

# CRS Report for Congress

## North Korea's Nuclear Weapons Development and Diplomacy

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## Summary

North Korea's first test of a nuclear weapon on October 9, 2006, and its multiple missile tests of July 4, 2006, escalate the issue of North Korea in U.S. foreign policy. These acts show a North Korean intent to stage a "nuclear breakout" of its nuclear program and openly produce nuclear weapons. North Korea's actions follow the disclosure in October 2002 that it is operating a secret nuclear program based on uranium enrichment and the decision by the Korean Peninsula Energy Development Organization (KEDO) in November 2002 to suspend shipments of heavy oil to North Korea. North Korea claims that it has nuclear weapons and that it has completed reprocessing of over 8,000 nuclear fuel rods. U.S. officials and other experts state that North Korea probably had reprocessed most or all of the fuel rods and may have produced enough plutonium for 6-8 atomic bombs.

The main objective of the Bush Administration is to secure the dismantling of North Korea's plutonium and uranium-based nuclear programs. Its strategy has been: (1) terminating the Agreed Framework; (2) withholding U.S. reciprocal measures until North Korea takes steps to dismantle its nuclear programs; (3) assembling an international coalition, through six party negotiations, to apply diplomatic and economic pressure on North Korea; and (4) imposing financial sanctions on foreign banks that facilitate North Korea's illegal counterfeiting activities. China, South Korea, and Russia have criticized the Bush Administration for not negotiating directly with North Korea, and they voice opposition to economic sanctions and to the potential use of force against Pyongyang. China, Russia, and South Korea have expressed support for key North Korean negotiating proposals in six-party talks. The talks have made little progress. North Korea's two long boycotts of the talks (the latest one from November 2005 to November 2006) appears aimed at creating a long-term diplomatic stalemate on the nuclear issue. North Korea has widened progressively the gap between its core negotiating position and the U.S. core position, for example when it asserted that it would not dismantle or even disclose its nuclear programs until light water reactors were physically constructed in North Korea. The widening gap was not narrowed by a statement of the six parties on September 19, 2005, in which North Korea agreed to rejoin the NPT and its 1992 safeguards agreement with the International Atomic Energy Agency "at an early date" but which also contained a reference to North Korea's right to have a light water reactor.

Critics increasingly have charged that despite its tough rhetoric, the Bush Administration gives North Korea a relatively low priority in U.S. foreign policy and takes a passive diplomatic approach to the nuclear issue and other issues. As a result of growing congressional criticism, the Senate approved an amendment to the Defense Department authorization bill for FY2007 that would require President Bush to name a high level coordinator of U.S. policy toward North Korea and report to Congress on the status of North Korea's nuclear and missile programs. This report replaces IB91141, *North Korea's Nuclear Weapons Program*, by Larry A. Niksch. It will be updated periodically.

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# North Korea's Nuclear Weapons Development and Diplomacy

## Most Recent Developments

### North Korea's Nuclear Test

North Korea conducted its first nuclear test on October 9, 2006. The U.S. Office of the Director of National Intelligence issued a statement on October 16, 2006, that the explosion was very small, less than one kiloton (3-4 percent of the explosion power of the Nagasaki plutonium atomic bomb). U.S. officials also stated that the bomb tested was a plutonium bomb. Some experts consequently postulated that the test was not totally successful and that only a portion of the plutonium in the bomb had been detonated. Some experts speculated that North Korea may have tried to test a small scale atomic bomb. Most believed that North Korea had not reached the technology level to test the prototype of a small nuclear warhead.<sup>1</sup> The test comes after North Korea conducted multiple tests of missiles on July 4, 2006, in which the test of a long-range Taepodong missile failed but the tests of short range Scud and medium-range Nodong missiles were successful.

Most experts also were in agreement that North Korea has 40 to 50 kilograms of nuclear weapons-grade plutonium that it has extracted from its operating five megawatt nuclear reactor at Yongbyon. Using six kilograms per weapon, this would be enough for six to eight atomic bombs.<sup>2</sup>

### U.N. Sanctions

The international reaction to the nuclear test was uniformly harsh. Even China openly criticized North Korea, a break from Beijing's past policy of not criticizing North Korea in public. President Bush warned North Korea of "consequences" if North Korea transferred nuclear weapons or nuclear materials to other governments or terrorist groups. Some observers, however, noted that his statement seemed to be a retreat from the past Administration position that North Korea's possession of nuclear weapons was unacceptable.<sup>3</sup> The Bush Administration's diplomacy focused on securing a United Nations Security Council resolution imposing sanctions on North Korea. The Security Council adopted Resolution 1718 on October 14, 2006,

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<sup>1</sup> Evans, Michael. Now for stage two: putting a warhead on the end of a ballistic missile. *The Times (London)*, October 10, 2006. p. 7.

<sup>2</sup> U.S. nuclear scientist assesses N. Korea program. Reuters News, November 15, 2006.

<sup>3</sup> Shanker, Thom and Sanger, David E. Making good on Bush's vow will require detective work. *New York Times*, October 13, 2006. p. A10.

calling on North Korea to abandon its nuclear and missile programs. It imposed several sanctions:

**Cargo inspections:** It requests (but not orders) countries to inspect cargo to and from North Korea to prevent trafficking in nuclear, chemical, or biological weapons and related materials.

**Arms embargo:** It bans trade with North Korea on battle tanks, armored combat vehicles, large artillery systems, combat aircraft, attack helicopters, warships, and missiles.

**Trade restrictions:** It bans trade in materials related to ballistic missiles or weapons of mass destruction. It also bans the sale of luxury goods to North Korea. (North Korean leader Kim Jong-il was estimated by the U.S. military in 2003 to spend \$100 million annually in importing luxury goods.)

**Asset freezes:** It calls on countries to freeze funds and other financial assets and economic resources that are owned or controlled, directly or indirectly, by people connected with North Korea's unconventional weapons program.

**Travel ban:** It imposes a travel ban on people connected to North Korea's weapons program.

## **Responses of Key Governments to U.N. Sanctions**

**Japan.** Japan acted strongly to enforce the U.S. sanctions. It banned North Korean ships from entering Japanese ports. It banned imports from North Korea. The government published a list of 24 luxury products banned from export to North Korea. Japanese officials also said that Japan would assist the United States in stopping North Korean ships for searches.

**China.** China has a wide range of relationships with North Korea that could be cut off or reduced in a broad Chinese enforcement of U.N. sanctions. Chinese economic-financial aid is large; China promised \$2 billion in October 2005. China supplies North Korea with an estimated 90 percent of its oil (one million tons annually<sup>4</sup>) and 40 percent of its food. Investment deals between Chinese firms and North Korea concluded in 2005 and 2006 for investments in North Korean natural resources and infrastructure include "royalties" paid by the Chinese companies to North Korea of \$2 billion.<sup>5</sup> Since 2002, there has been a major influx of Chinese consumer goods into North Korea, which provide important consumer needs of North Korea's elite. According to 2006 reports of the International Crisis Group and the Korea Institute for International Economic Policy, 80-90 percent of North Korea's consumer imports are from China. The Chinese government also allows high-

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<sup>4</sup> Wan Fei. Beijing observation: 'crossroad' Korean nuclear issue and Sino-DPRK relations. Ta Kung Pao (Hong Kong — internet version), October 21, 2006.

<sup>5</sup> Chong Chu-ho. China accelerates investment in North Korea. Yonhap News Agency, April 4, 2006. Kubota Furiko. China and North Korea accelerate formation of closer ties. Sankei Shimbun (internet version), May 11, 2006.

ranking members of the North Korean elite to visit Chinese cities on the border and perhaps elsewhere where the North Koreans shop for luxury goods.<sup>6</sup> North Korea exports products across its northern border into China. Many North Korean ships dock at Chinese ports. Chinese airports serve as refueling stops for aircraft traveling between Pyongyang and Tehran, Iran — apparently a major route for the transfer of North Korean missiles and possibly other weapons technology to Iran.

There are known divisions within the Chinese government and Communist Party over the issue of support for North Korea. There are critics of China's supportive policies among officials of government-supported "think tanks" and reportedly the Foreign Ministry. They argue that China should cut these links to North Korea. However, advocates of maintaining support are within the ranks of the Chinese military leadership and senior, sometimes retired, Communist Party officials.

China has taken limited steps in response to U.N. sanctions. Four major mainland Chinese banks cut off financial transfers to North Korea, and smaller Chinese banks adopted similar measures. However, by late November 2006, most of these banks reportedly lifted the restrictions.<sup>7</sup> The U.N. World Food Program reported that China previously had reduced its food aid to North Korea by two-thirds in 2006. China, however, seems unwilling to cut off or limit the bulk of its relationships with North Korea. Chinese officials have said that China will not search North Korean cargoes on ships and apparently on aircraft too. Reports from the China-North Korea border indicate that trade continues as before the nuclear test with no stepped-up Chinese inspections.<sup>8</sup> Reports that China suspended oil shipments in September 2006 have been contradicted by subsequent reports. (Bush Administration officials reportedly have urged China to cut off oil on several occasions at least since early 2005.)<sup>9</sup> Chinese officials have stated that China probably will have a different definition of "luxury goods" in relation to North Korea than the U.S. definition, and large-scale shopping by members of Kim Jong-il's elite in Dandong, a Chinese city on the North Korea border, reportedly has continued. At the end of November 2006, the large Chinese Luanhe Industrial Group signed an agreement with the North Korea government for an investment in North Korea's largest copper mine.

