

THE ORIGINS, EVOLUTION, AND CURRENT POLITICS OF THE NORTH KOREAN NUCLEAR PROGRAM

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Politicians, defense analysts, and even the general public in various capitals have debated the advantages and disadvantages of the "Agreed Framework" signed on October 21, 1994, between the United States and the Democratic People's Republic of Korea (DPRK). Pyongyang calls it a "landmark achievement."¹ Although the U.S. government consulted with its South Korean counterpart at every stage of the negotiations, and the ROK government accepted the Agreed Framework prior to its announcement, there is generally a negative reaction among the South Korean public. Seoul even feels somewhat betrayed.² Washington is divided too. Everybody agrees that it is a weak deal, but despite tough rhetoric, nobody seems to be willing or prepared to scuttle or renegotiate it.

To be able to appreciate fully the significance of the package deal, one needs to know more about the problem it is designed to resolve. First, this article traces the origins and

evolution of the DPRK's nuclear program and determines where it stands now. Secondly, it attempts to assess the DPRK's nuclear capabilities and intentions and analyzes how these are reflected in the organizational structure of its nuclear program. Thirdly, it compares the decision-making dynamics on the nuclear issue during the rule of the late President Kim Il-sung with those under his successor Kim Jong-il. Finally, it speculates on "winners" and "losers" in the current political scene in Pyongyang and on the chances for successful North Korean engagement with the West.

NORTH KOREAN NUCLEAR CAPABILITIES

Activities in the nuclear field have a long history in the northern part of the Korean Peninsula. One can divide the evolution of the North Korean nuclear program into four main phases: 1) inception (the 1950s), 2) indigenous accumulation of knowledge and technical expertise (early 1960s to mid-1970s), 3)

rapid expansion (late 1970s to early 1990s), and design switch/maturation (from 1994 on).

Inception

Even before the DPRK was established on September 9, 1948, the Soviet Union sent a team of scientists to North Korea in 1947 to conduct a geological survey of the monazite³ mines.⁴ From late 1949 to the outbreak of the Korean War, North Korea exported concentrates of monazite, tantalum, niobium, and uranic ore to the Soviet Union in partial payment for military equipment and arms delivered to Pyongyang in 1949 to 1950.⁵

In 1952, when the Chinese People's Volunteers were holding the battle line along the 38th parallel, China sent Dr. Wang Gaochang to North Korea to search for and collect radioactive materials.⁶

Following the war, on March 26 and September 7, 1956, the Soviet Union and the DPRK signed two agreements on cooperation in nuclear research projects. In accor-

dance with these agreements, the framework for cooperation between the Soviet Union and the DPRK in the nuclear field was established, and North Korean scientists began to receive professional training in the field of nuclear physics at the Soviet Dubna Nuclear Research Complex.⁷ In 1959, the DPRK signed an additional protocol with the Soviet Union on the peaceful use of nuclear energy. This protocol authorized the transfer of a small research-type nuclear reactor and other complex nuclear equipment to Pyongyang.⁸ Also, in the late 1950s, the DPRK government sent some nuclear scientists to the People's Republic of China for nuclear training at the Chinese nuclear-related facilities.⁹

In the mid-1950s, the DPRK government established nuclear physics departments at Kim Il-sung National University and Kim Ch'aek Industrial College.¹⁰ These two universities were in charge of the academic education of most of the North Korean nuclear scholars and technicians. Their faculties conducted basic nuclear research and were responsible for keeping abreast of international developments in the field of nuclear physics.¹¹

Indigenous Accumulation of Nuclear Expertise

When the first generation of the North Korean nuclear specialists completed their term of study and practical training at the Soviet Dubna facility and returned to the DPRK in the early 1960s, the North Korean government decided to build a similar complex for them about 90 kilometers northeast of Pyongyang.¹² This was the beginning of the Yongbyon Nuclear Re-

search Complex under the auspices of the DPRK Academy of Sciences. The Yongbyon area was designated a "Special District" directly subordinate to the Administrative Council, with access being severely restricted.¹³ Approaches were heavily guarded by the troops of the Ministry of the Public Security.¹⁴

In August 1965, the Soviet Union delivered to the DPRK a 0.1 megawatt thermal (MWt) critical assembly and a two MWt research reactor ("issledovatel'skii reaktor tipa 2000," i.e. IRT 2000) under the terms of the 1959 nuclear cooperation agreement. The reactor was set up in a special compound directly on the Kuryong River at Yongdong, 4.7 kilometers west of Yongbyon. Reportedly, it became operational in 1967.¹⁵ In the following decades, it has been used to produce radioactive isotopes for scientific research, industrial, and medical purposes. Gradually, North Korean scientists expanded the capacity of this reactor into an eight MWt research reactor, using their indigenous technology.

In September 1974, the DPRK officially joined the International Atomic Energy Agency (IAEA), although it had not yet acceded to the nuclear Non-Proliferation Treaty (NPT). On July 20, 1977, the DPRK signed an INFCIRC/66-type agreement with the IAEA, which provided a mechanism by which its two MWt research reactor and 0.1 MWt critical assembly could be monitored.¹⁶

Rapid Expansion

The third phase began in the late 1970s, when Kim Il-sung is believed to have authorized the DPRK Academy of Sciences, the Korean People's

Army (KPA) and the Ministry of Public Security to begin the implementation of the North Korean nuclear program design, including rapid expansion of the nuclear-related facilities and development of the infrastructure for a nuclear weapon program in Yongbyon.¹⁷ According to recent reports from high-level DPRK defectors, at that time the DPRK constructed a complex of underground nuclear facilities in the Pakch'on area, 22 kilometers southeast of Yongbyon.¹⁸ The facilities were reported to be located in a hill east and southeast of the city, near the Pakch'on Air Base.¹⁹ Apparently, it was there and then that the DPRK nuclear scientists began to work on an indigenous nuclear fuel enrichment technology, a design for a nuclear device, and potential nuclear weapon delivery systems.

In addition, in the late 1970s, a uranium mine was commissioned in Yongbyon. Among the facilities constructed in Yongbyon during the late 1970s to early 1980s were a mill for concentrating the uranium ore into "yellowcake," a plant to purify this material, a nuclear fuel rod fabrication plant, and a storage site. Also, the DPRK acquired the ability to mine and purify graphite for the reactor.²⁰

In January 1986, the North Koreans commissioned a five MWt indigenous experimental nuclear power reactor at the Institute of Nuclear Physics in Yongbyon (gas-graphite design of the 1940s, Calder Hall-type). In 1984, the DPRK began construction of a 50 MWt power reactor (G-2 gas-graphite type) located south of Yong-dong on the east bank of the Kuryong River. It was scheduled to be completed in 1995 to 1996.²¹ Also, construction of a

200 MWt nuclear power reactor, scheduled to be completed in 1997-98, was under way in Taejon until late 1994.²²

In 1987, the DPRK began the construction of a so-called "radiochemical laboratory"²³ declared to be designed for research on the separation of uranium and plutonium, waste management, and the training of technicians. It should have been made operational in 1994. It is the second largest facility of this kind in the world after the U.S. HANFORD PUREX plant. It is 600 feet in length, 65 feet in width, several stories high, and the size of two football fields. It is capable of reprocessing 200 tons of spent fuel a year.²⁴ This ability to reprocess spent fuel is being developed and tested, according to the DPRK, in order to recover uranium and to obtain plutonium for eventual use in a breeder reactor, which is still in an early phase of study, or for use in future mixed-oxide (MOX) fuel.²⁵

Overall, during this phase of rapid expansion, the North Koreans built more than 100 various nuclear facilities in Yongbyon alone. In addition, other North Korean nuclear facilities include: one 200 MWt power reactor being built in Taejong, three proposed power reactors (635 MWt each) for a nuclear power plant being planned in Sinp'o, a uranium mining facility designed to dress and smelt uranium ore located in a hill just north of P'yongsan, a uranium purification plant in Kusong, uranium low-level enrichment facilities in Pakch'on, nuclear research facilities in P'yongson, Ch'ongjin, Pakch'on, Hamhung, Kimch'aek, and a subcritical facility at Kim Il-sung University in Pyongyang.²⁶ Altogether there are reportedly

about 150 nuclear scientists with doctorate degrees and over 2,400 nuclear specialists working in the DPRK's nuclear program.²⁷

In sum, sometime at the end of the 1970s, the DPRK government made a political decision to launch a nuclear weapon development program for reasons that I will discuss below. However, according to the Russian Foreign Intelligence Service (FIS),²⁸ because of various economic, financial, and scientific difficulties, the military aspect of the nuclear program developed in a wavelike fashion. Its occasional temporary freezes alternated with revivals time and again. Growing political and economic isolation of the DPRK at the international arena in the late 1980s contributed to mounting difficulties in nuclear procurement and further indigenous research and development (R&D). The Russian FIS also believes²⁹ that by the time of the first IAEA inspection of the DPRK nuclear facilities in May 1992, the North Korean government already had decided to abandon the military part of the nuclear program and had undertaken necessary measures to hide its previous activities in violation of the NPT.

