

CHAPTER FOUR

FINDING AND ANALYSIS

A. History of North Korea and the Nuclear Weapons Program

North Korea and its nuclear weapons program can be traced back from early 1950s. A nuclear research institution was established in 1952 by the North Korea government called as the Atomic Energy Research Institute, but the research just began after North Korea established an agreement with the Union of Soviet Socialist Republics (USSR).³³ North Korea signed an agreement in 1956 on nuclear research with USSR and not long after that, scientists from North Korea along with scientists from People's Republic of China (PRC) arrived in Dubna Joint Institute for Nuclear Research located in central Russia to be trained and introduced to a nuclear power program.³⁴

In September 1959, North Korea and the Soviet Union signed an agreement on peaceful uses of nuclear energy. In the agreement, it provided a provision that stated the Soviets to assist North Korea in establishing a nuclear research center that will be located on the bank of Kuryong River approximately eight kilometers from the center of Yongbyon town. The Soviets provided large technical assistance such as the installation of a Soviet IRT-2000 nuclear research reactor and the Soviets engineer took part in the

³³ James Clay Moltz and Alexandre Y. Mansourov, 2000, *The North Korean Nuclear Program: Security, Strategy, and New Perspectives*, New York, Routledge, p. 17.

³⁴ Walter C. Clemens Jr., 2010, "North Korea's Quest for Nuclear Weapons: New Historical Evidence", *Journal of East Studies*, Vol. 10, No. 1, Cambridge, Cambridge University Press, p. 129.

construction of the reactor which became operational in 1965.³⁵ Even though in the early stage the development of the North Korea nuclear program was assisted and influenced by the Soviet Union and China, it continues to be developed without any significance assistance from foreign countries. Then-North Korean leader Kim Il Sung possessed the ultimate control of nuclear program and decision making related to weapons development.

Following China's nuclear test in October 1964, Kim Il Sung asked Chinese leader, Mao Tse-tung, to share its nuclear weapons technology and help North Korea in developing nuclear weapons, but the Koreans were sent back empty-handed.³⁶ The relationship between North Korea and China became estranged. A year after that, however, the Soviet Union sold a small two-to four-megawatt research reactor to North Korea and later built the reactor in the Yongbyon neighborhood which began to operate in 1967.³⁷

North Korea has received assistance and aid from foreign countries and they started to demand more. North Korea began to request for a delivery of a nuclear power plant to the Soviets but was rejected. The reason behind the Soviets rejection was explained in the note report of the Embassy of Hungary in North Korea to the Hungarian Foreign Ministry. The Soviet rejected the North Korean leader request as the nuclear reactor that had been provided and established in Korea with Soviet assistance was operated since approximately

³⁵ James Clay Moltz and Alexandre Y. Mansourov, *Loc. Cit.*

³⁶ Joseph S. Bermudez, Jr., 1991, "North Korea's Nuclear Programme", *Jane's Intelligence Review*, Vol. 3, No. 9, London, IHS Markit, p. 409.

³⁷ Walter C. Clemens Jr., *Op. Cit*, p. 131.

one and a half years ago but there were hardly any data about its operation received by the Soviet comrades.³⁸

In 1968 there were conflicts that happened across the globe. One of the events that occurred was an attack done by North Korea against the Republic of Korea president's Blue House in Seoul and a protest on US aggression by seizing an unarmed US spy ship, the *Pueblo*. The Soviets instructed North Korea to return the US crew and the latter did not comply with the instruction. Kim Il Sung called out on the Soviet Union to honor their partnership but was refused by Leonid Brezhnev, then-Soviet Union leader, and called for them to Moscow. This created tensions between North Korea and Soviet leaders.

The United States and USSR as the co-author who drafted the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) submitted to all of the UN members for signature in 1968³⁹ and that increased the tensions between North Korea and the Soviets. The USSR turns out stood ready to provide nuclear power assistance only to clients who were both loyal and advanced enough to deal with a nuclear technology such as Bulgaria, Czechoslovakia, and Hungary. Romania and North Korea were considered to be defiant so they were excluded and so was Vietnam, they were obedient but not ready for advanced technology.

³⁸ Report, 1967, Document of Embassy of Hungary in North Korea to the Hungarian Foreign Ministry in 1967.

³⁹ George H. Quester, 1972, "Soviet Policy on the Nuclear Non-Proliferation Treaty", *Cornell International Law Journal*, Vol. 5, No. 1, New York, Cornell University Law Library, p. 1.

Romania made a visit to Pyongyang in February 1968 when both countries agreed that “small countries would also be able to use atomic energy on peaceful uses and that should be ensured by the big countries who possessed the nuclear capacity.”⁴⁰ Many objections were made towards the NPT in 1968 but Romania signed the treaty eventually and submitted to the safeguards. However, North Korea refused to sign the NPT.

