

Lyong Choi
Jooyoung Lee

Fission and Fusion of Allies

The ROK Nuclear Quest and
U.S.–France Competition
and Cooperation

 Springer

Fission and Fusion of Allies

Lyong Choi · Jooyoung Lee

Fission and Fusion of Allies

The ROK Nuclear Quest and U.S.–France
Competition and Cooperation



Springer

Lyong Choi
Asia-Pacific Research Center, Hanyang
University
Seoul, Korea (Republic of)

Jooyoung Lee
School of Liberal Arts
Ulsan National Institute of Science
and Technology
Ulsan, Korea (Republic of)

ISBN 978-981-19-9800-3 ISBN 978-981-19-9801-0 (eBook)
<https://doi.org/10.1007/978-981-19-9801-0>

© The Editor(s) (if applicable) and The Author(s), under exclusive license to Springer Nature Singapore Pte Ltd. 2023

This work is subject to copyright. All rights are solely and exclusively licensed by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors, and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Singapore Pte Ltd.
The registered company address is: 152 Beach Road, #21-01/04 Gateway East, Singapore 189721, Singapore

Preface

Prof. Lyong Choi started this project as a case of proliferation of nuclear weapons, one of the most critical issues in international security, and international efforts to deter it. Most nuclear weapon aspirants developed their ambitions with their partnership state(s) with advanced nuclear technologies. Some of those aspirants succeeded in their nuclear weapons program after the partnership ended. Those states often faced pressure and checks from other states and/or non-proliferation regimes, which, in most cases, prevented the spread of nuclear weapons. Although the U.S. has been one of the key actors in non-proliferation efforts, it sometimes failed to deter the spread of nuclear weapons. Many books discuss the cases of its failure, and we can learn from the failures of Washington's non-proliferation efforts. Yet Prof. Choi also found it meaningful to understand how and why the U.S. materialized its efforts for non-proliferation in most cases. He thus focuses on one of the most successful cases of U.S. non-proliferation effort: the case of South Korea (hereinafter the ROK, Republic of Korea).

While investigating the ROK–France contract for reprocessing facilities and the U.S.–ROK conflicts surrounding the ROK's attempts for nuclear weapons development, Prof. Choi felt the need to expand the perspective to include U.S.–France relations. Therefore, at some point in the spring of 2018, he suggested to Prof. Jooyoung Lee that he join the research. Prof. Lee, whose fields were the U.S. in the World and Cold War history, seemed to be the right scholar to work with. When Prof. Lee gladly joined the study, the long journey of this joint research by a political scientist and a historian began.

In the beginning, we spent time sharing issues and questions on the topic. We then conducted archival research to obtain relevant sources. Prof. Choi often carried out research about the ROK's nuclear project at the Diplomatic Archive of the Korean National Diplomatic Academy. He began to search for more materials since he came to be interested in the ways in which the Korean government tried to acquire the legal approval of the international regime by getting the IAEA involved in the ROK–France plutonium reprocessing deal in preparation for U.S. intervention. Prof. Lee conducted research in various archives including NARA, UCLA, and the Nixon Library in the U.S. In particular, he met with Dr. William Burr of the Woodrow Wilson Center,

who had already been communicating with Dr. Choi regarding the topic. Dr. Burr, who studied secret assistance by the U.S. to the French nuclear program and ROK's nuclear history, gave him very useful advice on the topic and archival research there. Dr. Burr, however, had yet to find any definitive evidence on how and why the French and/or ROK government(s) decided to cancel the reprocessing deal. He also did not expect that any clear evidence would be released sooner or later. This was somewhat frustrating, but also motivated us to search for answers to our research questions.