In the meantime, under Soviet pressure, the DPRK joined the NPT in December 1985.³⁰ In January 1992, under enormous pressure from the international community and after almost seven years of delay, the North Korean government finally agreed to sign a nuclear safeguards agreement (INFCIRC/403) with the IAEA. The DPRK Supreme People's Assembly ratified this agreement at its April 1992 session. In May 1992, the first international inspection team arrived at its nuclear facilities at Yongbyon. Then, the

onslaught of nuclear inspections began. Every time international inspectors went in (six times in a row), they found additional evidence of the DPRK's noncompliance with its NPT obligations.³¹ No matter how ardently the North Korean scientists tried to prove that they were in full compliance with international norms and sincere in their lack of knowledge and understanding of certain technological processes, they were greeted with profound suspicion and accusations of past and present misdeeds,³² as well as requests for more access and information.³³ Eventually this acrimonious confrontation between the DPRK and the IAEA, especially over the issue of whether the DPRK would allow the IAEA to conduct special inspections, resulted in a standstill that led to the DPRK's decision to withdraw from the NPT regime in March 1993.

It is at this point that the United States felt compelled to respond positively to a formal request for negotiations from the DPRK Mission to the U.N. and to open a direct dialogue on nuclear matters with the DPRK, albeit on behalf of the U.N. Security Council. The first results were produced in Geneva in June 1993, when both sides signed a statement which "suspended the effectuation of the DPRK's withdrawal from the NPT" at the eleventh hour in return for the U.S. pledge not to use or threaten to use nuclear weapons against North Korea.³⁴ The DPRK nuclear program was frozen for the duration of the ensuing negotiations. More bilateral talks followed. Both sides came very close to signing a comprehensive agreement on nuclear matters in February 1994. But the deal fell through then because of South Korea's reservations, giving rise to

renewed political tensions, talk of economic sanctions, and a heightened state of military alert on the peninsula. The situation deteriorated to the point that only an urgently-convened, unprecedented three-day summit meeting between President Kim Il-sung and former U.S. President Jimmy Carter in Pyongyang in mid-June 1994 put the U.S.-DPRK nuclear negotiations back on the right track.

Maturation

After prolonged negotiations, the U.S. and North Korean negotiators signed the four-page Agreed Framework on the nuclear issue—along with two pages of “confidential minutes”—in Geneva on October 21, 1994. With this landmark agreement, the North Korean nuclear program entered its present phase of the dismantlement of its potential military application and maturation of its civilian application. In accordance with these nuclear accords, the DPRK froze its nuclear program on November 1, 1994, and pledged to comply with IAEA safeguards and inspections, as well as eventually to dismantle its graphite-moderated reactors. In return, the United States promised the North Korean government that it would arrange for the transfer of two 1,000 MWt light-water reactors (LWR) by the year 2003. Also, both sides committed themselves to resolve the technical issues related to the temporary storage and future fate of the spent nuclear fuel removed from the North Korean reactors earlier.³⁵

NORTH KOREAN NUCLEAR INTENTIONS

In analyzing the nuclear intentions of the DPRK, one has to try to trace

their origins in order to determine their nature and to assess the degree of their institutionalization.³⁶

There were four factors that brought about and shaped Kim Il-sung's nuclear ambitions. First, the American atomic bombardment of Japan made an indelible impression on 33-year old Kim Il-sung.³⁷ Before the liberation of Korea in August 1945, Kim Il-sung and his guerrillas had been fighting the Japanese colonial troops for almost 15 years and yet had lost almost every battle. Finally, they were forced to retreat to the sanctuary of the Soviet Far East during the later part of the Second World War. In contrast, the United States dropped only two atomic bombs and ostensibly almighty Japan surrendered overnight. Somehow these two unrelated facts got connected in Kim Il-sung's mind, and he came to admire the atomic bomb, believing in the power of nuclear weapons to overcome even the most formidable foes swiftly.

The second crucial experience occurred during and after the Korean War. Initially, Kim Il-sung discounted the threat of U.S. military intervention in the Korean civil war. The mass landing of the U.S. Marines at Inch'on on September 15, 1950, proved him wrong. Despite carpet bombardment of North Korean territory by the U.S. Strategic Air Command, Kim Il-sung did not believe that the United States would use an atomic bomb against Korea.³⁸ However, later, after the Korean war was over and some American war documents were made public in the late 1950s, he was shocked to discover that the Truman administration did consider very seriously the possibility of using nuclear weapons against the North Korean troops in order to break the North's rapid

advance at the beginning of the war and to break the bloody stalemate later in the war.³⁹ Kim Il-sung's reaction was said to be one of shock, anguish, and undisguised fear that one day his country could become helpless prey to the U.S. nuclear monster.⁴⁰ Moreover, he realized that the DPRK was on the U.S. “black list” of countries against which it might consider and use nuclear weapons should the need arise. This could well be one of the reasons why Kim Il-sung rushed to sign Alliance Treaties on Friendship, Cooperation, and Mutual Assistance with the Soviet Union and China in 1961, thereby acquiring the protection of their nuclear umbrellas.

Soon afterwards, however, Kim Il-sung had to encounter a major disappointment in his relations with one of his “protectors”—the USSR. In October 1962, the Cuban missile crisis broke out. In its aftermath, the perception began to grow in Pyongyang that the Soviet Union had abandoned Cuba, its peripheral ally, for the sake of its own security. Kim Il-sung was said to have begun to have doubts about the reliability of the nuclear shield provided by his allies, especially the Soviet Union, in the moment of crisis.⁴¹ Consequently, he authorized the reassessment of the DPRK's nuclear policy, with a greater emphasis being placed upon its self-sufficiency and diversification. But still, the emotions Kim Il-sung had about the power of atom—the admiration, fear, and disappointment—stopped short of pushing him to order a full-scale nuclear build-up at that time.

It seems that the ultimate breaking point in Kim Il-sung's mind occurred in the late 1970s, when the North Korean government learned that South Korea was engaged in a

clandestine nuclear weapon development program.⁴² Kim Il-sung felt betrayed because, obviously, the only potential target for these nuclear weapons was his own regime. Previously, he had thought that nuclear weapons were outside the established rules of the game of legitimate behavior on the Korean peninsula, especially after the joint North-South Declaration on Three Principles of National Unification was signed on July 4, 1972. But the revelation of the ROK's nuclear weapon program was bitter proof that he had misjudged his southern opponents and had been effectively outflanked by them. This was such a blow to Kim Il-sung's personal vanity and sense of national pride that, reportedly, he could not bear it.⁴³

Later in the 1970s, the United States forced the Park Chong-hee regime to abandon its nuclear ambitions.⁴⁴ But, in return, the U.S. government covertly introduced tactical nuclear weapons in the southern part of the Korean peninsula⁴⁵ and committed these to the defense of South Korea. Moreover, both sides agreed to conduct the "Team Spirit" joint military exercises annually (from 1977 on), which Pyongyang considered extremely threatening and designed to train U.S. and ROK troops for combat in future nuclear warfare against the North. All these related developments apparently prompted President Kim Il-sung to order the DPRK Academy of Sciences, the Ministry of Public Security, and the Korean People's Army (KPA) to launch a joint nuclear weapons development program in the late 1970s.⁴⁶

At this point, this political decision may have been easily justified by the dominant ideology of "juche,"

which a decade earlier had laid the foundation for a self-sufficient military. In a major speech, delivered by Kim Il-sung before the First Session of the 4th Supreme People's Assembly on December 16, 1967, at a time when the DPRK government was attempting to maneuver skillfully between its two antagonistic allies—the post-Khrushchev Soviet Union and Mao Zedong's China agitated by the mood of the Cultural Revolution—Kim Il-sung declared that:

The government of the Republic will thoroughly implement the line of independence, self-subsistence, and self-defense to consolidate the political independence of the country, further strengthen the foundations of an independent national economy capable of ensuring the complete reunification, independence and prosperity of our nation, and *increase the defence capabilities of the country so as to reliably safeguard its security on the basis of our own forces*, by excellently materializing our Party's idea of Juche in all fields.⁴⁷

A decade later, this goal justified the government's decision to embark the country on a nuclear path, paved the way for the introduction of the nuclear component into the North Korean deterrent strategy, and provided an ideologically legitimate foundation for amendments in its military doctrine.