By early 1970s, North Korea engineer used their own technology to expand the IRT-2000 research reactor and they also acquired the plutonium reprocessing technology from the Soviets.⁴¹ On July 1977, North Korea signed a facility-specific safeguard agreement with the International Atomic Energy Agency together with the Soviet Union.⁴² The Soviets was included in the agreement as they were the one who supplied not only the IRT-2000 research reactor but also the reactor fuel.⁴³

In the early 1980s, there was a significant expansion done by the North Korea engineers where a uranium milling facilities, a fuel rod fabrication complex, and a 5 MW(e) nuclear reactor was built. They started to do the experiment test on the high explosive for the nuclear bomb triggering mechanism. Not only that, North Korea had begun building the 50 MW(e)

⁴⁰ Report, 29th February 1968, Embassy of Hungary in North Korea to the Hungarian Foreign Ministry.

⁴¹ Walter C. Clemens Jr., *Loc. Cit.*

⁴² International Atomic Energy Agency, 1977, “Agreement of 20 July 1977 between the Agency and the Democratic People’s Republic of Korea for the Application of Safeguard in Respect of a Research Reactor Facility”, Document INFCIRC/252.

⁴³ Joseph S. Bermudez, Jr., *Op. Cit.*, p. 406

nuclear reactor in Yongbyon Nuclear Research Center and began to do some expansion to the uranium enrichment facilities.⁴⁴

The exploration by North Korea did not stop there. They also did some exploration on the light water reactor technology in the early to mid-1980s. This period also consisted of the expansion of the reactor program. The reactor program was designed and constructed indigenously by North Korea, which was designed based on the prototype of 25MW carbon dioxide-cooled, graphite-moderated reactor and became operational in 1986.⁴⁵

On 12 December 1985, finally, North Korea joined the NPT as a non-nuclear-weapon State (NNWS).⁴⁶ Accordingly, North Korea is under the regulation of the NPT and have to comply with all the rights and obligations as an NNWS. NNWS must pursue in good faith the three pillars of the NPT, which are non-proliferation, the peaceful use of nuclear energy, and disarmament.

In the early 1990s, then-President of United States, George H. W. Bush, announced that the United States would withdraw their nuclear weapons from South Korea in September 1991 and on 18 December 1991, South Korea President, Roh Taw Woo, declared that South Korea was free from nuclear

⁴⁴ Joseph S. Bermudez, Jr., 1991, "North Korea's Nuclear Infrastructure", *Jane's Intelligence Review*, Vol. 6, No. 2, New York, IHS Markit, p. 79.

⁴⁵ Chaim Braun, 2016, "North Korean Nuclear Facilities After the Agreed Framework", *Center for International Security and Cooperation*, Stanford, Stanford University, p. 4.

⁴⁶ Christer Ahlström, 2004, "Withdrawal from Arms Control Treaties", *SIPRI Yearbook 2004*, Oxford, Oxford University Press, p. 770.

weapons.⁴⁷ Following that event, the Joint Declaration on the Denuclearization of the Korean Peninsula between North Korea and South Korea was signed.

Under the Joint Declaration, both North Korea and South Korea agree:

- a. Not to test, manufacture, produce, receive, possess, store, deploy;
- b. Not to use nuclear weapons;
- c. To use nuclear energy only for peaceful purposes;
- d. Not to possess facilities for nuclear reprocessing and uranium enrichment.⁴⁸

This agreement bound the two countries to give up their possession of nuclear and uranium enrichment facilities. The joint declaration also provided a bilateral inspection regime, but an agreement on its implementation was never successful.

B. North Korea First Withdrawal from the NPT

On 30 January 1992, North Korea agreed upon a Comprehensive Safeguards Agreement (CSA) with the IAEA based on Article III of the NPT and agreed to delay the operation of the 1977 agreement,⁴⁹ and North Korea government ratified the agreement on 9 April 1992. The CSA entered into force on 10 April 1992. Based on the term contained in this agreement, North

⁴⁷ Hans M. Kristensen, 2017, “A History of US Nuclear Weapons in South Korea”, *Bulletin of the Atomic Scientists*, United States, Routledge: Taylor & Francis Group, p. 352.

⁴⁸ Nuclear Threat Initiative (NTI), Joint Declaration of South and North Korea on the Denuclearization of the Korean Peninsula, <https://www.nti.org/learn/treaties-and-regimes/joint-declaration-south-and-north-korea-denuclearization-korean-peninsula/>, accessed on May 17th, 2019 at 7:54 pm.

⁴⁹ IAEA, Suspension of the Application of Safeguards, December 1992, Document INFCIRC/252/Mod. 1, accessed on May 17th, 2019, at 9:26 pm.

Korea is required to put all of its nuclear material and nuclear activities within the safeguards and all of the nuclear activities must be carried out in the peaceful matter. Under the CSA, IAEA has the right and obligation to make sure that safeguards are fully applied to all nuclear material for its main purpose that is to verify the materials would not be diverted in any way to nuclear weapons or any nuclear explosive technology. CSA also required North Korea to submit an initial declaration of its nuclear materials and facilities and also to give IAEA inspectors permission on access to verify the validity of the declaration.⁵⁰

Six rounds of inspections were conducted which began in May 1992 and concluded in February 1993. The DPRK submitted the initial report on 4 May 1992 to the IAEA under the agreement. Under IAEA safeguards in 1977, they were only aware on the existence of research reactor supplied by the Soviets. North Korea in the Initial Report listed:

- a. 5 MW(e) graphite in the type of Magnox;
- b. Plant fuel fabrication;
- c. Radiochemical laboratory;
- d. Two larger Magnox type reactors of 50 MW(e) and 200 MW(e) under construction.

