

REPUBLIC OF KOREA

1. LOCATION AND CAPABILITY OF NUCLEAR FACILITIES

About 97% of South Korea's energy needs are supplied by imports. The country began operating a nuclear power program in the late 1970s and today 20 nuclear reactors provide some 40% of the country's electricity. The uranium requirement for the reactors is estimated at 3,011 tons in 2005. Most of the nuclear power generation in South Korea is state owned but a privatization process is started and a few private producers exist.

http://www.world-nuclear.org/info/printable_information_papers/inf81print.htm;

<http://www.eia.doe.gov/emeu/cabs/skorea.html>; <http://www.world-nuclear.org/info/reactors.htm>

Power Reactors

Operational: 20

Under construction/planned: 8

Decommissioned: 2 are slated for decommissioning around 2008

<http://www.iaea.or.at/programmes/a2/>

http://www.world-nuclear.org/info/printable_information_papers/inf81print

Research Reactors

Operational: 2

Shut down: 2

<http://www.iaea.or.at/worldatom/rddb/>

Fuel cycle facilities

The Korean Atomic Research Institute (KAERI) has developed both pressurized water reactor (PWR) and CANDU fuel technology. It and Korea Nuclear Fuel Company (KNFC) have supplied PWR fuel since 1990 and unenriched CANDU fuel since 1987.

Uranium for fuel comes from Canada, Australia and elsewhere. <http://www.world-nuclear.org/info/inf81.htm>

In October 2004, South Korea admitted several activities to the IAEA that had not been previously declared as required under the safeguards agreement, in particular those activities of the Korean Atomic Energy Research Institute (KAERI), which had separated small quantities of plutonium in 1982, manufactured depleted uranium munitions from 1983 to 1987 and experimented with uranium enrichment in 2000. South Korea insisted that the experiments were conducted without political or military oversight or direction and were not supported by the government. The quantities of fissile material from either the plutonium separation or uranium enrichment experiments would not have been enough to create weapons. However, the fact that South Korea did this research and kept it secret could have troubling implications for the future of non-proliferation in the region.

http://www.thebulletin.org/article.php?art_ofn=jf05kang

2. FISSILE MATERIAL HOLDINGS

Separated Civil Plutonium

end 2002: 41 tons

http://www.isis-online.org/global_stocks/civil_pu.html#table7

Radioactive waste disposal

Low- and intermediate-level waste: Spent fuel is stored at each reactor site. A central disposal repository is proposed for low- and intermediate-level waste from about 2008. The location for the site should be selected by September 2005, and residents of the candidate site will take the final decision by a vote.

High-level waste: Spent fuel is stored on the reactor site. A centralized interim storage facility with a

20,000 ton capacity is expected to be constructed by 2016. Dry storage is used for CANDU fuel after 6 years cooling. Eventually, South Korea plans to create a long-term, deep geological disposal.

http://www.world-nuclear.org/info/printable_information_papers/inf81print.htm

<http://projects.sipri.se/nuclear/cnsc5kos8.htm>; <http://times.hankooki.com/lpage/biz/200503/kt2005032217111611900.htm>

3. NUCLEAR ACTIVITIES

Research Centers

APCTP: Asia Pacific Center for Theoretical Physics

DICER: Digital Information Center for Environment Research

Hanaro Research Reactor

KAERI: Korea Atomic Energy Research Institute

KBSI: Korea Basic Science Institute

KEEI: Korea Energy Economics Institute

KEPRI: Korea Electric Power Research Institute

KIST: Korea Inst of Science & Technology

KORTIC: Korea Radiation Technology Institute

NETEC: Nuclear Environment Technology Institute

NUPERM: Nuclear Power Performance Management Research Center

Pohang Pulsed Neutron Facility

SAFE Research Center

TCNC: Technology Center for Nuclear Control

<http://www.radwaste.org/research.htm>

Nuclear Cooperation

US, Europe, Canada: In 1996, South Korea imported units from ABB Combustion Engineering in USA, Framatome in Europe and AECL in Canada.

<http://www.iaea.org/About/Policy/GC/GC47/Documents/gc47inf-8.pdf>

China: In 1994, the two countries signed an agreement for cooperation in Chinese nuclear power projects. A number of similar agreements have been signed since then.

<http://www.nti.org/db/china/nca.htm>

North Korea: North Korean technicians have attended safety training programs in South Korea during 2001. http://www.cscap.nuctrans.org/Nuc_Trans/links/cossasum-2002.htm

KHNP (Korea Hydro & Nuclear Power Co Ltd) is building two reactors at Kumho in North Korea, contracted by the Korean Energy Development Organisation.

http://www.world-nuclear.org/info/printable_information_papers/inf81print.htm

The Joint Declaration on the Denuclearization of The Korean Peninsula was signed in 1992, but both sides have failed to implement the agreement on a bilateral inspection regime.

http://www.nti.org/e_research/el_skorea.1.html

4. INTERNATIONAL NON-PROLIFERATION EFFORTS

Treaties Signed and Ratified, date of deposit

Biological Weapons Convention, 25 June 1987

Certain Conventional Weapons Convention, 9 May 2001

Comprehensive Nuclear Test Ban Treaty, 24 September 1999

Chemical Weapons Convention, 28 April 1997

Nuclear Non-Proliferation Treaty, 23 April 1975

Outer Space Treaty, 13 October 1967

Sea Bed Treaty, 25 June 1987

South Korea ratified the IAEA Additional Protocol 19 February 2004.

Multilateral Groups

Conference on Disarmament

Hague Code of Conduct

Nuclear Suppliers Group

Proliferation Security Initiative

5. POSITIONS TAKEN IN INTERNATIONAL FORA ON VARIOUS ISSUES OF NUCLEAR DISARMAMENT

Negative Security Assurances: “Moreover, it is essential to address the root causes of proliferation as well. Given that regional instability and security deficits can serve as convenient excuses for proliferators to justify their nuclear ambitions, it is essential to create a stable international and regional security environment conducive to non-proliferation. Against this backdrop, we see merit in the provision of negative security assurances by the Nuclear Weapon States. NSAs can reduce the perception of threat from the Nuclear Weapon States and incentives for proliferation.” - **Statement by Ambassador Chun Yung-woo to the Third Preparatory Committee of the 2005 NPT Review Conference, 26 April 2004.** <http://www.reachingcriticalwill.org/legal/npt/prepcom04/RepKoreaCLI.pdf>

Export Controls: “The Republic of Korea also attaches great importance to export controls over technologies and items of proliferation significance as a practical way of complementing the existing loopholes of the NPT. In this connection, we support the leading role of the Nuclear Suppliers Group and establishment of a universal system of export controls. We recognize the need to control the transfer of sensitive fuel cycle technologies and items, particularly to countries of proliferation concern.” - **Statement by Ambassador Chun Yung-woo to the Third Preparatory Committee of the 2005 NPT Review Conference, 26 April 2004.** <http://www.reachingcriticalwill.org/legal/npt/prepcom04/RepKoreaCLI.pdf>

Fissile Material Treaty: “It is well known that the Republic of Korea attaches great importance to the early conclusion of a non-discriminatory, multilateral and internationally and effectively verifiable treaty of fissile material for nuclear weapons or other nuclear explosive devices. We strongly support the draft resolution in the hope that it will work as a momentum to facilitate the immediate commencement of the FMCT negotiations in the CD.” - **Statement to the First Committee on Disarmament and International Security, 18 October 2004.** <http://www.reachingcriticalwill.org/political/lcom/lcom04/thematic/Korea.PDF>