During his lifetime, Kim Il-sung thoroughly repressed consideration of an autonomous nuclear program within the North Korean military. Furthermore, he could not tolerate the decision of even secondary military matters related to the nuclear program without his knowledge and prior approval. He considered the military nuclear program his exclu-

sive concern and guarded it fiercely. Kim Il-sung personally controlled the execution of the program.⁴⁸

It is likely that the DPRK's nuclear intentions were never written in any DPRK military regulations or explicitly developed in any of the Great Leader's works on military matters. Instead, they were "hidden away" in Kim Il-sung's head, and he might have shared only reluctantly his thoughts and intentions with his close associates.⁴⁹ Therefore, the DPRK's nuclear doctrine may well have been something intangible for the KPA. Hence, precise tasks for the KPA could not be formulated on the basis thereof.

Nonetheless, this is not to say that the senior North Korean military officials had no training on what to expect and how to wage war in a nuclear age or about the country's nuclear capabilities. In late 1955, the KPA initiated a series of national-level nuclear defense exercises for units within the "Rear Area" corps.⁵⁰ By 1958, the DPRK, with Soviet assistance, had established the KPA's "Atomic Weapons Training Center" located near Kilchu, on the east coast north of Kimch'aek.⁵¹ According to Joseph S. Bermudez, it may still be operational now, although most likely under a different name.⁵² Since 1959, as part of their standard curriculum, North Korean graduates of the Soviet General Staff Academy have been exposed to Soviet military thinking on the possibilities and ramifications of the use of nuclear weapons in a future war. Since 1965, as part of their field training, they have been able to witness the organizational and technical changes made in the Soviet Armed Forces to meet the challenges of the nuclear age.⁵³

It appears that Kim Il-sung gave

first priority to deterrence when he thought about the possible mission for nuclear weapons in the overall military doctrine of the DPRK. As the DPRK government stated on numerous occasions, it (read “Kim Il-sung”) strongly believed that the U.S. military presence in South Korea posed a direct military and nuclear threat to the North. In order to contain the conventional threat, Kim Il-sung deployed a 1.1 million-man army in a forward manner along the 38th parallel. But in the event of an all-out war, he could not use nuclear weapons against his opponents in the South because he understood that he would never be forgiven by the Korean people should he ever use an atomic weapon against his own brethren, even if they were “murderous puppets of American imperialism.”

Needing to counterbalance the U.S. nuclear threat, unsure of Soviet nuclear protection, and lacking an intercontinental delivery system, Kim Il-sung contemplated aiming his potential nuclear warheads at the place where it could hurt U.S. strategic interests in the Asian-Pacific region the most—at a long-time Korean archenemy, Japan. Indeed, in October 1994 one DPRK diplomat in Moscow told the author in a half-joking manner that the KPA needed only as many nuclear warheads as there were main Japanese islands (i.e. four).⁵⁴ On April 6, 1994, the DPRK Ambassador to India Cha Song-ju reportedly stated, “Our nuclear arms, if developed, would be primarily designed to contain Japan.”⁵⁵ Ambassador Cha indicated that the DPRK would not target South Korea or the U.S. mainland with nuclear missiles, and that the primary target would be Japan.⁵⁶ On March 22, 1994, a KPA defector

Sergeant Lee Chung-guk stated at a news conference⁵⁷ that “missile bases located in Myongchon and Hwadae of North Hamgyong Province have Okinawa within shooting range.”⁵⁸ Apparently, Kim Il-sung believed that if the price of nuclear conflagration on the Korean peninsula were a second atomic inferno in the Japanese archipelago, the United States would be deterred from any aggressive move against the DPRK.

In sum, it is likely that a cumulative sense of insecurity and betrayal drove Kim Il-sung to authorize the development of the military application of the DPRK nuclear program in the late 1970s. Apparently, he thought of nuclear weapons as a strategic “equalizer” and deterrent against the U.S. nuclear threat.

NUCLEAR PROGRAM ORGANIZATIONAL COMMAND AND CONTROL

In the 1960s and 1970s, only a small circle of leaders and scientists in Pyongyang was aware of the existence of the Atomic Energy Research Center at Yongbyon, run by the DPRK Academy of Sciences. However, with the rapid growth and expansion of the DPRK nuclear program from the late 1970s on, there emerged a need to form a larger autonomous organization in charge of representation, policy-making, implementation, intra-industry coordination, procurement, and management of all aspects of nuclear research and development. A catalyst may well have been the DPRK’s entry into the NPT regime in December 1985, with all the attendant reporting and safeguards requirements. In 1986, the Ministry of Atomic Energy Industry (MAEI) was established; Mr. Choe Hak-gun

was appointed its first head in December 1986. The Minister of the Atomic Energy Industry was made a member of the Administrative Council.⁵⁹ This organizational change announced officially the birth of the North Korean atomic industry to the members of the DPRK government and to the world.⁶⁰

Control of the nuclear program originated with President Kim Il-sung and passed through the Central People’s Committee (CPC) and the National Defense Commission (NDC). On the civilian side, it was the Administrative Council, subordinate to the CPC, that effectively exercised control over the nuclear program via the following government bodies: 1) the Ministry of Public Security (responsible for security, construction, and materials acquisition); 2) the Academy of Sciences (responsible for education, theoretical and practical research, reprocessing, and overall program integration); 3) the Ministry of Atomic Energy Industry (in charge of nuclear power generation and international cooperation); and 4) the Committee on Mining Industry (managing mining and refining of uranium and rare earth elements).⁶¹

It is more difficult to determine the command and control structure for the military part of the nuclear program. North Korean officials argue that the KPA has nothing to do with the DPRK nuclear program, which is designed solely for generating nuclear power for peaceful purposes. However, since doubts persist, one has to address this issue. It is worthwhile to start by looking at the relevant experiences of the Soviet Union, Pakistan, and Iran—the DPRK’s closest partners and possible models in the nuclear field.

To begin with, the KPA General Staff is aware of the current composition, as well as the initial controversy over the structure of the Soviet military organization with responsibility for nuclear weapons. This debate took place at the USSR Ministry of Defense and the CPSU Central Committee in the early 1960s. Specifically, General O Gunryul, the head of the KPA General Staff from 1980 until February 1988 (the period when the KPA appeared to move into the nuclear field), attended the Soviet General Staff Academy in the early 1960s and may have been exposed to this debate. At that time, the Soviet leadership considered three options: 1) proportional allocation of existing nuclear missile weapons among all the branches of the armed forces—the ground forces, the air force, the navy, and the air defense forces; 2) transfer of nuclear missiles only to the air force and the navy; and 3) formation of an independent nuclear missile service. In 1960, Khrushchev decided to establish the Strategic Rocket Forces and put them in charge of the nuclear defense of the Soviet Union. This and Khrushchev's other military reforms had profound political, economic, and military-strategic ramifications and rocked the Soviet Armed Forces until the late 1960s.⁶² This turmoil could not be overlooked by the senior North Korean military strategists.