⁵⁰ David Fischer, 1997, *History of International Atomic Energy Agency: the First Forty Years*, Vienna, International Atomic Energy Agency, p. 289.

The DPRK itself had indigenously built the three Magnox reactors. They are basically similar to reactors used by the Britain in the 1950s for plutonium production for the first warhead and to produce the first nuclear electricity. The 50 MW(e) reactor was scheduled to be finished by North Korea in 1995. 40-50 kilograms of plutonium would have been able to be produced by the reactor in a year which is enough for producing five to ten nuclear warheads.

In the Initial Report, North Korea showed a small amount of plutonium (less than 100 grams) that they stated that it was coming from the extraction of damaged fuel rods discharged from the 5 MW(e) reactor. North Korea persistently maintained that they only possess a small amount of plutonium that had been separated, and that they had only conducted a one-time reprocessing operation in 1990. However, IAEA analysis result showed that there had been more than one-time reprocessing activity.⁵¹ This is inconsistent with the Initial Report, indicating the existence of undeclared plutonium and the findings of IAEA.⁵² Whether the undeclared plutonium amount to grams or kilograms can only be made sure after further investigation and more exploration to the reactor. The waste analysis given by the DPRK to the IAEA shows the inconsistencies between that and plutonium presented by the DPRK.

⁵¹ David Fischer, *Loc. Cit.*

⁵² David Albright, 2015, "North Korean Plutonium and Weapon-Grade Uranium Inventories", Institute for Science and International Security, taken from <http://isis-online.org/isis-reports/detail/north-korean-plutonium-and-weapon-grade-uranium-inventories>, accessed on May 17th, 2019 at 10 pm

Meanwhile, satellite images were provided by the United States satellite to the IAEA and showed two constructions that had not been listed in the initial report submitted by North Korea. It is clear that North Korea had tried to disguise the two constructions using that planting trees and other camouflage as it is showed in the satellite images.⁵³ Then, the IAEA requested access to additional information and to two sites in order to verify the validity of the initial report, whether it is complete or not. However, IAEA's request to access the two sites were refused by North Korea.⁵⁴ The ground of the refusal was that the two sites were military installations.

After the IAEA was rejected to get access, in April 1993 the IAEA Board of Governors concluded that the DPRK was being non-compliance with the IAEA-DPRK safeguards agreement and referred to this non-compliance to the UN Security Council. In May 1993 the Security Council adopted Resolution 825 by a vote of 13 in favor, with China and Pakistan abstaining, calling upon the DPRK to comply with its safeguard's agreement, two but it was not successful. The special inspection did not take place.⁵⁵ On March 12, 1993 North Korea reaction to the IAEA's request for a special inspection, announced its decision to withdraw from the NPT under Article X.⁵⁶ In Article X Paragraph 1 of NPT stated that:

“Each Party shall exercise its national sovereignty has the right to withdraw from the Treaty if it decides that extraordinary events,

⁵³ David Fischer, *Loc. Cit.*

⁵⁴ Christer Ahlström, *Op. Cit.*, p. 771.

⁵⁵ Utpal Vyas, *et. al.*, 2015, *The North Korea Crisis and Regional Responses*, Hawai'i, East-West Center, p. 21

⁵⁶ *Ibid*, p. 22.

related to the subject matter of this Treaty, have jeopardized the supreme interests of its country. It must be noticed to all other United Nations Security Councils three months in advance. Such notice should include a statement of the extraordinary event as having jeopardized its supreme interests.”⁵⁷

Under the provision of the Treaty, the withdrawal from a state does not take effect until 90 days after it has given notice. On 11 June 1993, one day before North Korea notice of withdrawal from the NPT was to have come into effect, DPRK stated in the Joint Statement with the USA that it had “decided unilaterally to suspend as long as it was deemed necessary to withdraw from the Nuclear Weapons Non-Proliferation Treaty effectively.” North Korea also accepted IAEA regular inspection on the sites that North Korea had declared in its Initial Report.⁵⁸

In the case of North Korea, it had withdrawn from the NPT back in 1993. In 1993, North Korea announced its withdrawal from the NPT after IAEA’s request for special inspection on several nuclear sites was rejected by North Korea. The withdrawal was within Article X. Paragraph 1 of NPT where an extraordinary event has jeopardized the supreme interest of North Korea. An extraordinary event happened because of the request by IAEA to inspect several nuclear sites that could threaten its sovereignty as an independent state.

⁵⁷ Article X of Treaty on the Non-Proliferation of Nuclear Weapons 1968.

⁵⁸ Board of Governors General Conference Report by the Director General of IAEA, GOV/2011/53-GC(55)/24, September 2nd, 2011, p. 3, https://isis-online.org/uploads/isis-reports/documents/IAEA_DPRK_2Sept2011.pdf, accessed on May 23rd, 2019 at 9:00 pm.