**South Korea (R.O.K.).** The South Korean government has taken limited measures to enforce U.N. sanctions. In response to North Korea's missile tests in July 2006, the government suspended rice and fertilizer shipments to North Korea. (Rice aid had totaled 400,000 tons in 2004 and 2005.) The government banned travel

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<sup>6</sup> Fairclough, Gordon. Close-out sale: North Korea's elite shop while they can. *The Wall Street Journal Asia*, December 18, 2006. P. A1.

<sup>7</sup> Chinese banks soften economic sanctions against North Korea following announcement to return to nuclear talks: ROK think tank. *Jiji Press* (Tokyo, internet version), November 26, 2006.

<sup>8</sup> Yardley, Jim. Sanctions don't dent North Korea-China trade. *New York Times*, October 27, 2006. P. A1.

<sup>9</sup> Kessler, Glenn. U.S. officials call on China to help enforce U.N. resolution on N. Korea. *Washington Post*, October 16, 2006. P. A15.

to South Korea of North Korean officials connected to the nuclear program. It suspended government subsidies paid to South Korean tourists who visit Mount Kumgang in North Korea. However, the government stated that it would continue two major projects with North Korea that provide direct foreign exchange payments to the North Korean government of over \$22 million annually — a figure that could grow substantially over the next five years. One is the tourist project at Mount Kumgang. The other is a special industrial complex at Kaesong, inside North Korea. A growing number of South Korean manufacturing firms are investing at Kaesong, using North Korean workers and paying “wages” directly to the North Korean government. Bush Administration officials have criticized these projects publicly.

The R.O.K. government announced on November 13, 2006, that it would not join the U.S.-led Proliferation Security Initiative (PSI). The PSI, formed in 2003, aims to cut off the proliferation of weapons of mass destruction by countries like North Korea. After the adoption of Resolution 1718, the Bush Administration pressed South Korea to join the PSI and start searching North Korean ships that sail through R.O.K. territorial waters or dock at South Korean ports. About 150 North Korean ships pass through South Korean territory annually.<sup>10</sup> The South Korean Foreign Ministry reportedly advocated closer cooperation with the United States on the PSI, but it was overruled by the presidential Blue House and the Unification Ministry.<sup>11</sup> However, the government reportedly decided to vote for a resolution that the U.N. General Assembly passed on December 19, 2006, criticizing a wide range of human rights abuses by the Kim Jong-il regime; South Korea previously had abstained when similar resolutions came to a vote in the United Nations.

**Europe.** Resolution 1718 relates directly to North Korean attempts to purchase nuclear technology and components from companies in Europe. In November 2006, an official of the Czech Republic’s counter-intelligence service (BIS) disclosed that in 2005, BIS prevented three attempts by North Korea to purchase machine tools, their components, and control units that could be used for a nuclear weapons production infrastructure.<sup>12</sup> In a widely reported case, in 2003, North Korean agents purchased a 22-ton shipment of high-strength aluminum tubes from a German firm, which could be used to manufacture centrifuges for Pyongyang’s secret highly enriched uranium program. The shipment was intercepted at the Suez Canal.<sup>13</sup>

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<sup>10</sup> Ramstad, Evan. Seoul goes easy on North. *Wall Street Journal Asia*, November 14, 2006. P. 3. Kim, Jack. S. Korea, US still apart on how hard to press North. *Reuters News*, October 20, 2006.

<sup>11</sup> Seoul sees no need to join UN sanctions on N. Korea. *Chosun Ilbo* (internet version), November 13, 2006. Seoul’s PSI decision. *Korea Herald* (internet version), November 13, 2006.

<sup>12</sup> Czech official on North Korean attempts to buy nuclear equipment. *Czech News Agency (CTK)*, November 13, 2006.

<sup>13</sup> Reiss, Mitchell. B. And Gallucci, Robert. Red-Handed. *Foreign Affairs*, March/April 2005.

Many of Kim Jong-il's luxury goods purchases have been in Europe. They include Mercedes Benz and BMW automobiles, expensive wines and liquors, French china, Swiss watches, furniture, sporting goods, mink coats, and European food delicacies.<sup>14</sup> The European Union has prepared a draft list of such luxury goods to be denied to North Korea. Top North Korean officials are reported to have sizeable accounts in European banks. There have been reports over several years, including one attributed to the U.S. Central Intelligence Agency, that Kim Jong-il has personal accounts of up to \$4 billion in secret bank accounts in Switzerland and several other countries.<sup>15</sup> At the end of 2005, the semi-official South Korean news agency, Yonhap, quoted South Korean intelligence officials that Kim Jong-il had switched several of his secret bank accounts from Switzerland to Luxembourg.<sup>16</sup> So far, the European Union and European governments have not indicated whether they contemplate any actions against North Korean bank accounts in European banks.

## **Resumption of Six Party Talks, December 2006**

Following the nuclear test, strenuous Chinese diplomacy produced a meeting between U.S. Assistant Secretary of State Christopher Hill and North Korean Vice Foreign Minister Kim Gye-gwan on October 31, 2006. North Korea agreed to a U.S. proposal that resumed six party talks would include a U.S.-North Korea bilateral "working group" to address the issue of U.S. financial sanctions and North Korean illegal activities. North Korea had boycotted the six party talks since November 2005, demanding that the Bush Administration lift financial sanctions against a bank in the Chinese territory of Macau (Banco Delta) that the U.S. Treasury charged was a conduit for North Korean money laundering connected with North Korean drug trafficking and exports of counterfeit U.S. currency, cigarettes, and pharmaceuticals.

The negotiations resumed on December 18, 2006. They ended on December 22, 2006, without progress. North Korean negotiators refused to negotiate on the nuclear issue until the Bush Administration agreed to end its financial sanctions against North Korea.<sup>17</sup> North Korea apparently also refused to negotiate over a Chinese proposal to establish five working groups to negotiate on different aspects of the nuclear issue. Moreover, North Korea restated its previous conditions for dismantlement of its nuclear programs, including the demand of August-September 2005 that light water nuclear reactors be completely constructed in North Korea

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<sup>14</sup> N. Korea imported \$24 million worth of Swiss watches amidst its famine of the mid to late 1990s. Kyodo News, August 18, 2005. In addition to the Swiss watches purchased from 1995 to 2004, the German Federal Statistical Office reported that from 2000 to 2004, North Korea purchased luxury goods from Germany totaling \$12 million.

<sup>15</sup> Damage with sanctions against Macau, DPRK foothold, money laundering, circulation of forged notes, even legal trades. Sankei Shimbun (internet version), January 23, 2006. Military, civil revolts continuous in N. Korea. Chosun Ilbo (internet version), November 10, 2004.

<sup>16</sup> N. Korean leader moved secret bank accounts to Luxembourg. Yonhap News Agency (internet version), December 27, 2005.

<sup>17</sup> Cody, Edward. Nuclear talks with N. Korea end in failure. Washington Post, December 23, 2006. P. A12.

before North Korea would begin to dismantle nuclear programs — in essence a 10-15 year delay between the signing of a nuclear settlement agreement and the beginning of a physical dismantlement process. During that time, too, North Korea demanded that the United States supply it with heavy oil. North Korea also called for the talks to negotiate “nuclear disarmament” in Northeast Asia, which Pyongyang has defined as the acceptance by the United States of major reductions and limitations on its military forces and military operations in South Korea and Japan (for example, an end to U.S.-South Korean military exercises and an end to the introduction of new U.S. military units and weaponry into South Korea).<sup>18</sup> During the six party meeting, Kim Gye-gwan made clear that even if the Bush Administration agreed to lift financial sanctions, it would have to make concessions on these North Korean conditions for a freeze and/or dismantlement of nuclear programs.<sup>19</sup> Kim also indicated that any North Korean agreement to freeze its nuclear facilities would allow the IAEA to only monitor the freeze rather than agreeing to full IAEA inspections.<sup>20</sup>

Prior to and during the six party meeting, Christopher Hill called on North Korea to take initial steps to implement its pledge in the September 19, 2005 Six Party Statement, which stated the goal of termination of North Korea’s nuclear programs. The steps proposed by Hill included a freeze of the operating nuclear facilities at Yongbyon (a nuclear reactor and a plutonium reprocessing plant), a shutting down of the site of the October 9, 2006 nuclear test, admittance of the International Atomic Energy Agency (IAEA) into North Korea with full rights of inspection, and a full disclosure by North Korea of nuclear programs and nuclear weapons to the IAEA. Hill stressed that North Korea must take these steps within a short time frame — “a lot shorter than a year.”<sup>21</sup> One report stated that Hill also specified that North Korea must freeze the five megawatt reactor at Yongbyon and admit the IAEA within 1.5 to 2 months. Diplomatic sources reported that China supported Hill’s proposed steps for North Korea.<sup>22</sup>

In the working group meeting over U.S. financial sanctions, U.S. Treasury Department officials reportedly demanded that North Korea deal with “its illicit

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<sup>18</sup> Kim, Jack. N. Korea brings laundry list of demands to talks. Reuters News, December 18, 2006. Lee, Brian. North has a long list of demands in Beijing. Joong Ang Ilbo (Seoul, internet version), December 19, 2006. N. Korea demands mutual disarmament talks. Chosun Ilbo (Seoul, internet version), December 19, 2006.