Also, the Chinese, Pakistani, and Iranian organizational experiences must have been studied in depth at the KPA General Staff. But because more senior North Korean generals were trained in the Soviet General Staff Academy than in the PRC, and none of them got their military training in Iran or Pakistan, they are likely to be more inclined to give

primary consideration to the Soviet organizational practices in the nuclear field over those of these three countries.

Today, what we know about the command and control system of the military nuclear program is that the chain of command passes from the president through the National Defense Commission, to the Ministry of People's Armed Forces and the KPA's General Staff.⁶³ Within the KPA's General Staff there is the Nuclear and Chemical Defense Bureau (NCDB) in charge of managing the military application of nuclear R&D and developing nuclear warfare strategies for the KPA.⁶⁴ The NCDB operates a Counter-Nuclear and Atomic Analysis Center (CNAAC) that is alleged to have coordinated the work on the design and development of nuclear weapon devices for the KPA by a number of nuclear research laboratories scattered around the country. Allegedly the laboratories directly worked on various designs for a nuclear device and a nuclear warhead.⁶⁵ The CNAAC also coordinated the work of a small underground high explosive/cold nuclear test site located along the Kuryong River, near Yongbyon.⁶⁶ Presumably, the nuclear freeze announced by the Administrative Council on November 1, 1994, halted these activities. But as long as these organizations exist, the organizational structure for the DPRK's military nuclear program remains in place.⁶⁷

The military application of the DPRK's nuclear program was in its nascent stage throughout the 1980s. With prospects for success still unclear, it would have been premature to make an organizational decision as to what branch of the KPA was to be in charge of the nuclear defense

of the country.

However, the final decision may have been made contingent upon the mission for the nuclear arms and the available delivery system.⁶⁸

Potentially, the KPA could have come up with three types of nuclear delivery systems—a nuclear-tipped "Nodong-1" missile launched from a mobile launcher,⁶⁹ a nuclear device mounted on a MIG-23 aircraft,⁷⁰ and a nuclear-tipped "Nodong-1" missile launched from the Golf-class submarine.⁷¹ Apparently, the NCDB had been working on all three types simultaneously, but the work on the first type of delivery system had progressed the furthest.

Correspondingly, at least four factors point to the KPA Air Force, as the military branch that seems to be in the best position to take charge of the operational command and control of the DPRK nuclear program on the military side. First, all main DPRK nuclear facilities, including those in Yongbyon and Pakch'on, are located near or inside the boundaries of major KPA Air Force bases. Of course, such a pattern of deployment may be designed to secure these facilities from possible air strikes, but also it undoubtedly gives the air force greater control over nuclear activities.

Second, it is the Commander of the KPA's Air Force General Cho Myong-rok who, as a rule, led the North Korean military delegations that travelled to Pakistan and Iran to discuss the issues involving the military and nuclear cooperation between these countries and the DPRK.⁷²

Third, from the very beginning, the military application of the nuclear program was coupled with the missile development program.

However, no autonomous Rocket Forces are known to have been officially created to date.⁷³ In the meantime, the main mission of the KPA Air Force is presumably to strike Japan and the U.S. military bases there if nuclear deterrence fails on the Korean peninsula. The primary purpose of the missile force was and is to add a long-range strike capability to the KPA to compensate for its weakness and obsolete air force.⁷⁴ As the missiles were essentially assuming an air force mission, they may have been placed under the air force's command.⁷⁵ Accordingly, the air force must have attempted to design a nuclear warhead in accordance with its missile's characteristics. Since its work appears to be the most advanced among the three branches, it may have a better claim to overall control over the combined missile and nuclear programs.

Lastly, it is very significant that the last two North Korean Defense Ministers, O Gun-ryul and Marshal O Jin-u, had air force backgrounds. In the 1960s, O Jin-u was the chief of staff of the KPA Air Force.⁷⁶ O Gun-ryul, the Defense Minister from 1980 to 1988, graduated from the Soviet Air Force College in the 1960s. One could surmise that they might have been predisposed to be more sensitive and forthcoming on the nuclear claims and efforts of their former colleagues than those of the army and navy representatives.

NUCLEAR POLITICS UNDER KIM IL-SUNG

One can make the following observations about the political process on nuclear matters under Kim Il-sung. Once the DPRK got involved into nuclear bargaining with the international community in the

early 1990s, the parameters of Pyongyang's policy toward the IAEA generally were considered and decided at the Central People's Committee (CPC) meetings, chaired by President Kim Il-sung and/or his son.⁷⁷ Decisions were made with strategic considerations in mind and concern for bargaining reputation, and were not driven by passions or other ulterior motives.⁷⁸ A newly powerful "think tank" with close links to the CPC, the Institute for Peace and Disarmament, appeared to have considerable influence on the reformulation of the DPRK's nuclear bargaining strategy and justification for its negotiating behavior. However, there was a certain degree of bureaucratic autonomy on the nuclear policy-making in North Korea, especially as far as the activities of the Ministry of Atomic Energy Industry and the Ministry of Foreign Affairs were concerned.⁷⁹

This limited bureaucratic autonomy stemmed from two sources. On the one hand, growing inter-agency coordination and cooperation made different ministries more aware of the other actors in the nuclear field, expanded information available to them, and enabled them to produce more realistic policy suggestions when requested by the top political leadership, as well as to band together to press policy positions whenever they were faced with political challenges from the International Department of the Central Committee of the Workers' Party of Korea (WPK CC) and other players. (Ironically, this new coordination was imposed on a highly compartmentalized and rigidly hierarchical North Korean bureaucracy by issue linkages advocated by U.S. negotiators.) On the other hand, this relative bureaucratic autonomy

stemmed from the fact that party politicians in Pyongyang considered the whole nuclear issue too tricky and risky for their political careers. Hence, they tried to stay away from it until a rallying battle cry was issued from the very top. This left the bureaucrats alone to handle the negotiations. They had little latitude to change course, except in minor, very incremental ways. However, they were not burdened with particularly heavy responsibilities either. As a result, one could witness a slow piecemeal kind of evolution in nuclear policy within very general parameters previously established at the top.⁸⁰

Furthermore, this slow policy evolution tended to be very sensitive to the prevailing concerns about threats to regime survival and stability in Pyongyang. Whenever the perceived threat to the regime's survival increased, the fears of entrapment grew, and a coalition tilted in favor of the positions advocated by the military. At such time, hard lines were drawn, the DPRK's confrontational moves increased, and negotiations stalled or broke down. In contrast, whenever the perceived threat declined and the Kim family felt more secure, they tended to experience growing fears of international abandonment. These fears led to the redistribution of influence back to the civilians and pragmatic softliners. Consequently, as North Korea's cooperation with the IAEA increased, its attitude became more flexible and forthcoming.⁸¹

Amidst this complex bargaining, President Kim Il-sung died on July 8, 1994, a momentous event that is likely to have profound ramifications for all aspects of the DPRK's domestic and foreign policies. How did it affect the nuclear negotiations

between Pyongyang and the international community?

NUCLEAR POLITICS UNDER KIM JONG-IL

Surprisingly, after Kim Il-sung's death, some major breakthroughs were achieved in the nuclear negotiations and U.S.-DPRK bilateral relations. After a four-week pause, the United States and the DPRK resumed the third round of talks in Geneva on August 8, 1994, and, on August 12, 1994, agreed on a statement reaffirming the principles of the June 11, 1993 U.S.-DPRK joint statement and describing in writing the key elements of the proposed final resolution of the nuclear issue. From September 21 to October 17, 1994, both sides continued another round of bilateral nuclear negotiations. On October 21, 1994, they signed the comprehensive Agreed Framework on the nuclear issue.

After October 21, 1994, in accordance with the Agreed Framework, the DPRK reaffirmed its membership in the NPT and froze its nuclear program. Specifically, on November 1, 1994, the DPRK Administrative Council made the decision to halt the construction of its planned 50 MWt and 200 MWt reactors, to cancel the pending reprocessing of spent nuclear fuel, and to seal the radiochemical laboratory. The IAEA was allowed to conduct comprehensive inspections and certify the nuclear freeze.