C. Crisis in 1994 and the Agreed Framework

In 1994, the IAEA suggested that when the irradiated fuel from the 5MW(e) reactor will be discharged, it should be discharged in a way that IAEA permit so they could verify the history of the reactor core activity. It will also help to solve the question of whether North Korea had separated more plutonium than what they had declared in its Initial Report or not.⁵⁹

In May 1994, North Korea rejected IAEA's proposal and carelessly discharged the fuel in a way that is not approved by IAEA as to make any historical analysis of the core will be impossible to track.⁶⁰ On 10 June 1994, IAEA Board of Governors decided to suspend all IAEA technical assistance in North Korea.⁶¹ North Korea responded on 13 June by announcing its withdrawal from the Agency. On 16 June 1994, the United States proposed that the Security Council should impose a series of more severe sanctions on North Korea. The action of the United States was responded by North Korea saying that sanctions would mean war. The USA declared that threats would not discourage it. This event caused a crisis as a war might break out between the United States and North Korea.

After the tension culminated, on 17 June 1994 the former President Jimmy Carter stepped in and went to Pyongyang to discuss the crisis with Kim

⁵⁹ David Fischer, *Op. Cit.*, p. 290.

⁶⁰ Matthias Dembinski, 1995, "North Korea, International Atomic Energy Agency, Special Inspections, and the Future of the Nonproliferation Regime", *The Nonproliferation Review*, Vol. 2, No. 2, United States, James Martin Center for Nonproliferation Studies, p. 35.

⁶¹ International Atomic Energy Agency, "Fact Sheet on DPRK Nuclear Safeguards", <https://www.iaea.org/newscenter/focus/dprk/fact-sheet-on-dprk-nuclear-safeguards>, accessed on May 23rd, 2019 at 9:30 pm.

Il Sung himself and Carter managed to come back with a conciliatory message.⁶² If the USA was prepared to meet North Korea on certain points (e.g., diplomatic recognition, an assurance that the USA would not attack North Korea and access to US nuclear power technology), North Korea would be prepared to refrain from refueling the operating reactor and to refrain from reprocessing the spent fuel, perhaps stop the construction of the larger reactors, and allow the IAEA to keep its inspectors in the North Korea.

The US barely responded to this suggestion by continuing high-level discussions with the Government of North Korea despite the death of Kim Il-Sung and the allegedly unresolved power struggle in Pyongyang.⁶³ On 5 August 1994, ‘high-level talks’ reopened in Geneva and on 18 October the two delegations announced that they had been able to conclude in a so-called “Agreed Framework,” which was signed three days later on 21 October 1994.⁶⁴ On 4 November 1994, the Security Council asked the IAEA to execute the tasks assigned to it in the Agreed Framework and the IAEA Board authorized the Director General, Hans Blix, to do so. Under the Agreed Framework:

1. North Korea would freeze its current nuclear program and accept international verification of all existing plants;
2. The IAEA would confirm with the freeze and continue inspecting unfrozen operations;

⁶² Robert S. Litwak, 2017, *Preventing North Korea's Nuclear Breakout*, Woodrow Wilson International Center for Scholars, Washington, Wilson Center, p. 11.

⁶³ Matthias Dembinski, *Op. Cit.*, p. 36.

⁶⁴ *Ibid.*

3. North Korea would eventually dismantle all the frozen plants;
4. The two countries would seek ways of storing and disposing of the gas from the 5 MW(e) reactor in a manner that does not involve North Korea reprocessing;
5. The USA would put together an international agreement to arrange financing the supply of two 1000 MW(e) light water reactors;
6. Dismantling of the North Korea's plants would be completed when the LWR project is completed;
7. The US would arrange for heavy oil supplies to compensate for the energy because of the freeze on graphite-moderated reactors in North Korea;
8. Both nations would loosen the trade restrictions and move toward establishing diplomatic relations;
9. The USA would give formal assurances to North Korea against the threat of use of nuclear weapons by the USA;
10. Steps will be taken by North Korea to implement the North-South Korean agreement on denuclearizing the peninsula;
11. North Korea would remain party to the NPT and would allow implementation of its safeguards agreement under the Treaty; significant portion of the light water reactor project was completed, but before delivery of key nuclear components, North Korea will come into full compliance with its safeguards agreement, including taking all steps that may be deemed necessary by the IAEA,

following consultations with the Agency with regard to verifying the accuracy and completeness of the Initial Report on all nuclear material in the nuclear sites. It should also be noted that there was no mention in the Agreed Framework that North Korea was rejoining the IAEA.⁶⁵

After the conclusion of 1994 Agreed Framework, the United States together with South Korea and Japan agreed to establish the Korean Peninsula Energy Development Organization (KEDO) in order to implement the 1994 Agreed Framework in March 1995. KEDO would supervise the financing and construction of light-water reactors to replace the existing North Korea's graphite-moderator reactors.⁶⁶ North Korea and KEDO signed the contract for two LWRs in December 1995 with completion target date of LWRs project on 2003.⁶⁷

Based on the 1994 Agreed Framework, North Korea agreed to freeze their existing nuclear programs and accept inspection on 'unfrozen' plants and eventually dismantle their 'frozen' plants. Another highlight from the Agreed Framework is that North Korea would remain as a party to the NPT in exchange for Light-Water Reactor (LWR).