<sup>19</sup> N. Korea: ending sanctions won’t guarantee nuke freeze. Dow Jones International News, December 24, 2006. Cody, Edward. Nuclear talks with N. Korea end in failure. Washington Post, December 23, 2006. P. A12.

<sup>20</sup> Kim, Kwang-tae. NKorea willing to freeze nuclear facilities, SKorean envoy says. Associated Press, December 27, 2006.

<sup>21</sup> Herman, Burt. North Korea not budging on sanctions. Associated Press, December 20, 2006.

<sup>22</sup> Aoki Naoko. 6-way talks extended a day to Friday, differences remain. Kyodo News (Tokyo), December 20, 2006. US to N Korea. 2 mos [months] to move on denuclearization. Dow Jones Commodities Service, December 27, 2006. Sukhorukov, Alexei. US demands that N Korea liquidate nuke program in 2 months. Itar-Tass World Service (Moscow), December 27, 2006.

finance.”<sup>23</sup> North Korean officials, however, refused to admit that North Korea had used Banco Delta in Macau to support illicit counterfeiting and drug trafficking.<sup>24</sup>

Hill also offered North Korea reciprocal U.S. measures in exchange for the initial steps toward dismantlement and full dismantlement. Some of these were stated publicly by Bush Administration officials prior to the December 2006 six party meeting. The reciprocal U.S. measures reportedly included a U.S. written security guarantee not to seek to topple the North Korean government by force, to be issued when North Korea admitted the IAEA to conduct inspections. They also reportedly included the supply of energy, heavy oil and South Korea-supplied electricity. Other U.S. offers reportedly were a U.S.-North Korean declaration formally ending the Korean War, and North Korean admittance to the regional Asia-Pacific Economic Council (APEC). Some reports asserted that Hill also offered to remove North Korea from the U.S. official list of terrorism-supporting countries.<sup>25</sup> However, as in past six party meetings, the Bush Administration did not offer North Korea full diplomatic relations in exchange for a satisfactory nuclear settlement; China and South Korea long have urged the Bush Administration to make such an offer.

## Congressional Actions

In late September and early October 2006, Congress enacted two pieces of legislation on North Korea. P.L. 109-364, the Defense Authorization bill for 2007, requires the President to appoint a Policy Coordinator for North Korea within 60 days of enactment and report to the President and Congress within 90 days on policy recommendations. It also requires the Bush Administration to report to Congress every 180 days in fiscal years 2007 and 2008 on the status of North Korea’s nuclear and missile programs. P.L. 109-112, the North Korea Nonproliferation Act of 2006, states that the policy of the United States should be to impose sanctions on “persons” who transfer missiles, nuclear weapons, and other weapons of mass destruction or goods or technology related to such weapons to and from North Korea.

As a result of the Democratic Party’s victory in congressional elections in November 2006, leading Democratic Members of Congress issued statements calling on President Bush to carry out fully the provisions of the Defense Authorization bill. They also called for bilateral U.S. negotiations with North Korea, including sending Assistant Secretary of State Hill to Pyongyang.<sup>26</sup>

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<sup>23</sup> Ibid. Aoki Naoko. 6-way talks extended a day to Friday, differences remain. Kyodo News (Tokyo), December 20, 2006.

<sup>24</sup> N. Korea refuses U.S. Treasury’s financial reports on BDA bank accounts. Dong-A Ilbo (internet version), December 20, 2006.

<sup>25</sup> South Korea: U.S. made North an offer. Associated Press, December 26, 2006. Lee Joo-hee. Parties wrangle over 1<sup>st</sup> stage of disarmament. Korea Herald (internet version), December 20, 2006. U.S. offers sweetened incentives for DPRK at six-party talks. Yonhap News Agency, December 20, 2006. Cooper, Helene and Sanger, David E. U.S. signals new incentives for North Korea. New York Times, November 19, 2006. P. 6.

<sup>26</sup> U.S. Democrats call for nuclear talks in N Korea capital. Dow Jones International News, (continued...)

## **Context of North Korea's Two Boycotts of the Six Party Talks and the September 19, 2005, Six Party Statement**

### **Bush Administration's June 2004 Proposal and the "Hill Amendments" of July-August 2005**

The context for North Korea's two boycotts of the six party talks (August 2004-July 2005 and December 2005 to the present), the six party meeting of July-August and September 2005, the Six Party Statement issued on September 19, 2005, and the failed six party meeting of December 2006 appears to be the Bush Administration's proposal at the six party meeting of June 2004 and North Korea's response to it. The Administration's proposal was the first comprehensive proposal the Administration had made at the talks. It called for a short-term dismantlement of North Korea's plutonium and uranium enrichment programs following a three-month "preparatory period." During the preparatory period, North Korea would declare its nuclear facilities and materials, suspend their operation, allow effective international inspections including a return of the International Atomic Energy Agency (IAEA), and negotiate the steps to be taken in dismantlement. In return South Korea and Japan would supply North Korea with heavy oil. North Korea would receive a "provisional multilateral security assurance" against a U.S. attack. The United States and North Korea would begin talks over U.S. economic sanctions and North Korea's inclusion on the U.S. list of terrorist-supporting countries. The participants in the talks also would begin a study of North Korea's energy situation. After North Korea completed dismantlement (which Bush Administration officials say would take 2-3 years), it would receive a permanent security guarantee, and permanent solutions to its energy problems would be undertaken.

In resumed six party talks in July 2005, after North Korea's one year boycott, Assistant Secretary of State Christopher Hill adopted different negotiating tactics and issued what amounted to several amendments to the U.S. proposal of June 2004. Hill held several long bilateral negotiating sessions with the North Koreans, a tactic that the Bush Administration had rejected at earlier six party meetings. Hill reaffirmed the June 2004 proposal; but in response to North Korean complaints that the proposal front-loaded North Korean obligations, he stated that the sequencing of U.S. and North Korean obligations in the proposal could be the subject of negotiations. Hill reiterated the U.S. position that North Korea acknowledge the secret highly enriched uranium (HEU) nuclear program; but he reportedly laid before the North Koreans evidence of North Korea's acquisitions of components for an HEU infrastructure and stated that there could be progress on other issues prior to a settlement of the HEU issue. Hill gave an Administration endorsement to South Korea's June 2005 offer of 2,000 megawatts of electricity to North Korea annually if Pyongyang dismantled its nuclear programs — in effect incorporating the South Korean offer into the core U.S. settlement proposal. U.S. officials later emphasized that dismantlement and

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<sup>26</sup> (...continued)

November 15, 2006. Democrat Senators press President Bush to appoint N.K. coordinator. Yonhap News Agency, October 26, 2006.

implementation of the South Korean electricity program could be done simultaneously within a three-year period immediately after a settlement was signed.<sup>27</sup>

Hill also reportedly raised, at least with Chinese officials, an exchange of liaison offices between the United States and North Korea; an exchange of liaison officials had been a provision of the U.S.-North Korean 1994 Agreed Framework, which North Korea rejected in 1997. However, Hill did not offer North Korea full diplomatic relations in exchange for a settlement of the nuclear issue, despite urgings by South Korea and China. The Bush Administration continued to hold that full normalization of relations was linked to a settlement of other issues between the United States and North Korea, including missiles and human rights. During the talks, Hill actively issued public statements promoting U.S. positions and critiquing North Korean positions; this apparently was an effort to counter North Korean propaganda, which had been effective through much of the earlier six party talks.<sup>28</sup>

### **North Korea's Response to the U.S. Core Proposal**

On July 24, 2004, North Korea's Foreign Ministry denounced the U.S. June 2004 proposal as a "sham proposal." North Korea then refused to attend another six party meeting (which had been tentatively set for September 2004) until the United States ended its "hostile policy" and "nuclear threat" toward North Korea, and it linked dismantlement of its plutonium nuclear program to the satisfaction of these demands. It announced on February 10, 2005, that it was suspending participation in the talks. On March 31, it announced a radically new "regional disarmament" agenda for the talks, demanding that the United States substantially reduce its military presence in and around Korea and accept a "peace system" to replace the 1953 Korean armistice. It issued increasingly frequent and specific statements claiming that it possesses nuclear weapons.<sup>29</sup>

North Korea's strategy appeared to have four objectives: (1) kill the Bush Administration's proposal of June 2004 as a basis for negotiations on the nuclear issue; (2) establish a long-term diplomatic stalemate on the nuclear issue that will last at least through the second Bush Administration; (3) gain extended time to continue development of nuclear weapons programs; and (4) condition other governments to accept North Korea as a nuclear weapons state. Pyongyang followed four basic tactics in pursuing these objectives. First, with its "hostile policy" and "nuclear threat" demands and then with its regional disarmament agenda, North Korea progressively enlarged the gap between its core proposal and the U.S. June 2004

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<sup>27</sup> Yardley, Jim and Sanger, David E. U.S. tries a new approach in talks with North Korea, *New York Times*, July 27, 2005. p. A9.