In early January 1995, the DPRK Administrative Council announced its decision to lift restrictions on trade in commodities and telecommunications services vis-a-vis the United States.⁸² Consequently, on January 12 to 19, 1995, the United States hired two oil tankers to deliver 50,000 tons of crude oil to the

North Korean port of Sonbong as part of the U.S. pledge to compensate the North for temporarily forfeiting its nuclear energy generating alternative.⁸³ On January 21, 1995, the Clinton administration announced its decision to partially lift trade sanctions against the DPRK. The United States will "allow direct telephone calls between the two nations and permit travelers to use credit cards there." Furthermore, the United States will permit news organizations to open offices in Pyongyang and allow DPRK journalists to open bureaus in the United States. In a "small easing of its embargo on goods," the United States will allow imports of grain and magnesite, a mineral used to coat blast furnaces in steel manufacturing.⁸⁴

Since October 1994, the DPRK and the United States have witnessed a surge of contacts between the two countries, aimed at the implementation of the nuclear accords and centered primarily on negotiations on three topics. Several rounds of technical discussions on the future of the spent fuel rods have taken place in Washington and Pyongyang, showing significant progress. Talks on the transfer of LWRs have taken place in Beijing, Berlin, and, finally, Kuala Lumpur, with progress first on technical and commercial issues and, then, in June 1995, on important semantic and organizational issues regarding the LWR transfer. Talks on the exchange of liaison offices and on normalization of diplomatic relations also have taken place in Washington and Pyongyang, with most of the problems under consideration having been resolved.

In other words, on the one hand, Washington appears "to be moving carefully to improve relations with the North in the hope of building

trust between the two nations and insuring that...[the DPRK] continues to fulfill its promise to freeze its nuclear program."⁸⁵

On the other hand, over time the North Korean government moved from the nuclear blackmail of March to May 1993 to the hard-nosed nuclear bargaining and stalemate of June 1993 to June 1994, to a *de facto* nuclear freeze initiated in July 1994 and *de jure* reaffirmed in October 1994. The likely causes for the first change are discussed above. Now, I will discuss what could account for the second dramatic recent swing in Pyongyang's nuclear policy since July 1994.

Of course, there are some powerful rational arguments in favor of this new policy. On the economic side, Pyongyang basically exchanged the nuclear freeze for \$4.5 billion worth of potential economic assistance (in the form of the construction of two 1,000 megawatt electric LWRs), a Western pledge to transfer some advanced technologies to the North, a 10-year supply of oil, and an easing of the economic embargo. On the political side, the nuclear deal with the United States allowed the DPRK to attempt to break out of its international isolation, to normalize diplomatic relations with major Western countries, and to apply for membership in key international organizations such as the International Monetary Fund, World Bank, Asian Development Bank, Organization of Asian-Pacific Economic Cooperation, General Agreement on Tariffs and Trade, etc. On the military security side, the DPRK government received the U.S. guarantee that the United States would not use or threaten to use nuclear weapons against Pyongyang as long as the latter remained part of the NPT.

Nonetheless, what made this policy shift inevitable was the fact that it was the late President Kim's "last wish." He clearly stated this on the eve of his death during his unprecedented summit meeting with the former U.S. President Jimmy Carter. No one could disobey the will of the dying patriarch, especially in such a traditional society. In addition, this nuclear deal was an opportunity for Kim Jong-il to make his first real mark on foreign policy. Not only did it considerably enhance his credibility in the judgment of foreign governments and his legitimacy in the eyes of his own people, but it also weakened his domestic opponents. This deal demonstrated that he could perform on his own, as well as his father had.

What are the decisionmaking dynamics that led to the recent accomplishments in the nuclear field? Generally speaking, they can be described as a two-level game, with a caveat. The North Korean negotiators were engaged in vigorous international bargaining with the United States while at the same time they had to build a domestic coalition to support the outcome they were pursuing at the international stage. Moreover, this two-level bargaining process occurred against the background of succession politics in Pyongyang, which inevitably left its mark on the final outcome of negotiations.

The most striking change in the decisionmaking dynamics under Kim Jong-il appears to be a mass shift from buck-passing to bandwagoning among senior politicians. Prior to Kim Il-sung's death, the attitude of senior officials toward the nuclear negotiations was more like buck-passing: nobody wanted to become associated with the

nuclear issue because it was tantamount to political suicide.⁸⁶ Nowadays, the situation seems to be radically different. Every party and state official and bureaucrat in the North supports the Agreed Framework. Possibly, this behavioral change may be explained by the fact that, with the passing of President Kim Il-sung, the nuclear issue turned from a political liability into a political opportunity.

The second important change is an apparent shift in the decisionmaking authority on nuclear issues from the Central People's Committee (CPC), headed by the late-president Kim Il-sung, to the Administrative Council (AC) officially headed by the Prime Minister Kang Song-san. While President Kim Il-sung was alive, all the strategic decisions on the nuclear question were made by Kim Il-sung himself and issued in the name of the CPC, including all the decisions to start, suspend, and resume nuclear negotiations with the United States and IAEA on numerous occasions; to allow or ban IAEA inspectors from performing their duties in North Korea; to withdraw from the NPT of March 1993; and to pull out of the IAEA of May 1994. After President Kim's death, it was the DPRK's AC that reportedly made the decision to suspend the U.S.-DPRK negotiations in Geneva on July 8, 1994⁸⁷ and then to resume them on August 8, 1994.⁸⁸ It was the AC that authorized the North Korean delegation to sign the August 12 statement with the U.S. delegation in Geneva.⁸⁹ It was also the AC that gave instructions to the North Korean delegation at the September-October 1994 round of the U.S.-DPRK negotiations in Geneva that resulted in concluding the Agreed

Framework.⁹⁰ Subsequently, it reportedly made the following decisions: on November 1, 1994, it authorized the comprehensive freeze of the North Korean nuclear program, implementing one of the key DPRK commitments under the package deal⁹¹; and on January 9, 1995, it lifted restrictions on trade and contacts with the United States.⁹² Finally, it is the AC that appears to coordinate the DPRK positions at the ongoing negotiations with the United States. Thus, after President Kim's death, the CPC's policy-making role seems to be fading while the policy-making role of the AC is visibly on the rise.

But how does Kim Jong-il fit into this picture? Officially, he is not the head of the AC, nor even a member. Two theories exist on the nature of the relationship between Kim Jong-il and the AC. One maintains that Kim Jong-il gives orders to the AC in his capacity as the Supreme Commander in Chief of the KPA and communicates it to the public in a subtle way to avoid being blamed if his policies fail. As proof, one can cite his order No. 0051 dated November 9, 1994, "Instructing the Ministry of the People's Armed Forces and the Administrative Council to complete the second-phase construction of the Chongryu Bridge and the construction of the No. 2 Kumrung Tunnel by October 10, 1995, the 50th anniversary of the founding of the WPK."⁹³ One can also cite Kim Jong-il's "personal instructions"⁹⁴ to the leading North Korean negotiator Kang Sok-ju dated October 20, 1994, to "Sign the Agreed Framework on the Nuclear Issue" with the United States in Geneva.⁹⁵

The second theory contends that this is a skillful public relations

show staged by the senior North Korean party. It holds that state bureaucrats control the decisionmaking process but still need Kim Jong-il as a figurehead to legitimize their decisions in the eyes of the domestic audience and maintain credibility in the eyes of foreign governments they are dealing with. Therefore, they cover their actions with his name. As proof, one can argue that if the constitutional order is still upheld in the DPRK, the Supreme Commander in Chief can give orders to the AC only when a state of martial law is declared. Since the latter was not declared, the above-cited order No.0051 was a gimmick. Additional circumstantial evidence for this theory is the startling absence of supposed host Kim Jong-il on November 6, 1994, when the party and government leaders gathered at a banquet "given by Comrade Kim Jong-il, great leader of the Party and the people," for the delegates who had returned from the "fruitful" nuclear talks with the United States. Premier Kang Song-san and Foreign Minister Kim Yong-nam, along with other AC and WPK Central Committee members did attend.⁹⁶

As for the question of the "personal instructions" from Kim Jong-il to Kang Sok-ju, an explanation is still lacking for why they came on October 20, that is, three days *after* the deal was agreed to in principle by the U.S. and North Korean negotiators. One would expect that Kim Jong-il should have first authorized the agreement reached on October 17 *before* authorizing the official signing ceremony. However, there has been nothing released supporting an authorization from Kim Jong-il. A more plausible explanation of this formality is that the

Ministry of Foreign Affairs needed to demonstrate to the people and the U.S. government that it was not acting on its own authority, but was backed ("authorized") by the "highest authority in the land," thereby overcoming the credibility problem.