⁶⁵ US-DPRK Agreed Framework, 1994, Geneva, Inventory of International Nonproliferation Organization and Regimes Center for Nonproliferation Studies, taken from <https://media.nti.org/pdfs/aptagframe.pdf>, accessed on June 15th, 2019 at 10:40 pm.

⁶⁶ Jonathan D. Pollack, 2003, "The United States, North Korea, and the End of the Agreed Framework", *Naval War College Review*, Vol. 56, No. 3, Newport, U.S. Naval War College Press, p. 10.

⁶⁷ *Ibid.*

LWR, commonly used reactors in nuclear power plants, were mentioned in the Agreed Framework. North Korea was demanding for the completion of LWR in exchange for the implementation of IAEA safeguard to be allowed. LWR is very needed by North Korea as they have been facing energy and electricity shortage for over a decade and resulted in the development of its economic constrained.⁶⁸

Two main primary resources relied on by North Korea in the early 2000s is coal and hydropower.⁶⁹ Coal resource in North Korea is minimal and recoverable reserved coal used as a fuel in coal-fired power generation only supply generator for about ten years. However, the coal generator has decreased that was caused by flood and hydropower is also damaged by the flood. North Korea realized as they are gradually losing its primary energy; they need to ensure security energy in the future by exploring and developing nuclear power plants based on another energy resource, which is uranium.

North Korea has plenty of natural uranium which could be used as a fuel to supply its electricity generator for hundreds of years.⁷⁰ They reported having known natural uranium around 300,000 Megaton which estimated to be able to supply nuclear power generator for around 250 years if they manage to

⁶⁸ Hui Zhang, 2006, "The LWR Provision and the North Korean Nuclear Crisis: A Chinese Perspective", *The Project on Managing the Atom*, Massachusetts, Belfer Center for Science and International Affairs, Kennedy School of Government, Harvard University, p. 3.

⁶⁹ U.S Department of Energy, Energy Information Administration, Country Analysis Brief, "North Korea", June 2018, taken from <https://www.eia.gov/beta/international/analysis.php?iso=PRK>., accessed on June 25th, 2019 at 12:10 pm.

⁷⁰ Hui Zhang, *Loc. Cit.*

process the natural uranium so that it can be used. That is why LWR is very important for North Korea to acquire in order to process natural uranium.

The discovery of the U.S intelligence on North Korea attempt in acquiring materials and equipment for the construction of their enrich facility in early of 2000s violated the value of 1994 Agreed Framework which both states, the United States and North Korea, pledged to keep the Korean Peninsula free from nuclear weapons and to normalize both of their political and economic relations. This violation resulted in the breakdown of the Agreed Framework.

North Korea is a non-nuclear-weapon state (NNWS) which based on NPT, NNWS nuclear activities shall only serve to peaceful purposes and shall be verified by the IAEA Safeguards system.⁷¹ Not only in NPT, based on 1992 Joint Declaration between North Korea and South Korea where North Korea agreed that their nuclear activities will only be used for peaceful purposes and requires them not to possess any facilities for nuclear reprocessing and uranium enrichment which could lead to manufacturing of nuclear weapons.

North Korea has been found trying to build an enrichment facility to enrich their uranium while it is still a part of NPT as an NNWS and is under obligation conferred by NPT. An NNWS has the right to the peaceful use of nuclear energy for the benefit in doing research, production and uses the nuclear energy which is a right that is unable to be taken away from States

⁷¹ Article II and III of Treaty on the Non-Proliferation of Nuclear Weapons 1968.

parties to NPT and protected under Article IV of NPT. However, the right has to be in full conformity with their non-proliferation obligation as a non-nuclear-weapon States. Accepting IAEA safeguards system is an obligation that every NNWS must comply based on Article III of NPT in order to prevent any diversion from peaceful uses of nuclear energy to manufacturing or to acquire nuclear weapons or any nuclear explosive devices. Therefore, North Korea use of nuclear energy to generate its electricity is allowed and legal under the NPT. But with the discovery that North Korea was trying to use nuclear energy to be nuclear weapon, they were not in good faith with the NPT and the Agreed Framework. It is proven that North Korea being non-compliance with its obligation contained in NPT.

In summer 2002, U.S. intelligence reported that they discovered evidence of Highly Enrichment Uranium (HEU) technology or materials transfers from [Pakistan](#) to North Korea in exchange for [ballistic missile](#) technology.⁷² It was discovered that there were black-market nuclear activities of Pakistani nuclear scientist, Abdul Qadeer Khan, who confronted North Korea the alternative way to acquire nuclear weapons. He deliberately proliferated nuclear weapons technology for the profit where he transferred centrifuges, oils, and the instruction on centrifuge technology.⁷³ The centrifuge was materials that are going to be used for the construction of the gas-centrifuge enrichment facility by North Korea. Around that time, North Korea

⁷² Robert S. Litwak, *Op. Cit*, p. 15.