<sup>28</sup> Ibid.

<sup>29</sup> For an assessment of diplomacy on the North nuclear issue, see Pritchard, Charles L. *Six Party Talks Update: False Start or a Case for Optimism?* Washington: The Brookings Institute, December 1, 2005. Albright, David and Hinderstein, Corey. *Dismantling the DPRK's Nuclear Weapons Program*. Washington: United States Institute of Peace, January 2006. Paik Haksoon. What is to be done for the North Korean nuclear resolution? *Vantage Point*, May 2006. pp. 15-19.

proposal. Second, boycotting six party meetings for significant periods of time would help to insure a protracted diplomatic stalemate and continue to pressure the other six party participating governments to take benevolent positions toward North Korea's core proposal when meetings occurred. Third, by proclaiming itself a nuclear weapons state, North Korea probably has sought to draw other states gradually into at least a de facto recognition of North Korea's claimed status as a diplomatic stalemate continues. Fourth, in April 2005, North Korea shut down its five electrical megawatt nuclear reactor after two years of operation and announced that it had removed 8,000 fuel rods from the reactor for conversion into weapons-grade plutonium. North Korea then started up the reactor in July 2005.

The key question regarding North Korea's motives in ending its first boycott and agreeing to the July-August and September 2005 talks was whether Pyongyang had decided to modify or abandon these objectives or whether it viewed participating in the meeting as another tactic to pursue them, especially the goal of a long-term diplomatic stalemate. Part of the answer was how North Korea would respond to the Bush Administration's amendments to the June 2004 proposal outlined by Christopher Hill at the July-August 2005 meeting.

North Korea responded to the Hill amendments by hardening its core proposal, particularly widening the gap further between its proposal and the Bush Administration's proposal. North Korea maintained the agenda it had set out at previous meetings. It reiterated its "reward for freeze" proposal (U.S. concessions in return for a North Korean freeze of existing nuclear programs rather than dismantlement); it told South Korea that South Korea's offer of electricity could be linked only to a freeze of North Korea's plutonium program rather than dismantlement. In reiterating its demand that it retain a "peaceful nuclear program," it put special emphasis on receiving light water nuclear reactors (LWRs), making this its core demand in connection with the timing of dismantlement. North Korean negotiators asserted that dismantlement could be negotiated and implemented only after light water reactors had been constructed; in short, a deferral of dismantlement into the distant future, at least ten years, more likely 15. Thus, in contrast to its earlier proposals, North Korea created a more substantive gap between its timeframe for dismantlement and Christopher Hill's proposal of dismantlement within three years in the initial stage of a settlement. North Korean negotiators also continued to deny the U.S. charge that Pyongyang has a secret HEU program. North Korean chief negotiator, Kim Kye-gwan, reportedly said that the issue could be discussed further; but he added after the meeting's adjournment that the issue could be discussed if the United States presented "credible information or evidence" — an apparent negative reference to the evidence that Assistant Secretary Hill had laid out to him.

In addition to the old agenda with the new emphasis on light water reactors, North Korea also raised the "regional disarmament" agenda that it had announced on March 31, 2005. North Korean negotiators declared that North Korea would "abandon our nuclear weapons and nuclear program" when the United States agreed to "normalization" of relations and "nuclear threats from the United States are removed." They asserted that the United States must dismantle U.S. nuclear weapons in South Korea (the United States claims there are no nuclear weapons in South Korea), cease bringing nuclear weapons into South Korea, end the U.S. "nuclear umbrella" in the U.S. defense commitment to South Korea, and agree to negotiate a

“peace mechanism” with North Korea to replace the 1953 Korean armistice agreement.<sup>30</sup> North Korean official commentary before and after the meeting also called for restrictions on U.S. “nuclear strike forces” and joint U.S.-South Korean military exercises on the Korean peninsula, and a withdrawal of U.S. forces from South Korea under a peace mechanism. The commentary emphasized that major U.S. military concessions related to Pyongyang’s agenda is a requirement for settlement of the nuclear issue.<sup>31</sup> In agreeing in the six party statement to a separate negotiations of a peace agreement, North Korea may have decided to shift its focus from the United States to South Korea, believing that South Korea now may be prepared to make greater concessions concerning U.S. troops in South Korea than the Bush Administration would. In early 2006, North Korea began to pressure South Korea directly to suspend joint military exercises with the United States.

### **Six Party Statement and Second North Korean Boycott**

The Bush Administration supported China’s effort to draft a statement of principles to present at the end of the meetings as a basis for future negotiations. China reportedly worked up four drafts without success but achieved the six party statement with the fifth draft that included the clause regarding LWRs. China reportedly pressured the Bush Administration hard to accept the fifth draft.<sup>32</sup> South Korean officials reportedly backed the Chinese position. In the Six Party Statement of September 19, 2005, North Korea committed to “abandoning all nuclear weapons and existing nuclear programs,” and returning to the Nuclear Non-Proliferation Treaty and allowing safeguards inspections by the International Atomic Energy Agency (IAEA) “at an early date.” The six parties agreed to discuss “at an appropriate time” North Korea’s demand to receive LWRs. The statement did not address the core issue of the timing of dismantlement of North Korea’s nuclear programs. The Bush Administration asserted before and after the statement that the process of dismantlement must be an early stage in a settlement process. North Korea asserted strongly after September 19 that it would not dismantle until LWRs were physically constructed and that North Korea would not declare its nuclear facilities and programs until LWRs were constructed. After a short, inconclusive meeting in November 2005, North Korea declared its second boycott of the talks, demanding that the Bush Administration rescind U.S. financial measures against the Banco Delta in Macau, which the U.S. Treasury Department charged was involved in illegal North Korean activities such as counterfeiting of U.S. currency and drug trafficking.

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<sup>30</sup> Fairclough, Gordon. North Korea hardens line, wants U.S. ‘Threat’ gone. *Asian Wall Street Journal*, July 28, 2005. Paek, Mun-kyu. Outdated cold war structure must be obliterated. *Nodong Sinmun* (Pyongyang), August 31, 2005. *Nodong Sinmun* is the official journal of the North Korean Communist Party.

<sup>31</sup> Ibid. No quick breakthrough expected from nuclear talks: EU delegation. The EU delegation that visited North Korea in July 2005 reported that North Korean officials told them that the United States had to negotiate on its nuclear presence in South Korea and Japan.

<sup>32</sup> Kahn, Joseph and Sanger, David E. U.S. Korean deal on arms leaves key points open. *New York Times*, September 20, 2005. p. A1.

North has maintained the second boycott through the present time. It has proposed bilateral talks with the United States; China and South Korea have endorsed the proposal. The Bush Administration has rejected bilateral talks except within the strict framework of the six party talks.

## **Background to the Six Party Talks**

The Bush Administration asserted on October 16, 2002, that North Korea had revealed to U.S. Assistant Secretary of State James Kelly in Pyongyang on October 5, 2002, that it had a secret nuclear weapons program based on highly enriched uranium (HEU). The program is based on the process of uranium enrichment, in contrast to North Korea's pre-1995 nuclear program based on plutonium reprocessing. North Korea reportedly began a secret HEU program in the early 1990s with the assistance of Pakistan. North Korea provided Pakistan with intermediate-range ballistic missiles in the late 1990s, apparently as part of the deal.<sup>33</sup>

The initial U.S. response was to secure a decision by the Korean Peninsula Energy Development Organization (KEDO) in November 2002 to end shipments of heavy oil to North Korea, which had been carried out under the U.S.-North Korean Agreed Framework of 1994. North Korea's moved in late December 2002 to expel officials of the International Atomic Energy Agency (IAEA) placed there under the Agreed Framework to monitor the shutdown. North Korea restarted the five megawatt nuclear reactor shut down under the Agreed Framework. North Korea also announced that it would restart the plutonium reprocessing plant that operated up to 1994, and it later asserted that it had reprocessed 8,000 nuclear fuel rods, which had been in storage since 1994, into nuclear weapons-grade plutonium (U.S. intelligence reportedly has been unable to verify the exact state of reprocessing, but U.S. officials stated in late 2004 that North Korea probably had reprocessed most or all of the 8,000 fuel rods and might have produced four to six atomic bombs). North Korea withdrew from the Nuclear Non-Proliferation Treaty (NPT) in January 2003. It justified its action by citing the U.S.-initiated cutoff of heavy oil shipments in December 2002 and by charging that the Bush Administration planned a "pre-emptive nuclear attack" on North Korea. Experts also have stated that North Korea could produce two or three additional nuclear weapons with the fuel rods apparently removed from the five megawatt reactor after the April 2005 shutdown.