Lastly, it is noteworthy that before the nuclear deal was concluded most of the U.S.-DPRK talks were conducted by MFA personnel. Since the parties have moved to the implementation stage, one can easily notice the proliferation of actors on the North Korean side. The DPRK delegation at the talks on the LWR transfer is headed by the Vice-Chairman of the External Economic Relations Commission Kim Jong-u and is comprised of experts from the Commission staff. It is the MAEI and its subdivisions that are in charge of and represent the North Korean delegation at the talks on the future storage of spent fuel rods. The MFA is only to negotiate the exchange of liaison offices with the United States.

CONCLUSION

One can speculate regarding the winners and losers in North Korea in connection with the Agreed Framework. Among the apparent winners are Kim Jong-il, the Ministry of Foreign Affairs, the DPRK's nuclear industry establishment, and the MAEI, the energy, primary resources, foreign trade, banking and telecommunications sectors, as well as the Western-inclined bureaucrats and elites in general. The losers include the Korean People's Army, the WPK ideologues, the Ministry of Public Security, and the manufacturing sector of the economy.

On the one hand, the MFA was the winner because it was the pri-

mary negotiator of the successful deal. As such, it seems to have regained its status as the primary vehicle for the formulation and implementation of the DPRK's foreign policy. The MFA and the DPRK Foreign Minister Kim Yong-nam were very actively involved in all stages of the nuclear bargaining with the United States. On October 15, 1994, Mr. Kim Yong-nam even cancelled his official tour of Thailand, Indonesia, Malaysia, and Singapore, scheduled for late October.⁹⁷ He decided to stay in Pyongyang and personally guide the DPRK negotiating team during the critical days of the nuclear talks in Geneva.⁹⁸ His influence seems to have been particularly strong because the Defense Minister O Jin-u appeared to be very ill with lung cancer and passive in these final days of talks, mostly content with silencing the dissenting opinions within the military. As a result, the status of the DPRK's Foreign Minister Kim Yong-nam and its chief negotiator First Vice-Foreign Minister Kang Sok-ju definitely grew significantly.

The MAEI was among the winners because it succeeded in keeping the nuclear program alive. Moreover, it will be busy for the next 10 years, engaged in the implementation of the nuclear deal. As a result of the deal, the DPRK's nuclear industry acquired an advanced technology LWR at almost no cost, if sunk costs are disregarded. The North Korean nuclear experts got to know their U.S. counterparts, which in the long-run may guarantee their personal safety and well-being.

The North's energy sector benefited because of the U.S. pledge to supply crude oil for the next 10 years and prospects for the refurbishing

of the DPRK's electric grid and electricity network.

The U.S. easing of the trade embargo benefited the North Korean telecommunications, banking, and foreign trade sectors by opening new opportunities for the acquisition of foreign investment and technology.

On the other hand, the KPA appears to be the big loser because during the nuclear talks some policy-making authority certainly was chipped away from it domestically. Moreover, if the nuclear accords are fully implemented it stands to lose a nuclear component in its deterrence strategy. How can we explain the seeming passivity and acquiescence of the KPA to an unfavorable outcome?

Originally, in contrast with the U.S. Defense Department, the KPA stayed out of nuclear diplomacy because it did not want to leave the impression that it had some stake in the nuclear program. Even the suggestion that the KPA might have something to lose should the nuclear freeze be implemented would have contradicted and undermined the official statement made by President Kim Il-sung in April 1994 that the DPRK did not possess nor had any intention to acquire nuclear weapons.⁹⁹

The KPA's passivity also could be explained by the fact that the Defense Minister O Jin-u, a long-time mentor of Kim Jong-il, may have wanted Kim Jong-il to prove himself as a powerful and deserving leader so badly that he may have effectively curbed any possible opposition to the nuclear deal within the military ranks. Once the deal was done and his personal presence, instrumental in securing its acceptance by the military, was no longer needed, he may have felt justified

in leaving Pyongyang for Paris for medical treatment on October 25, 1994. As an alternative explanation, one can surmise that Marshal O Jin-u was simply too sick to follow the nuclear talks closely¹⁰⁰; he therefore lost control over their course. But since he did not act nor oppose the nuclear talks, other generals did not dare to challenge the MFA's efforts.

As for the KPA's acquiescence, one may hypothesize that, as the commander-in-chief of the KPA, Kim Jong-il managed to keep the military out of the nuclear bargaining by providing it with reassurances that its legitimate interests would be taken into account. In particular, the Agreed Framework committed the United States publicly and formally to not using or threatening to use nuclear weapons against the DPRK (implying the permanent suspension of the "Team Spirit" joint U.S.-ROK military exercises) and to allowing the North to receive economic aid. In the long-run these promises could stabilize the country's economy, thereby providing additional security and easing some of the KPA's strategic fears, as well as solving some of the KPA's current logistics problems.

Consequently, the KPA seems to have been excluded from the negotiating process altogether while Marshal O Jin-u was undergoing medical treatment in Paris from late October to early December 1994.¹⁰¹ When he returned to Pyongyang on December 5, 1994, the nuclear freeze was already in place, and the U.S.-DPRK talks on the three tracks were in a full swing. All in all, since it was not the KPA's belligerent military posture but the MFA's skillful diplomacy that brought the relaxation of tensions on the Korean peninsula and improved relations with

the United States, the KPA appears to be losing ground to the MFA in the formulation of the DPRK's foreign policy priorities and the means to achieve them.

The WPK ideologues are in trouble because from now on they will have to redefine their approach to the United States—"the fortress of the world imperialism" from which, as they taught the North Korean populace in accordance with their original doctrine, one could not expect any good. They will have to reinvent their ideology in order to be able to justify the current U.S.-DPRK rapprochement. It can be assumed that officials from the Ministry of Public Security do not like the Agreed Framework because the introduction of the Western-type LWRs will entail an influx of Western (and worst of all South Korean) technicians, experts, businessmen, and so on, which is likely to "contaminate" the local population and disrupt public order.

Lastly, it is primarily the obsolete manufacturing sector that will be hurt badly when the North Korean economy does open up, following the lifting of trade restrictions on both sides and possible influx of cheap foreign consumer goods and modern equipment.

In the first 100 days after the "Sun" set (to use a DPRK metaphor), the new/old North Korean leaders achieved a landmark agreement settling the nuclear issue with their former archenemy, the United States. Proponents of diplomacy won, whereas advocates of force lost. A new domestic coalition favoring constructive engagement with the West emerged in Pyongyang, while the voices of hard-line military and ideologues have been silenced, at least temporarily.

¹ DPRK First Vice Foreign Minister Kang Sok-ju's statement made at a news conference after the signing of the Agreed Framework in Geneva on October 21, 1994.

² In private conversations some high-ranking ROK officials refer to the U.S.-DPRK package deal in even less flattering terms. For instance, some compare it to the wedding where the groom (ROK) and the bride (DPRK) were supposed to get married, but, instead, the minister United States fell in love with the bride, hijacked her, and fled the ceremony.

³ Monazite is a kind of ore of thorium used in nuclear-related production.

⁴ Letter from Soviet Ambassador to the DPRK T. Shtykov to I. V. Stalin dated March 12, 1949, stored in the Archives of the Foreign Policy of the Russian Federation (AFPRF), fund 07, opis 22a, delo 223, papka 14, 1, pp. 1-2.

⁵ Memorandum from A.A. Gromyko to I.V. Stalin dated October 31, 1949, stored in the AFPRF, fund 07, opis 22a, delo 223, papka 14, 1, pp. 6-7.

⁶ Joseph S. Bermudez, Jr., "North Korea—Set to join the 'Nuclear Club,'" *Jane's Defense Weekly*, September 23, 1989, pp. 594-597.

⁷ *Relations of the Soviet Union with the People's Korea, 1945-1980. Documents and Materials* (in Russian), (Moscow: Nauka, 1981), p. 250.