⁷³ Mary Beth D. Nikitin, 2013, "North Korea's Nuclear Weapons: Technical Issues", *Congressional Research Service*, Washington, Library of Congress, p. 9.

started to build the secret facility of [uranium enrichment](#) at Kangson which is located in the outskirts of Pyongyang. Even though U.S. intelligence was reportedly aware of the site, the existence of the facility was only revealed to the public in July 2018 through the efforts of open-source analysts.⁷⁴

After the confrontation made by the United States to the DPRK's secret uranium enrichment facility, the Bush Administration called upon the North Korea to stop their secret uranium enrichment facility and put pressure to the North Korea by passing a Resolution through KEDO that contain the suspension on heavy oil shipment and suspension of light water reactors construction in 2002.⁷⁵ North Korea reacted to the pressure by taking a hostile move which is to restart its nuclear program that was shut down under the Agreed Framework in 1994. IAEA officials were also expelled from DPRK who had been keeping the plutonium facilities under surveillance.⁷⁶

The dispute culminated on January 2003 when North Korea announced its withdrawal from the NPT. North Korea announced instant effectuation on their withdrawal from the NPT and they threatened to end their moratorium on long-range missile test applied since 1999. After the withdrawal, North Korea

⁷⁴ Ankit Panda, 2018, "Exclusive: Revealing Kangson, North Korea's First Covert Uranium Enrichment Site, The Diplomat", taken from <https://thediplomat.com/2018/07/exclusive-revealing-kangson-north-koreas-first-covert-uranium-enrichment-site/>, accessed on May 26th, 2019 at 10:20 pm.

⁷⁵ Naoko Aoki, 2017, "KEDO: How Multilateral Cooperation Helped an Unprecedented North Korean Project", *Center for International and Security Studies at Maryland*, Maryland, School of Public Policy, University of Maryland, p. 8.

⁷⁶ Larry A. Nicksch, 2005, "U.S.-Korean Relations—Issues for Congress", *Congressional Research Service*, Washington, Library of Congress, p. 3.

also declared that they are free from any restriction of the safeguard agreement with the IAEA.

North Korea announced its withdrawal again from the NPT but with immediate effectuation of their withdrawal because North Korea argued that they had fulfilled the NPT's three-month notice. North Korea insisted on their stance because their 1993 withdrawal was suspended on days 89, one day before their withdrawal took in effect; so, their withdrawal in 2003 will take in effect one day after the announcement as a form of continuation. North Korea's procedure to withdraw from the NPT in 2003 did not fulfill the requirement contained in Article X Para. 1 of NPT. Therefore, the withdrawal could not be determined as legitimate. However, with the absence of any action by the United Nations Security Council upon North Korea withdrawal in 2003, North Korea withdrawal was considered justified.

D. Six-Party Talks as a Diplomatic Measures

The Six Party Talks started in 2003 to deal with North Korea's nuclear program. The main goal of the talks was to get the DPRK to disarm and fully end its nuclear arms development program. The countries participating in these talks include China, Japan, South Korea, North Korea, Russia and the United States. The Talks have several main points of plea:

1. Security guarantee: North Korea has raised the issue of security guarantee since the Bush Administration took office (2001-2009). North Korea marked the Bush administration as hostile and

charged it with planning to forcibly overthrow North Korea government.

2. The construction of light water reactors: two light-water reactors were agreed to be constructed under the 1994 Agreed Framework in exchange for North Korea graphite-moderated atomic energy power plant information in Yongbyon. However, the Agreed Framework broke down in 2002 after the United States and North Korea exchange allegation.
3. Peaceful use of nuclear energy: Peaceful uses on nuclear energy is allowed under the NPT for a state to use it for civilian purpose, but North Korea was considered to have used it as a cover for its nuclear weapons program.
4. Diplomatic relations: North Korea wished diplomatic relations to be normalized as part of the deal to abandon its nuclear weapons program. Sometimes the US has disagreed and sometimes agreed to this situation, giving North Korea with irreversible and verifiable disarmament of its nuclear weapons program.
5. Financial restrictions / Trade normalization: The U.S. has imposed heavy financial sanctions on North Korea for what they see as a non-cooperative approach and a reluctance to dismantle their nuclear weapons program. Additionally, other sides like China have taken action such as freezing North Korean assets in foreign bank accounts, such as the US\$ 24 million in Banco Delta Asia in

Macau. UNSCR 1718 was enacted with the nuclear test on October 9, 2006, including a ban on all luxury goods to North Korea. On March 19, 2007, the US unfroze these funds to reciprocate their North Korean counterparts' actions. In October 2008, the United States removed North Korea from its list of terrorist state sponsors.

6. Verifiable and Irreversible disarmament: Six-party talks were in disagreement on this. Japan and the United States have requested that North Korea totally dismantle its nuclear program so that it can never restart, and that the six participants of the talks can verify it before assistance is granted. South Korea, China, and Russia agreed on a milder, step-by-step solution involving participants of the six-party talks providing some reward (e.g. assistance) for each nuclear disarmament step. North Korea wanted the U.S. first to grant some of the requirements before it took any action to disarm its arms program, which they saw as the only guarantee to avoid a U.S. attack on its soil.