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<sup>33</sup> Lancaster, John and Khan, Kamran. Pakistan's nuclear club? Scientist says he aided North Korea with superiors' knowledge. *Asian Wall Street Journal*, February 4, 2004. p. A2.

## Bush Administration Approach to the Talks

The Administration's policy since October 2002 is based on two views within the Administration. First, President Bush has voiced distrust of North Korea and its leader, Kim Jong-il. Second, there are divisions over policy within the Bush Administration. An influential coalition has consisted of Pentagon officials and advisers around Secretary of Defense Rumsfeld, officials of Vice President Cheney's office, and proliferation experts in the State Department and White House led by former Undersecretary of State John Bolton. They reportedly oppose negotiations with North Korea, favor the issuance of demands for unilateral North Korean concessions on nuclear and other military issues, and advocate an overall U.S. strategy of isolating North Korea diplomatically and through economic sanctions and bringing about a collapse of the North Korean regime. A second coalition, mainly in the State Department, maintains that the Administration should attempt negotiations before adopting more coercive measures, and they reportedly doubt the effectiveness of a strategy to bring about a North Korean collapse.<sup>34</sup>

Until the July-August 2005 six party meeting, the Administration's policy had contained three elements: (1) a demand for an immediate North Korean commitment to dismantlement, (2) the avoidance of direct negotiations with North Korea until North Korea accepts dismantlement, and (3) the isolation of North Korea by creating a bloc of governments demanding that North Korea accept CVID and willing to impose economic sanctions on North Korea. The Administration called on North Korea to commit to and take concrete measures to realize the "complete, verifiable, irreversible dismantlement" of its nuclear programs, both the plutonium program and the secret uranium enrichment program. This demand has become known as "CVID." The Administration stated that it would discuss ways to improve U.S.-North Korean relations only after North Korea accepts CVID and takes concrete measures to implement it.

The Administration viewed the six party talks as giving it a vehicle to secure support from China, South Korea, Japan, and Russia — North Korea's immediate neighbors — for the U.S. demand that North Korea agree to total dismantlement of its nuclear programs. U.S. officials have spoken of creating a five versus one situation in the six party talks, thus isolating North Korea. This in turn would lay the groundwork for the participation of China, South Korea, Japan, and Russia in sanctions against North Korea if North Korea rejected CVID. Throughout the early stage of the talks, Administration officials expressed a view that North Korea would isolate itself through its provocative actions in reopening its plutonium nuclear program and its threats to proliferate nuclear materials and test nuclear weapons and missiles. The *Far Eastern Economic Review* of September 11, 2003, cited two U.S. officials as asserting that "it's worse now for North Korea than it has been — this isolation" and that "we're letting them dig their own grave." U.S. officials were "convinced that Pyongyang's [provocative] statements [at the August six party meeting] were pushing its opponents closer together."

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<sup>34</sup> Kessler, Glenn. U.S. has a shifting script on N. Korea. *Washington Post*, December 7, 2003. P. A25. Beck, Peter. The new Bush Korea team: a harder line? *Weekly Dong-a* (Seoul), November 22, 2004.

The Administration has placed special emphasis on China's role in the six party talks. U.S. officials praise China's role in hosting the meetings in Beijing. They state that China should exert diplomatic pressure on North Korea to accept CVID. The importance of China is pointed up by the mutual defense treaty China has with North Korea and China's role in supplying North Korea with an estimated 90 % of its oil and 40% of its food.

The Administration did not achieve a clear measure of diplomatic isolation of North Korea until the U.N. Security Council Resolution of July 2006 condemning North Korea for its July 4, 2006, missile tests, calling on countries not to aid North Korea's weapons of mass destruction programs, and calling on North Korea to end its boycott of the six party talks.

## **Roles of the Other Six Party Governments**

However, from the start of multilateral talks, the other participants have voiced criticisms of the Administration's positions. China, Russia, and South Korea have criticized the Administration for not negotiating directly with North Korea, and they have urged the Administration to propose detailed settlement proposals on the nuclear issue. They have asserted that the Administration should spell out the reciprocal measures it would take if North Korea agreed to dismantle its nuclear programs. China, Russia, and South Korea issued no positive pronouncements toward the U.S. June 23, 2004, proposal. To the contrary, the Chinese and South Korean foreign ministers told Secretary of State Colin Powell in October 2004 that the Administration needed to formulate new, "creative" proposals. Russia, China, and South Korea also have voiced support for several of North Korea's key positions in the six party talks, including Pyongyang's "reward for freeze" proposal and its denials that it has a secret HEU program. They also have expressed opposition to economic sanctions. Only Japan has voiced support for sanctions. Russia, South Korea, and China did not publicly criticize North Korea's boycott of the six party talks after July 2004, and their reactions to the North Korean announcements of February 2005 avoided public criticism of North Korea.<sup>35</sup> The U.S. core proposal of June 2004 and Christopher Hill's initiatives in the July-August 2005 Beijing meeting were attempts by the Bush Administration to respond to these criticisms. Only Japan has supported the Bush Administration generally, but even Japan pressed the Administration prior to June 2004 to issue a settlement proposal.

## **North Korea's Approach to the Talks**

In the summer of 2003, in the wake of the perceived U.S. military victory in Iraq and negative international reactions to North Korea's restarting of the plutonium program and threats, the North Korean leadership appeared worried that they faced international isolation and much heavier U.S. pressure. From that point, there emerged a multifaceted North Korean diplomatic strategy backed by a concerted propaganda campaign aimed primarily at strengthening Pyongyang's position in the six party talks and weakening the U.S. position. A lead component of North Korea's

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<sup>35</sup> Park Sang-hyun. Mediator makes difference: the role of South Korea in six party talks. *East Asian Review*, Fall 2005. pp. 114-132.

strategy was to threaten that it would abandon the six party talks, thus playing on the psychological fears of the other parties. North Korea also apparently employed this threat to demand that China, the host of the talks, provide it with financial subsidies and increased shipments of food and oil as “payment” for North Korean agreement to attend future sessions of the six parties in Beijing. North Korea also began to claim that it has nuclear weapons, reportedly first in private at the April 2003 Beijing talks and then publicly after the August 2003 Beijing meeting.

But with these repeated threats, North Korea made a series of proposals, the first installment in late 2003: first, a formal U.S.-North Korean non-aggression pact, later modified to a formal U.S. guarantee that the United States would not attack North Korea; second, a long-term “freeze” of North Korea’s plutonium program; and third, retention by North Korea of a “peaceful” nuclear program. North Korean proposals also have called for extensive concessions by the United States and Japan, including removal of North Korea from the U.S. list of terrorist-supporting states, supply of electricity, several billion dollars in “compensation” from Japan, restoration of shipments of heavy oil and construction of the two light water nuclear reactors under the 1994 Agreed Framework, and an end to U.S. economic sanctions and U.S. interference in North Korea’s economic relations with other countries.<sup>36</sup> North Korea has retained these proposals while subsequently adding the light water reactor and “regional disarmament” proposals discussed above.

While purposefully keeping its proposals vague regarding content and its own obligations, North Korea engaged in a concerted propaganda campaign to promote its proposals. Propaganda — aimed especially at South Korea, Russia, and China — asserted that a U.S. guarantee of non-aggression is necessary to prevent the Bush Administration from carrying out a plot to stage an “Iraq-like” unilateral attack. Pyongyang’s propaganda organs contended that a “freeze” of plutonium facilities is a logical “first stage” in a settlement process. The propaganda organs employed enticing captions, such as “simultaneous actions,” “action versus action,” “simultaneous package deal,” “bold concessions,” and “non-interference in our economic development.”

Another element in North Korea’s counter-strategy has been a campaign to deny that it has a uranium enrichment (HEU) program. From the summer of 2003, North Korean propaganda organs escalated steadily denials of an HEU program and denials that North Korean officials admitted to an HEU program to Assistant Secretary of State James Kelly in October 2002. North Korean officials stressed this denial to visiting foreign delegations. North Korean propaganda organs compared U.S. claims of an HEU program to the perceived erroneous U.S. claims of weapons of mass destruction in Iraq, and they demanded that the United States provide evidence of its claim.

North Korea retained much of this strategy after the June 2004 six party meeting; but, as described previously, it initiated an actual boycott of the talks and

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<sup>36</sup> Text — North Korean Foreign Ministry statement on talks. *Reuters News*, December 9, 2003.

enlarged its agenda as part of a strategy to “kill” the Bush Administration’s June 2004 proposal and create a long-term diplomatic stalemate on the nuclear issue.

