemical Laboratory, a plutonium reprocessing building about 600 feet long and several stories high.

<http://www.fas.org/spp/starwars/crs/IB91141.pdf>; <http://www.isis-online.org/publications/dprk/DPRKplutoniumFEB.pdf>

Uranium Mines

The status of the mines at Pakchon and Pyongsan are unknown, though it is estimated that they contain four million tons of exploitable high-quality uranium ore, and it is estimated that the ore contains approximately 0.8% extractable uranium. <http://www.fas.org/nuke/guide/dprk/nuke/index.html>

2. Fissile Material Holdings

The Institute for Science and International Security (ISIS) reports, "North Korea has been accumulating plutonium since 1986. Between 1994 and 2003, North Korea "froze" its plutonium production program under the Agreed Framework with the United States. Under this agreement, North Korea shut down, but maintained, its main source of plutonium, the 5 megawatt-electric (MWe) reactor at the Yongbyon nuclear site, and its nearby plutonium separation plant, the Radiochemical Laboratory. Since the freeze ended, North Korea has been both producing and separating plutonium at Yongbyon."

Suspected Military Stocks of Fissile Material (as of February 2007)

Plutonium: 46 - 64 kgs

28 - 50 kgs are estimated to be in separated form and usable in nuclear weapons, most of which has been produced since 2003. Prior to 2003, North Korea had an estimated total stock of roughly 28 - 39 kgs of plutonium. <http://www.isis-online.org/publications/dprk/DPRKplutoniumFEB.pdf>

Highly Enriched Uranium (HEU): unknown

<http://www.isis-online.org/publications/dprk/DPRKplutoniumFEB.pdf>

In 2004, North Korean officials reported that the uranium reprocessing capacity of the Radiochemical Laboratory under normal operating conditions is 110 tonnes of spent uranium fuel per year.

<http://www.globalsecurity.org/wmd/world/dprk/nuke-plutonium.htm>

3. Nuclear Activities

Nuclear Cooperation

US: Under the 1994 Agreed Framework, North Korea was to freeze and eventually dismantle its nuclear program, including reactors under construction and its existing reactor and nuclear fuel reprocessing facility. In return, the US was to provide heavy oil shipments, the construction of two light water reactors (LWR), and security assurances.

The agreement was never fulfilled completely by either side: North Korea continued to expand its nuclear program and many shipments of oil were regularly delayed. Furthermore, construction on the LWRs was years behind; ground had only just been broken by the time the Agreed Framework was declared void in 2002. The Clinton administration, which signed the agreement, never codified security assurances; when the Bush administration named North Korea as a possible nuclear target in the 2002 Nuclear Posture Review, the Agreed Framework fell completely apart.

Russia: Russia provided various components of nuclear expertise to North Korea, including as late as 2001, when Russia sent 20 nuclear scientists to North Korea. Russia also assisted North Korea with clean-up and safety after a radioactive material spill by train.

http://www.nti.org/e_research/profiles/NK/Nuclear/47.html

Various: Since its establishment in 1962, North Korea is suspected of (though rarely confirmed) cooperating with many countries on elements of nuclear cooperation, including Iran, Japan, Kazakhstan, Pakistan, Libya, Canada, and China. http://www.nti.org/e_research/profiles/NK/Nuclear/47.html

4. International Non-proliferation Efforts

Treaties Signed and Ratified, date of deposit

Antarctic Treaty, 21 January 1987

Biological Weapons Convention, 13 March 1987

Nuclear Non-Proliferation Treaty, 12 December 1985*

North Korea has not signed the IAEA Additional Protocol.

*North Korea withdrew from the NPT in 1993 and later suspended its withdrawal. On January 2003, it declared its withdrawal from the NPT again, claiming immediate efficacy.

Multilateral Groups

Conference on Disarmament

5. Positions Taken in International Fora on Various Issues of Nuclear Disarmament

Nuclear Weapons: "Over the last half a century, the DPRK has been subjected to the constant hostility by the United States aimed at isolating, stifling and imposing sanctions. In particular, current US administration immediately after taking Office in 2001, called the DPRK as part of "Axis of Evil" and a target of "Nuclear Pre-emptive Strike" and has still been looking for every opportunity to invade it by deploying huge military striking forces in the air, sea and land, ready to fire at any time. In a nutshell, this indicates a quick elimination of the DPRK. The DPRK had no alternative but was driven by this situation to possess nuclear weapons just as a positive defensive countermeasure to safeguard itself. If one has no defense capability strong enough to defend itself, it cannot avoid being stateless. This is a bitter lesson drawn from the past history of the DPRK as well as the truth shown by the reality of today's world where the jungle law is often prevalent. Our nuclear weapons are not meant to "threaten" anyone at all, on the contrary, they are serving as a reliable deterrent to protect supreme security of the state and the life of people in the face of the nuclear war threat and sanctions imposed by the United States and to prevent a new war and ensure peace and security on the Korean peninsula. We have reiterated on many occasions that we would neither use nuclear weapons first, nor allow any nuclear transfer and that it would continue to work towards its ultimate objective of denuclearization of the Korean peninsula." - **Statement by Ambassador Choe to the Conference on Disarmament, 24 January 2007.** http://www.reachingcriticalwill.org/political/cd/speeches07/1session/Jan24DPRK_rightofreply.html

9 October 2006 Nuclear Test: "The DPRK has exerted every possible effort to settle the nuclear issue through dialogue and negotiations, prompted by its sincere desire to realize the denuclearization of the Korean peninsula. However, the United States responded to our patient and sincere efforts and magnanimity with sanctions and blockade. The DPRK was compelled to substantially prove its possession of nukes to protect its sovereignty and right to existence from the daily mounting danger of war from the US. The delegation of the DPRK would like to stress again that although the DPRK conducted the nuclear test because of the US, it still remains unchanged in its will to denuclearize the peninsula through dialogue and negotiations." - **Statement by H.E. Kim Kwang Il to the 61st Session of the General Assembly First Committee on Disarmament and International Security, 18 October 2006.** <http://www.reachingcriticalwill.org/political/1com/1com06/statements/dprkoct18.doc>

Nuclear Doctrine: "My delegation would not share the notion that it is unrealistic at this stage to call for revising negative nuclear doctrine. Major nuclear weapon states should display the will to be in multilateral negotiation processes for international legal instruments on nuclear disarmament without further delay. Pending complete elimination of nuclear weapons, it would be urgently required to address the issues of redressing nuclear supremacy doctrine, removing nuclear threats, putting an end to the qualitative improvement of nuclear weapons, withdrawing the nuclear weapons deployed abroad, also withdrawing the nuclear umbrella provided to other countries, providing negative security assurances, etc." - **Statement by H.E. Mr. Ri Tcheul to the Conference on Disarmament, 2 March 2006.** <http://www.reachingcriticalwill.org/political/cd/speeches06/2MarchDPRK.pdf>