The first round of Six-Party Talks began in August 2003 involving several states such as Japan, People's Republic of China, the Russian Federation, the United States, the Republic of Korea, and the DPRK itself.⁷⁷ These talks aimed to find a peaceful resolution regarding security in the Korean peninsula region because of the nuclear weapons program in North Korea. The first round of Six-Party Talks took place in Beijing on August 27, 2003 where

⁷⁷ International Atomic Energy Agency, Application of Safeguards in the Democratic People's Republic of Korea, Document GOV/2011/53-GC(55)/24.

North Korea demands a normalization of relations with the United States. At the end of the talks, parties involved agreed to commit to resolving nuclear issue by peaceful means and dialogue, taking the security concern of DPRK into consideration, and stay away from any action that could aggravate the situation in the process of negotiations.⁷⁸

The second round of talks was held on February 2004 in Beijing. The second round focused on how to resolve the nuclear issue and how North Korea should denuclearize. The Chairman's Statement, the Six-Party Talks written document, was issued in which the parties agreed to resolve the nuclear issues through dialogue peacefully, wishing for coexistence between participating parties, and emphasizing on the mutually coordinated measures.⁷⁹

The Talks continue to the third round on June 23 to 26 in the same year when the second round was held. In the third round of the Talks, North Korea stated that a 'freeze' on their nuclear program would be the last step of denuclearization; while the U.S. proposed that denuclearization needed to be done periodically.⁸⁰ The United States proposes that North Korea will be given three months to prepare freeze on its nuclear program and to submit a report on North Korea full activities in their nuclear program. A sufficient consensus did

⁷⁸ Six-Point Consensus Reached at Six-Party Talks: Chinese Vice FM, Permanent Mission of the People's Republic of China to the UN, August 29th, 2019, taken from <http://www.china-un.org/eng/hyyfy/t29001.htm>, accessed on May 31st, 2019 at 12:12 am.

⁷⁹ Fu Ying, 2017, *The Korean Nuclear Issue: Past, Present, and Future - A Chinese Perspective*, Vol. 3 of Strategy Paper, Washington, John L. Thornton China Center, Brookings Institution, p. 12.

⁸⁰ *Ibid.*

not reach for a Joint Statement in this round, but the commitment was made to resolve the issue.

The Talks from the third round to the fourth round had it breaks for a year. The breaks caused by the Presidential Election in the U.S. and North Korea wanted to wait for the confirmation of Bush second administration before they decided to attend the talks. However, in early February 2005, North Korea announced that they possessed nuclear weapons and would not attend any six-party talks. They accused the United States wanted to overthrow North Korea government. In July 2005, after a meeting with the U.S. lead negotiator, Christopher Hill, North Korea announced that they would attend another round of Six-Party Talks. One of the reasons why North Korea was willing to be back on Six-Party Talks was because the United States stated that they recognize North Korea as a sovereign state and the United States does not have any intention to invade North Korea.

After some coordination, the fourth round of Six-Party Talks was held in Beijing and was divided into two phases, 26 July to 7 August and 13 September to 19 September. The process was very long but it produced a very successful result. A Joint Statement was finally made between the parties.⁸¹ The highlight of the Joint Statement was North Korea pledged itself to abandon their nuclear programs and all its nuclear weapons, to return to the NPT and would receive IAEA inspection, and their right of peaceful uses of nuclear

⁸¹ *Ibid.* p. 13.

energy to be respected by other parties.⁸² Unfortunately, the positive result from the previous round did not last long. Once more, North Korea banned the Six-Party Talks after the U.S. imposed economic sanctions to them following the accusation made by the U.S. that Banco Delta Asia (BDA), a Macau-based bank, had money laundering bank notes from some of the North Korean accounts.⁸³

Following the sanction imposed by the United States, North Korea conducted its very first nuclear missile test in 2006 which received many condemn from another state. UN Security Council passed 1718 Resolution that prohibits North Korea from conducting future nuclear tests or launch a ballistic missile and calls them to stop any of their activity in developing nuclear weapons. The Resolution banned exports and imports in for of any military weapons and equipment, and UNSC freezed the asset of North Korea and a travel ban on people and entities tied to the nuclear program.⁸⁴

Another round of talks resumed in February 2007 in which an agreement was made to execute the Joint Statement. In the agreement, North Korea pledged to shut down their nuclear facilities and to declare every activity related to nuclear, and in exchange for that, North Korea will be provided with tons of heavy fuel oil and removed from the list of state sponsors of terrorism.

The other parties have committed themselves to help North Korea by providing

⁸² Joint Statement of the Fourth Round of the Six-Party Talks Beijing, 2005, U.S. Department of State, taken from <https://2001-2009.state.gov/r/pa/prs/ps/2005/53490.html>, accessed on June 2nd, 2019 at 10:10 pm.

⁸³ Mary Beth D. Nikitin *et. al*, 2017, “Nuclear Negotiations with North Korea: In Brief”, *Congressional Research Service*, Washington, Library of Congress, p. 8.