## North Korea’s Nuclear Program

### Plutonium Facilities

Most of North Korea’s plutonium-based nuclear installations are located at Yongbyon, 60 miles from the North Korean capital of Pyongyang. They are the facilities covered by the 1994 U.S.-North Korean Agreed Framework. (For more information see CRS Report RS21391, *North Korea’s Nuclear Weapons: How Soon an Arsenal?*) The key installations are:<sup>37</sup>

- **An atomic reactor, with a capacity of about 5 electrical megawatts that began operating by 1987:** it is capable of expending enough reactor fuel to produce about 6 kilograms of plutonium annually — enough for the manufacture of a single atomic bomb annually. North Korea in 1989 shut down the reactor for about 70 days; U.S. intelligence agencies believe that North Korea removed fuel rods from the reactor at that time for reprocessing into plutonium suitable for nuclear weapons. In May 1994, North Korea shut down the reactor and removed about 8,000 fuel rods, which could be reprocessed into enough plutonium (25-30 kilograms) for 4-6 nuclear weapons. North Korea started operating the reactor again in February 2003, shut it down in April 2005, and said it had removed another 8,000 fuel rods.
- **Two larger (estimated 50 megawatts and 200 electrical megawatts) reactors under construction at Yongbyon and Taechon since 1984:** According to U.S. Ambassador Robert Gallucci, these plants, if completed, would be capable of producing enough spent fuel annually for 200 kilograms of plutonium, sufficient to manufacture nearly 30 atomic bombs per year. However, when North Korea re-opened the plutonium program in early 2003, reports indicate that construction on the larger reactors was not resumed, but construction reportedly was resumed in June 2005.
- **A plutonium reprocessing plant about 600 feet long and several stories high:** The plant would separate weapons grade Plutonium-239 from spent nuclear fuel rods for insertion into the structure of atomic bombs or warheads. U.S. intelligence agencies reportedly detected North Korean preparations to restart the plutonium reprocessing plant in February and March 2003. According to press reports, the CIA estimated in late 2003 that North

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<sup>37</sup> Albright, David and O’Neill, Kevin. *Solving the North Korean Nuclear Puzzle*. Washington, D.C., Institute for Science and International Security Press, 2000. pp. 57-82.

Korea had reprocessed some of the 8,000 fuel rods. In January 2004, North Korean officials showed a U.S. nuclear expert, Dr. Sigfried Hecker, samples of what they claimed were plutonium oxalate powder and plutonium metal. Dr. Hecker later said in testimony before the Senate Foreign Relations Committee (January 21, 2004) that, without testing, he could not confirm whether the sample was metallic plutonium “but all observations I was able to make are consistent with the sample being plutonium metal.”

Satellite photographs reportedly also show that the atomic reactors have no attached power lines, which they would have if used for electric power generation.

Persons interviewed for this study believe that North Korea developed the two reactors and the apparent reprocessing plant with its own resources and technology. It is believed that Kim Jong-il, the son and successor of President Kim Il-sung who died in July 1994, directs the program, and that the military and the Ministry of Public Security (North Korea’s version of the KGB) implement it. North Korea reportedly has about 3,000 scientists and research personnel devoted to the Yongbyon program. Many have studied nuclear technology (though not necessarily nuclear weapons production) in the Soviet Union and China and reportedly Pakistan. North Korea has uranium deposits, estimated at 26 million tons. North Korea is believed to have one uranium producing mine.

## Highly Enriched Uranium Program

North Korea’s secret highly enriched uranium (HEU) program appears to date from at least 1996. Hwang Jang-yop, a Communist Party secretary who defected in 1997, has stated that North Korea and Pakistan agreed in the summer of 1996 to trade North Korean long-range missile technology for Pakistani HEU technology.<sup>38</sup> Other information dates North Korea-Pakistan cooperation to 1993. The Clinton Administration reportedly learned of it in 1998 or 1999, and a Department of Energy report of 1999 cited evidence of the program. In March 2000, President Clinton notified Congress that he was waiving certification that “North Korea is not seeking to develop or acquire the capability to enrich uranium.” The Japanese newspaper *Sankei Shimbun* reported on June 9, 2000, the contents of a “detailed report” from Chinese government sources on a secret North Korean uranium enrichment facility inside North Korea’s Mount Chonma. Reportedly, according to a CIA report to Congress, North Korea attempted in late 2001 to acquire “centrifuge-related materials in large quantities to support a uranium enrichment program.”

The CIA estimated publicly in December 2002 that North Korea could produce two atomic bombs annually through HEU beginning in 2005; other intelligence estimates reportedly project a bomb producing capability between 2005 and 2007. Ambassador Robert Galucci, who negotiated the 1994 U.S.-North Korean Agreed Framework, and Mitchell Reiss, head of the State Department’s Policy Planning Bureau until 2004, have stated that a functioning North Korean HEU infrastructure

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<sup>38</sup> Kim Min-cheol. Hwang tells of secret nuke program. *Choson Ilbo* (Seoul, internet version), July 5, 2003.

could produce enough HEU for “two or more nuclear weapons per year.” The *Washington Post* of April 28, 2004, quoted an U.S. intelligence official saying that a North Korean HEU infrastructure could produce as many as six atomic bombs annually. Administration officials have stated that they do not know the locations of North Korea’s uranium enrichment program or whether North Korea has assembled the infrastructure to produce uranium-based atomic bombs; but U.S. intelligence agencies reportedly have extensive information on North Korea’s accelerated overseas purchases of equipment and materials for the uranium enrichment program since early 1999.

## International Assistance

Knowledgeable individuals believe that the Soviet Union did not assist directly in the development of Yongbyon in the 1980s. The U.S.S.R. provided North Korea with a small research reactor in the 1960s, which also is at Yongbyon. However, North Korean nuclear scientists continued to receive training in the U.S.S.R. up to the demise of the Soviet Union in December 1991. East German and Russian nuclear and missile scientists reportedly were in North Korea throughout the 1990s. Since 1999, reports have appeared that U.S. intelligence agencies had information that Chinese enterprises were supplying important components and raw materials for North Korea’s missile program.<sup>39</sup>

## North Korea’s Delivery Systems

North Korea’s missile launchings of July 4, 2006, re-focused U.S. attention on North Korea’s missile program and Pyongyang’s apparent attempts to develop long-range missiles that could strike U.S. territories. North Korea succeeded by 1998 in developing a “Nodong” missile with a range estimated at up to 900 miles, capable of covering South Korea and most of Japan. North Korea reportedly deployed nearly 100 Nodong missiles by 2003. On August 31, 1998, North Korea test fired a three-stage rocket, apparently the prototype of the Taepodong I missile; the third stage apparently was an attempt to launch a satellite. U.S. intelligence estimates reportedly concluded that such a missile would have the range to reach Alaska, Guam, and the Northern Marianas Commonwealth. Media reports in early 2000 cited U.S. intelligence findings that without further flight tests, North Korea could deploy an intercontinental ballistic missile that would be capable of striking Alaska, Hawaii, and the U.S. west coast. Japan’s *Sankei Shimbun* newspaper reported on August 6, 2003, that North Korea and Iran were negotiating a deal for the export of the long-range Taepo Dong-2 missile to Iran and the joint development of nuclear warheads. U.S. officials claimed in September 2003 that North Korea had developed a more accurate, longer-range intermediate ballistic missile that could reach Okinawa and Guam (site of major U.S. military bases) and that there was evidence that North Korea had produced the Taepodong II, which could reach Alaska, Hawaii, and the U.S. west coast.

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<sup>39</sup> ROK source views CIA report on DPRK production of plutonium. *Chungang Ilbo* (internet version), February 25, 2001. Gertz, Bill. Pyongyang’s launch met by indifference. *Washington Times*, May 16, 1999. p. C1.

However, the apparent failure of the Taepodong missile launched July 4, 2006, indicated that North Korea had not succeeded in developing such a long-range missile. However, evaluations of all seven of the missiles launched on July 4, 2006, by intelligence agencies of the United States and other governments reportedly have concluded that North Korea has increased the accuracy of its Scud and Nodong missiles and that the launches displayed the ability of North Korea's command and control apparatus to coordinate multiple launchings of missiles at diverse targets.<sup>40</sup> (For additional information, see CRS Report RS21473, *North Korean Ballistic Missile Threat to the United States*.)