⁸ F. I. Shabshina, *Socialist Korea* (in Russian), (Moscow: Publishing House of the Oriental Literature (IVL), 1963), p. 179.

⁹ Bermudez, *loc. cit.*

¹⁰ See "Ko Yong-hwan, former interpreter for Kim Il-sung and high-ranking DPRK diplomat, Speaks," *Seoul Shinmun* (Daily in Korean, Seoul), October 9, 1991, p. 5.

¹¹ *Ibid.*

¹² N. P. Semyenova, *The DPRK's Economy* (in Russian) (Moscow: MGIMO, 1986), p. 109.

¹³ See Joseph S. Bermudez, Jr., "North Korean Nuclear Infrastructure," *Asia-Pacific Defence Review*, (June 1993), p. 6.

¹⁴ *Ibid.*

¹⁵ *Ibid.*

¹⁶ This agreement was suspended when the NPT-type agreement (INFCIRC/403) came into operation in May 1992. See International Atomic Agency, Press Release, "IAEA Director General Reports to Agency's Board of Governors on Issue of Safeguards in the DPRK," PR 93/12, 11 June 1993.

¹⁷ Cited from an interview with Gennadiy Yevstafyev, Head of the Department of Arms Control and Control over the Weapons of Mass Destruction at the Russian Foreign Intelligence Service, published in *Yaderniy Kontrol* (in Russian) (November 1994), pp. 11-12.

¹⁸ "Ko Yong-hwan, Former Interpreter for Kim Il-sung and High-Ranking North Korean Diplomat, Speaks," *loc. cit.*

¹⁹ Kim Chong-min (former high-level official in the DPRK Ministry of Public Security, who defected to the ROK in the late 1980s), "Nuclear Development Urgently Pursued Since Early 1960s," *Segye Ilbo* (daily in Korean, Seoul),

October 30, 1991, p. 3.

²⁰ IAEA, Press Release, "DPRK Submits Initial Report to IAEA Under Comprehensive Safeguards Agreement in Connection with the NPT," PR 92/24, May 5, 1992.

²¹ See International Atomic Energy Agency Press Release, "IAEA Director General Completes Official Visit to the DPRK," PR 92/25, May 15, 1992.

²² *Ibid.*

²³ This is a North Korean euphemism for a nuclear fuel reprocessing plant.

²⁴ Tai Sung An, "The Rise and Decline of North Korea's Nuclear Weapons Program," *Korea and World Affairs* 16 (Winter 1992), p. 678.

²⁵ IAEA, Press Release, 92/25, *loc. cit.*

²⁶ IAEA, Press Release, 92/24, *loc. cit.*; also Tai Sung An, *loc. cit.*

²⁷ Tai Sung An, *loc. cit.*, p. 675.

²⁸ *Yaderniy Kontrol*, *loc. cit.*

²⁹ *Ibid.*

³⁰ In the early 1980s, the DPRK, experiencing energy shortages and nervous of the South Korean nuclear development, had lobbied the Soviet government to supply it with a nuclear power reactor on concessionary terms. The USSR finally agreed but on the condition that the DPRK first join the NPT. Consequently, on December 12, 1985, the DPRK deposited an instrument of accession to the NPT in Moscow, thereby subjecting all its nuclear installations to full-scope safeguards. On December 26, 1985, the Soviet Premier Ryzhkov and the DPRK Prime Minister Kang Song-san signed a framework agreement whereby the Soviet Union promised to construct four pressurized water reactors (VVER-440 type) with an installed capacity of 1,760 MWt to the North. For details, see "North Korea Signs the NPT and Soviets Agree to Supply Nuclear Plant," *Nucleonics Week*, January 2, 1986, pp. 7-8.

³¹ IAEA, Press Release, "The Board of Governors' Report on the Implementation of the Agreement between the Agency and the DPRK for the Application of Safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons," PR 93/5 February 25, 1993.

³² Sometime between 1989 and 1991, the DPRK shut down its 5 MWt experimental power reactor three times, extracted and, possibly reprocessed, some plutonium without the IAEA inspectors present. According to the DPRK initial accounting report submitted to the IAEA in 1992, the reactor was shut down for "technical reasons" in order to "remove damaged fuel rods" (see *The New York Times*, May 7, 1992, p. 8). However, the international nuclear community remained skeptical. See IAEA, 93/5, *loc. cit.* Later this disagreement gave rise to the controversy over access to "two undeclared nuclear waste sites."

³³ *The New York Times*, May 7, 1992, *loc. cit.*

³⁴ *The People's Korea* (Tokyo), June 15, 1993, p. 1.

³⁵ Text of the Agreed Framework in *The U.S.-Korea Review* 2 (September/October 1994), p. 9.

³⁶ By "origins of intentions," I mean when and why the North Korean leaders acquired nuclear

ambitions. By the "nature of intentions" I mean whether these are offensive, defensive, or deterrent in character. By the "institutionalization of intentions," I refer to whether these intentions are formally incorporated into the North Korean military doctrine and military strategy, and whether standard operating procedures were developed to handle the matters related to the nuclear issues.

³⁷ I am in debt for this observation to Dr. Steve Linton who met President Kim Il-sung in person three times in Pyongyang from 1991 to 1994.

³⁸ Confidential correspondence between Kim Il-sung and Stalin throughout the Korean War, stored at the Presidential Archives of the Russian Federation.

³⁹ Author's 1990 interview with a former senior official at the International Department of the CPSU Central Committee, who had been in charge of formulating the Soviet foreign policy toward the Korean peninsula in the 1970s and had known Kim Il-sung personally for decades.

⁴⁰ *Ibid.*

⁴¹ Tai Sung An, *loc. cit.*, p. 673.

⁴² For an excellent analysis of the status of the ROK's nuclear power fuel cycle and its capabilities in nuclear weapon or dual-capable technologies, see Peter Hayes, "The Republic of Korea and Nuclear Issue," in Andrew Mack, ed., *Asian Flashpoint: Security and the Korean Peninsula* (Canberra: Allen & Unwin, 1993), pp. 51-83.

⁴³ Author's 1990 interview with a former senior official at the International Department of the CPSU Central Committee.

⁴⁴ According to Peter Hayes, "by 1975, the United States had been convinced that the ROK's reprocessing program was motivated by a desire to use plutonium for military purposes rather than nuclear fuel cycle needs. In March 1975, Washington intervened strongly in Seoul and demanded that the South give up its program. Washington threatened to withhold Eximbank funding of the ROK's second nuclear power reactor which had been ordered from a U.S. supplier. U.S. officials also insisted that the French, Canadians, and Belgians discontinue their involvement in the reprocessing deal. Henry Kissinger finally stopped the ROK program by informing President Park that the U.S. would cancel its security commitment to the ROK if the South persisted with its nuclear weapons program." (Hayes in Mack, *op. cit.*, p. 52).

⁴⁵ The United States had 60 nuclear bombs stored at Kunsan Air Base and 40 nuclear-tipped artillery shells in South Korea, until President Bush ordered their complete withdrawal in late 1991. (*The New York Times*, October 27, 1991, p. 14.)

⁴⁶ *Yaderniy Kontrol*, *loc. cit.*

⁴⁷ For full text of this speech, see *Kim Il-sung: On Juche in Our Revolution* (Pyongyang: Foreign Language Publishing House, 1975), p. 12.

⁴⁸ Author's 1990 interview with a former senior official at the International Department of the CPSU Central Committee.

⁴⁹ In this sense, Kim Il-sung was very much like Stalin and Mao-Zedung. *Ibid.*

⁵⁰ Joseph S. Bermudez, Jr., "North Korean

Nuclear Infrastructure" *Asia-Pacific Defense Review* (June 1993), p. 5.

⁵¹ *Ibid.*

⁵² *Ibid.*

⁵³ A. A. Babakov, *The Armed Forces of the USSR after the War* (in Russian)(Moscow: Izdatelstvo Voennoy Literatury, 1985), pp. 137-138, 210-214.

⁵⁴ Author's interview with a senior diplomat from the DPRK Embassy in Moscow in October 1994.