⁸⁴ *Ibid.*

energy assistance. IAEA officers will also be returned to North Korea to inspect and monitor the facilities at Yongbyon which their presence was there until mid-April 2009.

In the sixth round, it was confirmed by IAEA officials that the nuclear reactor in Yongbyon had been shut and sealed in July 2007 and the United States announced that North Korea had been removed from the list of the state which sponsors terrorism. On 5 April 2009, North Korea launched its first satellite which was condemned by the UN Security Council and the action were considered to violate UNSC Resolution 1718. The UN Security Council agreed to expand the sanctions on North Korea which responded by North Korea that the Joint Statement and the Talks would no longer bound them. The statement issued by North Korea has attracted question from the international community. Based on the Joint Statement, North Korea has returned to the NPT and become a party to the Treaty again. However, with the statement that North Korea is no longer bound by the Talks, make the status of North Korea under the NPT become ambiguous. It is because the procedure in withdrawing from Six-Party Talks is different from withdrawing from the NPT.

Despite of the ambiguous status, North Korea has launched a series of nuclear weapons missile test which was condemned by international community. After the conduct of nuclear missile test in 2006 and 2009, North Korea had conducted another nuclear test and satellite launch. The UN Security Council had issued several Resolutions to North Korea:

1. The second Resolution was issued in 2009, in which they imposed that further sanctions on North Korea was included in Resolution 1874 in response to the second nuclear test, conducted in May 2009. The Resolution imposes a restriction to North Korea in developing nuclear weapons program and also tightens sanctions on nuclear weapons development programs and tightens sanctions on further goods, such as all imports and exports of weapons, and also to additional persons and entities that have a relation with the nuclear program. Financial transaction, transfer or loan that could be used to help the development of nuclear weapons or ballistic missiles are also prohibited. States are required to do an inspection and detain any cargo coming to or from North Korea through their territory on land, sea, or air if the cargo is suspected of being used to develop nuclear.
2. In December 2012, North Korea successfully launched its satellite which received condemnation from many countries. On January 2013, the UN Security Council passed 2087 Resolution by strengthening the previous sanctions and calling for states again to do inspection on North Korean cargo passing through their territory.
3. Resolution 2094 was issued after another nuclear test was conducted by North Korea continue in February 2013 where UN Security Council adopted the Resolution condemns the test and strengthen existing sanctions given to the North Korea. Another target of the

Resolution is denying big amount of cash transfer into North Korea and calling for sanction to any bank account that is related to the North Korea nuclear program.⁸⁵

4. Resolution 2270 was passed in 2016 after North Korea nuclear and missile test which include inspection of all cargo passing to and from North Korea and prohibition of all trade on nuclear weapons. Additional to that, restriction on North Korean imports of luxury goods.
5. In response to North Korea missile test on July 2017, Resolution 2375 was adopted by UN Security Council. The Resolution imposed oil sanctions against the North Korea by reducing level of oil barrel exports from 4 million barrels to 2 million barrels per year. It also applied to exports of refined petroleum products. The Resolution banned the North Korean textile and also restricted the country's workers export.

The possession of nuclear weapons by North Korea becomes a threat to the world peace and security as its nuclear weapons technology getting more advanced. Commitment to nuclear disarmament by North Korea needs to be ensured to prevent any use of nuclear weapon as a self-defense in the future as it is stated in the ICJ Advisory Opinion dispositive F on the interpretation of Article VI of NPT. The Advisory Opinion stated that commitment on nuclear disarmament is not a mere goal but a binding obligation for states.

⁸⁵ United Nations, 2013, "Security Council Strengthens Sanctions on Democratic People's Republic of Korea, in Response to 12 February Nuclear Test", <https://www.un.org/press/en/2013/sc10934.doc.htm>, accessed on June 29th, 2019 at 2 pm.

In the United Nations Charter Article 2(4) stated all members of United Nations should refrain their states for using coercive means of any threat against another states in term of international relations. Even tough, Article 51 of UN Charter stated that every State have their self-defense right if an armed attack occurs against but the measures and the means taken by the States shall be immediately reported to the United Nations Security Council. United Charter is much superior than the ICJ Advisory, therefore the implementation is binding every state member to United Nations. However, the use of nuclear weapon as a self-defense is prohibited means in time of armed coflict based on the International Humanitarian Law and Article 35 of Geneva Convention 1949.

In North Korea's case, the proliferation of nuclear weapons is illegitimate as their status under the NPT is still a member and their obligation not to acquire or manufacture nuclear weapons. As a result, on the fourth round of Six-Party Talks, North Korea agreed to return to the NPT and must comply with all of its obligations. North Korea did not directly withdraw from the NPT because the decision made was not a multilateral decision while the Talks itself was a multilateral agreement. There was never any official withdrawal made by North Korea after returning the NPT where withdrawal from the treaty must be recognized by other States. Therefore, North Korea is still part of NPT and still bound by the obligation contain in NPT. In conclusion, North Korea is not allowed to develop any nuclear technology, to expose all of the nuclear facility, and eventually to undertake a complete nuclear disarmament.