These projections led the Clinton Administration to press North Korea for new talks over North Korea's missile program. In talks held in 1999 and 2000, North Korea demanded \$1 billion annually in exchange for a promise not to export missiles. U.S. negotiators rejected North Korea's demand for \$1 billion but offered a lifting of U.S. economic sanctions. This laid the ground for the Berlin agreement of September 1999, in which North Korea agreed to defer further missile tests in return for the lifting of major U.S. economic sanctions. President Clinton formalized the lifting of key economic sanctions against North Korea in June 2000. North Korea continued the moratorium, but it appears to have used Pakistan and Iran as surrogates in testing intermediate-range missiles based on North Korean technology.<sup>41</sup>

## State of Nuclear Weapons Development

A CIA statement of August 18, 2003, estimated "that North Korea has produced one or two simple fission-type nuclear weapons and has validated the designs without conducting yield-producing nuclear tests." The initial estimate of one or two nuclear weapons is derived primarily from North Korea's approximately 70-day shutdown of the five megawatt reactor in 1989, which would have given it the opportunity to remove nuclear fuel rods, from which plutonium is reprocessed. The U.S. Central Intelligence Agency (CIA) and the Defense Intelligence Agency (DIA) reportedly estimated in late 1993 that North Korea extracted enough fuel rods for about 12 kilograms of plutonium — sufficient for one or two atomic bombs. The CIA and DIA apparently based their estimate on the 1989 shutdown of the five megawatt reactor.<sup>42</sup>

South Korean and Japanese intelligence estimates reportedly were higher: 16-24 kilograms (Japan) and 7-22 kilograms (South Korea). These estimates reportedly are

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<sup>40</sup> An expert is amazed by the targeting accuracy: an exclusive report based on complete data on the landing points of North Korean missiles. *Yomiuri Weekly* (Tokyo) in Japanese, August 6, 2006. p. 22-23.

<sup>41</sup> Gertz, Bill. Pakistan's missile program aided by North Korea. *Washington Times*, September 14, 1998. p. A1. Alon, Ben-David. Iran successfully tests Shahab 3. *Janes Defence Weekly* (internet version), July 9, 2003. Coughlin, Con. China, N. Korea send experts to hone Iran's long-range missiles. *New York Times*, November 23, 1997. p. A5.

<sup>42</sup> *Ibid.*, p. 111-166. Kim Kyoung-soo. *North Korea's Weapons of Mass Destruction: Problems and Prospects*. Elizabeth, New Jersey, and Seoul, Hollym, 2004. pp. 27-50.

based on the view that North Korea could have acquired a higher volume of plutonium from the 1989 reactor shutdown and the view of a higher possibility that North Korea removed fuel rods during the 1990 and 1991 reactor slowdowns. Russian Defense Ministry analyses of late 1993 reportedly came to a similar estimate of about 20 kilograms of plutonium, enough for two or three atomic bombs. General Leon LaPorte, former U.S. Commander in Korea, stated in an interview in April 2006 that North Korea possessed three to six nuclear weapons before the 1994 U.S.-North Korean Agreed Framework.<sup>43</sup>

Russian intelligence agencies also reportedly have learned of significant technological advances by North Korea toward nuclear weapons production. On March 10, 1992, the Russian newspaper *Argumenty I Fakty* (Arguments and Facts) published the text of a 1990 Soviet KGB report to the Soviet Central Committee on North Korea's nuclear program. It was published again by *Izvestiya* on June 24, 1994. The KGB report asserted that "According to available data, development of the first nuclear device has been completed at the DPRK nuclear research center in Yongbyon." The North Korean government, the report stated, had decided not to test the device in order to avoid international detection.

Additionally, a number of reports and evidence point to at least a middle-range likelihood that North Korea may have smuggled plutonium from Russia. In June 1994, the head of Russia's Counterintelligence Service (successor to the KGB) said at a press conference that North Korea's attempts to smuggle "components of nuclear arms production" from Russia caused his agency "special anxiety." U.S. executive branch officials have expressed concern in background briefings over the possibility that North Korea has smuggled plutonium from Russia. One U.S. official, quoted in the *Washington Times*, July 5, 1994, asserted that "There is the possibility that things having gotten over the [Russia-North Korea] border without anybody being aware of it." The most specific claim came in the German news magazine *Stern* in March 1993, which cited Russian Counterintelligence Service reports that North Korea had smuggled 56 kilograms of plutonium (enough for 7-9 atomic bombs) from Russia.

If, as it claims, North Korea reprocessed the 8,000 nuclear fuel rods in 2003 that it had moved from storage at the beginning of that year, North Korea gained an additional 25-30 kilograms of plutonium, according to Dr. Sigfried Hecker in his testimony before the Senate Foreign Relations Committee on January 21, 2004. Dr. Hecker, former director of the Los Alamos Laboratories, had visited North Korea's Yongbyon nuclear complex in January 2004. U.S. officials and nuclear experts have stated that this amount of plutonium would give North Korea the potential to produce between four to eight atomic bombs.<sup>44</sup> These estimates appear to be based on projections that a country like North Korea would need 6-8 kilograms of plutonium to produce one atomic bomb. The IAEA has had a standard that a non-nuclear state would need about eight kilograms of plutonium to produce an atomic bomb.

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<sup>43</sup> Kang Chan-ho. Former USFK commander: transfer of wartime control should not be carried out overnight. *Joong Ang Ilbo* (Seoul), April 3, 2006. p. 13.

<sup>44</sup> Kessler, Glenn. N. Korea nuclear estimate to rise. *Washington Post*, April 28, 2004. p. A1. U.S. Expert says N. Korea has plutonium to make 8 bombs. Yonhap News Agency, January 2, 2006.

The question of whether North Korea produced additional nuclear weapons with the plutonium that it apparently acquired after 2003 may depend on whether North Korea is able to develop a nuclear warhead that could be fitted onto its missiles. Experts believe that the one or two atomic bombs developed earlier likely are similar to the large-size plutonium bomb dropped by the United States on Nagasaki in August 1945. However, North Korea has few delivery systems that could deliver such a bomb to a U.S. or Japanese target. Thus, Pyongyang probably would not produce additional Nagasaki-type bombs but would retain its weapons-grade plutonium until it could use it producing a nuclear warhead. Statements by U.S. officials reflect an apparent uncertainty over whether North Korea has achieved a warheading capability.<sup>45</sup>

According to press reports in late 2002, the CIA concluded that North Korea accelerated its uranium enrichment program in the 1999, 2000, and 2001. According to *U.S. News and World Report*, September 1, 2003, the CIA estimated that North Korea could produce a uranium-based atomic weapon by the second half of 2004. Another report, in the *Washington Post*, April 28, 2004, stated that U.S. intelligence officials had “broadly concluded” that a North Korean uranium enrichment program would be operational by 2007, producing enough material for as many as six atomic bombs.<sup>46</sup> However, U.S. officials have stated that they know less about the secret uranium enrichment program (HEU) than they know about the plutonium program. North Korea received designs for uranium enrichment centrifuges from Pakistan nuclear “czar,” A.Q. Khan, and has attempted to purchase overseas key components for uranium enrichment centrifuges; but some of these purchases have been blocked.<sup>47</sup> Assistant Secretary of State Christopher Hill stated on September 28, 2005, that “where there is not a consensus is how far they [North Korea] have gone with this [the HEU program].”<sup>48</sup>

## The 1994 Agreed Framework

North Korea signed the Nuclear Non-Proliferation Treaty (NPT) in 1985. In a denuclearization agreement signed in December 1991, North Korea and South Korea pledged not to possess nuclear weapons, not to possess plutonium reprocessing or uranium enrichment facilities, and to negotiate a mutual nuclear inspection system. In January 1992, North Korea signed a safeguards agreement with the International Atomic Energy Agency (IAEA), which requires North Korea to report all nuclear programs to the IAEA and gives the IAEA the right to conduct a range of inspections of North Korean nuclear installations and programs. In 1992, North Korea rebuffed South Korea regarding implementation of the denuclearization agreement, but it did

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<sup>45</sup> Cloud, David S. and Sanger, David E. U.S. aide sees arms advance by North Korea. *New York Times*, April 29, 2005. p. A1. Morgan, David. U.S. not certain North Korea has nuclear weapons. *Reuters News*, February 28, 2005.

<sup>46</sup> Kessler, N. Korea nuclear estimate to rise, *Washington Post*, April 28, 2004. p. A1.

<sup>47</sup> Albright and Hinderstein, *Dismantling the DPRK's Nuclear Weapons Program*, pp. 35-36.

<sup>48</sup> Parties concur N.K. has HEU material, but disagree on program's progress: Hill. Yonhap News Agency, September 29, 2005.

allow the IAEA to conduct six inspections during the period June 1992-February 1993.

In late 1992, the IAEA found evidence that North Korea had reprocessed more plutonium than the 80 grams it had disclosed to the agency. In February 1993, the IAEA invoked a provision in the safeguards agreement and called for a “special inspection” of two concealed but apparent nuclear waste sites at Yongbyon. North Korea rejected the IAEA request and announced on March 12, 1993, an intention to withdraw from the NPT.