⁵⁵ Report by Eugene Moosa of Reuter posted on Clarinet on April 7, 1994.

⁵⁶ *Ibid.*

⁵⁷ Report by Associated Press from Seoul, citing the Yonhap News Agency, posted on Clarinet on March 22, 1994.

⁵⁸ In response, the Japanese government stated on many occasions that the DPRK nuclear and missile programs are source of "great concern."

⁵⁹ Radiopress, Inc., *North Korea Directory 1992*, Shotaro Takahashi, (Tokyo, 1992), p. 85.

⁶⁰ The following year, four vice-ministers—Kim Hui-mun, So Jong-ju, Park Hyong-gyu, and Hong Gun-pyo—were appointed to assist him, in February, in March, in March, and in September 1987 respectively. At the same time, under the MAEI a General Department of Atomic Energy was set up to manage and supervise solely the Yongbyun Nuclear Research Complex in its entirety. Its head is Mr. Pak Yong-nam. Mr. Li Sang-gun was appointed the Director of the Radiochemical Laboratory. See Radiopress, Inc., *op. cit.*, p. 85.

⁶¹ Bermudez, "North Korean Nuclear Infrastructure," *loc. cit.*

⁶² See A. A. Babakov, *op. cit.*

⁶³ See Bermudez, "North Korean Nuclear Infrastructure," *loc. cit.*, p. 5.

⁶⁴ See Reuter's report of the Yonhap News Agency's information, posted on the Clarinet on March 22, 1994; see also *The Nonproliferation Review* 2 (Fall 1994), p. 188.

⁶⁵ *Ibid.*

⁶⁶ Bermudez, "North Korean Nuclear Infrastructure," *loc. cit.*, p. 8.

⁶⁷ It is for the U.S. negotiators to decide how to make sure that these units are never reactivated or used for activities violating the framework agreement. The DPRK Ministry of Foreign Affairs is likely to deny any knowledge of their existence. Therefore, I believe that only direct military-to-military talks between the United States and the DPRK would be instrumental in opening up the KPA, making its organizational chart more transparent to outside observers, and rooting out illegitimate activities of its units.

⁶⁸ Certainly, there must have been a consensus that no organizationally independent nuclear force should be established so as not to upset the existing composition of forces within the KPA, as well as not to reveal and admit the military purpose of the DPRK's nuclear program and not to antagonize prematurely both its friends and enemies.

⁶⁹ On May 29-30, 1993, the DPRK successfully launched four missiles from Taep'o-dong in Hwadae-gun, North Hamgyong Province, two of which are thought to be Nodong-1 missiles. See

Greg J. Gerardi and James A. Plotts, "An Annotated Chronology of DPRK Missile Trade and Developments," *The Nonproliferation Review* 2 (Fall 1994), p. 82.

⁷⁰ In January 1994, the then-CIA Director James Woolsey stated that the DPRK would probably resort to its MIG-23 aircraft as a nuclear weapon delivery system, rather than the "Nodong-1" missile. See Gerardi and Plotts, *loc. cit.*, p. 87.

⁷¹ On January 18, 1994, Western defense analysts in Moscow reported that Russia was selling 10 ballistic missile-capable Golf II-class submarines to the DPRK. They maintain that the DPRK could install modified "Nodong-1" missiles on the submarines, although the Russian Navy denies it. As Greg J. Gerardi and James A. Plotts observe, "the first Soviet SLBM, the SS-N-4 Sark, was a SCUD derivative, and was originally deployed on Golf-class submarines. A SCUD-C may be adaptable to an SLBM role, but, at 15.5 meters in length, the Nodong-1 is one meter longer than the SS-N-4 and would not fit in a Golf launch tube without modification, i.e shortening of the missile, which would also shorten the range of the missile. It is not unreasonable to assume that the DPRK may have had access to SLBM technology as the precursor to the SS-N-4, the R-11FM, was transferred to the PRC in December 1959. The PRC still uses the Golf-class submarine as an SLBM training and test platform. Additionally, it should be noted that the Russian scientists recruited by the DPRK in late 1992 were from the Makeyev Design Bureau, which is responsible for the design of all modern Russian SLBMs." See Gerardi and Plotts, *loc. cit.*, p. 88.

⁷² *Ibid.*, pp. 87, 88.

⁷³ To a certain extent, this testifies to the embryonic stage and clandestine nature of their development.

⁷⁴ I am indebted to Greg J. Gerardi (Monterey Institute) for this insight.

⁷⁵ *Ibid.*

⁷⁶ Marshal O Jin-u's obituary published in *The People's Korea*, February 25, 1995, p. 2.

⁷⁷ Alexandre Y. Mansourov, *The DPRK's Decision-Making Processes on the Nuclear Issue Under Kim Il-sung*, (Berkeley: Nautilus Institute, Occasional Paper, April 1994).

⁷⁸ *Ibid.*

⁷⁹ *Ibid.*

⁸⁰ *Ibid.*

⁸¹ *Ibid.*

⁸² Associated Press report from Seoul dated January 8, 1995, and posted on Clarinet, which says, "North Korea said Monday, January 9, 1995, it will end its ban on trade and financial transactions with the United States as part of a recent nuclear agreement. The decision, to take effect in mid-January, will allow U.S. ships into North Korean ports and telecommunications links between the two countries, the North's official Korean Central News Agency reported. 'This means that we have completely fulfilled our obligation under the provision on the reduction of the barriers to trade and investment stipulated in the DPRK-U.S. framework agreement,' an uniden-

tified North Korean Foreign Ministry spokesman told the agency."

⁸³ Associated Press report from Seoul posted on Clarinet on January 12, 1995.

⁸⁴ Steven Greenhouse, "U.S. Eases Trade Limits on North Korea for First Time Since 1950," *The New York Times*, January 21, 1995, p. A3. See also Martin Seiff, "U.S. Reduces N. Korea Sanctions," *The Washington Times*, January 21, 1995, p. A1.

⁸⁵ *Ibid.*

⁸⁶ To be assigned to the nuclear talks was a no-win situation for senior North Korean officials. If they succeeded in furthering negotiations with the United States, they were often accused of selling out national interests. Whereas, if they stalled the nuclear talks, they were accused of failing to fulfill the Great Leader's assignment properly.

⁸⁷ *The People's Korea* (Tokyo), July 16, 1994, p. 8.

⁸⁸ *The People's Korea* (Tokyo), August 13, 1994, p. 1.

⁸⁹ *Ibid.*

⁹⁰ *The People's Korea* (Tokyo), October 22, 1994, p. 1.

⁹¹ *The People's Korea* (Tokyo), November 5, 1994, p. 1.

⁹² *The People's Korea* (Tokyo), January 14, 1995, p. 1.

⁹³ *Nodong Shinmun*, Pyongyang, (in Korean), November 10, 1994, p. 1.

⁹⁴ *Nodong Shinmun*, Pyongyang, (in Korean), October 21, 1994, p. 1.

⁹⁵ Interestingly, a concurrence of Kim Jong-il's "personal instructions" with Bill Clinton's "personal letter of assurances" can be construed as a shrewd diplomatic way of elevating the significance of the nuclear accord from an inter-bureaucratic document signed by the two Foreign Offices—the MFA and the Department of State—and, therefore, lacking the legal power of a treaty signed by heads of states and ratified by their respective parliaments, to an interstate agreement binding on both countries. Further, by their explicit blessing of the agreement, the two heads of states added their reputation and legitimacy to its credibility, while avoiding one of the treacherous legal traps. Formally, the DPRK and the United States are still belligerents. This makes it impossible for them to sign any interstate treaty before a peace treaty is concluded.

⁹⁶ *The People's Korea* (Tokyo), November 12, 1994, p. 2.

⁹⁷ *North Korea News*, October 24, 1994, p. 7-8.

⁹⁸ *Ibid.*

⁹⁹ Josette Shiner & Michael Breen, *The Washington Times*, April 19, 1994, p. A1.

¹⁰⁰ Marshal O Jin-u passed away on Saturday, February 25, 1995, from prolonged lung cancer. He was 78. See Reuter from Seoul posted to the Clarinet on February 25, 1995.

¹⁰¹ *North Korea News*, December 12, 1994, pp. 5-6.