In May 1994, North Korea refused to allow the IAEA to inspect the 8,000 fuel rods that it had removed from the five-megawatt reactor. In June 1994, North Korea’s President Kim Il-sung reactivated a longstanding invitation to former U.S. President Jimmy Carter to visit Pyongyang. Kim offered Carter a freeze of North Korea’s nuclear facilities and operations. Kim took this initiative after China reportedly informed him that it would not veto a first round of economic sanctions, which the Clinton Administration had proposed to members of the U.N. Security Council. According to former Defense Secretary William Perry, the Pentagon also developed a contingency plan to bomb the Yongbyon nuclear facilities if North Korea began to reprocess the 8,000 fuel rods into weapons-grade plutonium. The Clinton Administration reacted to Kim’s proposal by dropping its sanctions proposal and entering into a new round of high-level negotiations with North Korea. This negotiation led to the Agreed Framework of October 21, 1994.<sup>49</sup>

The heart of the Agreed Framework was a U.S. commitment to provide North Korea with a package of nuclear, energy, economic, and diplomatic benefits; in return North Korea would halt the operations and infrastructure development of its nuclear program.<sup>50</sup> The Agreed Framework committed North Korea to “freeze its graphite-moderated reactors and related facilities” with the freeze monitored by the IAEA. Ambassador Robert Gallucci, who negotiated for the United States, stated that “related facilities” include the plutonium reprocessing plant and 8,000 stored fuel rods. Clinton Administration officials reportedly said that a secret “confidential minute” to the Agreed Framework prohibits North Korea from construction of new nuclear facilities elsewhere in North Korea.

## Benefits to North Korea

**Light Water Nuclear Reactors.** North Korea was to receive two light water reactors (LWRs) with a generating capacity of approximately 2,000 megawatts. The Agreed Framework set a “target date” of 2003. The United States was obligated to organize an international consortium arrangement for the acquisition and financing of the reactors. The Clinton Administration and the governments of South Korea, Japan, and other countries established in March 1995 the Korean Peninsula Energy Development Organization (KEDO) to coordinate the provision of the LWRs. After

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<sup>49</sup> Wit, Joel S., Poneman, Daniel B., and Gallucci, Robert L. *The First North Korean Nuclear Crisis: Going Critical*. Washington, D.C., Brookings Institution Press, 2004. pp. 192-330.

<sup>50</sup> *Ibid.*, pp. 421-423.

the groundbreaking at the reactor site in August 1997, KEDO officials changed the estimated completion date from 2003 to 2007; other experts predicted a much later date. The laying of the foundation for the LWRs occurred in August 2002 just before the Kelly mission to North Korea and the Bush Administration's subsequent suspension of construction.

**Oil at No Cost.** The Agreed Framework committed the United States to provide 500,000 metric tons of heavy oil to North Korea annually until the first of the two light water reactors became operational. The oil shipments continued until KEDO's decision in November 2002 to cancel future shipments.

**Diplomatic Representation.** The United States and North Korea announced in the Agreed Framework an intention to open liaison offices in each other's capitals and establish full diplomatic relations if the two governments make progress "on issues of concern to each side." However, North Korea displayed reluctance to finalize arrangements, and talks over liaison offices ended in 1997. Ambassador Gallucci asserted that a full normalization of diplomatic relations would depend on a successful resolution of non-nuclear military issues. In October 1999, William Perry, the Administration's Special Adviser on North Korea, cited normalization of diplomatic relations as one of the benefits which the United States could offer North Korea for new agreements on nuclear and missile issues.

**Lifting the U.S. Economic Embargo.** The Agreed Framework specified that within three months from October 21, 1994, the two sides would reduce barriers to trade and investment, including restrictions on telecommunications services and financial transactions. This required the Clinton Administration to relax the U.S. economic embargo on North Korea, which the Truman Administration and Congress put in place during the Korean War. On January 20, 1995, the Administration announced initial, limited measures. North Korea complained loudly that these measures failed to meet the commitment stated in the Agreed Framework. In U.S.-North Korean talks in September 1999, the United States agreed to end a broader range of economic sanctions in exchange for a North Korean moratorium on future missile testing. President Clinton ordered the end of most economic sanctions in June 2000.

**U.S. Nuclear Security Guarantee.** Article III of the Agreed Framework states that "Both sides will work together for peace and security on a nuclear-free Korean peninsula." Under that heading, it states, "The U.S. will provide formal assurances to the DPRK against the threat or use of nuclear weapons by the U.S." While the language is not totally clear on the timing of the U.S. delivery of a formal nuclear security guarantee, it seems to imply that this would come when North Korea had dismantled its nuclear program or at least had advanced dismantlement to a considerable degree.

## **North Korean Obligations Beyond the Freeze of the Nuclear Program**

**Inspections and Broader Nuclear Obligations.** The Agreed Framework stated, "The DPRK will remain a party to the Treaty on the Non-Proliferation of

Nuclear Weapons (NPT) and will allow implementation of its [1992] safeguards agreement under the Treaty.” Gallucci stated in congressional testimony that the Agreed Framework did not restrict the right of the IAEA to invoke special inspections if it discovered any new North Korean nuclear activities. Gallucci said that the Agreed Framework only restricted the IAEA with respect to the two suspected nuclear waste sites and the nuclear installations and the stored fuel rods at Yongbyon and Taechon. He stressed that any new North Korean nuclear program would fall immediately under the IAEA-North Korea safeguards agreement and that North Korea must place it under IAEA safeguards. Failure to do so, he said, would constitute a violation of the Agreed Framework. Thus, according to Gallucci’s interpretation, North Korea’s secret HEU program violated this clause of the Agreed Framework.

In the Agreed Framework, North Korea pledged to “consistently take steps to implement the [1991] North-South Joint Declaration on the Denuclearization of the Korean Peninsula.” North Korea thus extended its obligations to South Korea in the North-South denuclearization agreement to the United States. This clause of the Agreed Framework also is relevant to North Korea’s secret HEU program, since the North-South denuclearization agreement specifically prohibits uranium enrichment.

**Disposition of Fuel Rods from the Five Megawatt Reactor.** The Agreed Framework provided for the storage of the rods in North Korea under IAEA monitoring and a North Korean promise not to reprocess plutonium from the rods. It also provided for subsequent talks on the “ultimate disposition” of the rods.

**Dismantlement of Nuclear Installations.** The Agreed Framework states that “Dismantlement of the DPRK’s graphite-moderated reactors and related facilities will be completed when the LWR project is completed.”

## Role of Congress

The role of Congress from the 1994 Agreed Framework to 2003 was to appropriate money to finance the shipments of heavy oil to North Korea under the Agreed Framework and to finance the administrative costs of KEDO. However, with the Bush Administration’s suspension of heavy oil and the LWR project in 2002 and 2003, the Administration has not requested funding for KEDO in FY2004, 2005, and 2006.

Congress also has been the source of criticisms of the policies of both the Clinton and Bush administrations toward the North Korean nuclear issue; and there has been congressional legislation that has attempted to influence U.S. policy. Congress included in the Omnibus Appropriations bill for FY1999 (H.R. 4328) the requirement that the President certify progress in negotiations with North Korea over the nuclear, missile, and other issues. H.R. 4328 also called the President to name “a very senior presidential envoy” as “North Korea Policy Coordinator” to conduct a review of U.S. policy and direct negotiations with North Korea. This resulted in President Clinton’s appointment of William Perry as the policy coordinator. The Bush Administration, however, terminated the senior policy coordinator position.

The stalemate in the six party talks and North Korea's reported advances in nuclear weapons development produced congressional criticism of the Bush Administration in 2006. A number of Members of Congress called for the Administration to drop its refusal to negotiate with North Korea bilaterally.<sup>51</sup> On June 22, 2006, the Senate approved an amendment to the FY2007 Defense Authorization bill that would require President Bush to appoint, within 60 days of the bill's enactment, a North Korea Policy Coordinator who would conduct a review of policy toward North Korea and would make recommendations to the President and Congress. The amendment also would require the Bush Administration to submit a report to Congress every 180 days on the status of North Korea's nuclear and missile programs.

## For Additional Reading

CRS Report RL33567, *Korea: U.S.-South Korean Relations — Issues for Congress*, by Larry A. Niksch.

CRS Report RL31555, *China and Proliferation of Weapons of Mass Destruction and Missiles: Policy Issues*, by Shirley A. Kan.

CRS Report RS21473, *North Korean Ballistic Missile Threat to the United States*, by Steve Hildreth.

CRS Report RL33709, *North Korea's Nuclear Test: Motivations, Implications, and U.S. Options*, by Emma Chanlett-Avery and Sharon Squassoni.

CRS Report RL31696, *North Korea: Economic Sanctions*, by Dianne E. Rennack.

CRS Report RL31785, *Foreign Assistance to North Korea*, by Mark E. Manyin.

CRS Report RL33324, *North Korean Counterfeiting of U.S. Currency*, by Raphael F. Perl and Dick K. Nanto.

CRS Report RS21391, *North Korea's Nuclear Weapons: How Soon an Arsenal?*, by Sharon Squassoni.

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<sup>51</sup> Senators advocate N. Korea talks. *Washington Times*, June 26, 2006. p. A4. Letter from Senate Democratic Leaders to President Bush, July 12, 2006.