When the research progressed, we met and discussed the findings. The most interesting part of this joint research was the periodic meeting as well as communication by phone and email. This was very intellectually stimulating for each other and further advanced the research. New questions often arose and the scope of the study widened. First, we found that the ROK's development of nuclear weapons and its reprocessing deal with France was closely related to changes in U.S. foreign policy in general and its alliance policy specifically. We could also understand that the improvement of U.S.–France relations played a significant role in the ROK's attempt. We thus expanded the scope of our study to the broader trilateral relations among the U.S., France, and the ROK beyond the narrow U.S.–ROK relations. Since we saw the issue as a problem of trilateral relations, we could also understand why the issue was hard to resolve. France could not cancel its contract with the ROK without firm nuclear assistance from the U.S. The ROK could not abandon its nuclear weapons development before resolving its security crisis. The U.S. had not yet found solutions to the ROK and France. Despite the broadened scope of our research, we did not find a smoking gun showing how the trilateral relations were resolved.

As the study made progress, we had more questions. However, the sources were limited. Since most policymakers of the 1970s died or were unable to communicate, we had difficulties in finding sources of the negotiations between the ROK and France regarding the nuclear agreement. But then we heard that primary documents of Hyung Seop Choi, then Minister of Science and Technology, existed somewhere. While we had difficulty in locating the sources, we ultimately found the Hyung Seop Choi Archive thanks to the help of Dr. Seong Jun Kim, who studied the history of Korean atomic energy. The sources in the archive were very useful and thus accelerated our study. We also needed more sources of the U.S. and France. The Digital National Security Archive was one of the helpful places where we could get necessary information on U.S.–France and U.S.–Korean nuclear relations. Despite the difficulty, we could get access to the archive and search for the sources we needed with support from the UNIST library. We also read and discussed more literature on French nuclear diplomacy.

With the expansion of the perspective and additional sources, we could understand the essential nature of the process of the ROK government's development and abandonment of the nuclear weapons program. First, we perceived the importance of understanding the historical context of the transformation of the international order and changing nature of the Cold War as well as considering how the U.S. and its allies, the ROK and France, tried to adjust to the changes. Second, we also understood that the ROK's nuclear development was related to the following broader issues: France's changing policies on nuclear proliferation closely related to its changing domestic

politics; U.S. efforts to build a non-proliferation regime with the nuclear weapon states (NWS) through a multilateral approach; and the ROK's endeavor to resolve its national security crisis. More importantly, these three issues were intertwined and thus locked in a stalemate. After understanding the essence of the problem, we could finally figure out the process by which the trilateral stalemate was resolved. It was only after the three actors, especially the U.S., understood that the issues they were struggling to resolve were broader than they perceived that the deadlock was resolved and thus one of the serious obstacles to U.S. non-proliferation efforts was removed.

When we began our research, we aimed at writing a research article. As the research progressed, however, the scope of our study continued to expand and became too big to be contained in an article. At some point, therefore, we decided to write a book. We spent considerable time on our joint research. As the scope of our study grew and new questions were raised, we sometimes lost our way. After finding our way again and again, however, we came closer to the answers to our questions. While enjoying the intriguing journey of our collaboration, we arrived at a place we did not expect to be in the beginning.

Seoul, Korea (Republic of)
Ulsan, Korea (Republic of)

Lyong Choi
Jooyoung Lee

Acknowledgments

Prof. Lyong Choi first acknowledges the influence of Prof. O. A. Westad of Yale University, his Ph. D advisor at London School of Economics, on this historical research during Cold War Era. He especially appreciates Prof. Se Hyun Ahn of University of Seoul. Without Prof. Ahn's help, it would have been impossible to start this project. He is also grateful to the help of Director Christian Ostermann of Woodrow Wilson Center and Prof. Jong Dae Shin of University of North Korean Studies for their support for the archival research in this project. He especially appreciates his wife So Young Jeong and his two children Hyeon Seo and Henny who let him dedicate this book.

Prof. Jooyoung Lee would like to appreciate the invaluable advice and assistance of his mentor, Prof. Naoko Shibusawa at Brown University. He also acknowledges the influence of Prof. David Kang of the University of Southern California on the interdisciplinary approach of this book. He especially wishes to thank Dr. William Burr of the Woodrow Wilson Center for his helpful advice on archival research. In addition, he is indebted to the former head of the School of Liberal Arts at UNIST, Jeong-Ro Yoon, and his colleagues there, Jae-Yon Lee and Inkyong Lee, for their steadfast support. Above all, he is deeply grateful to his wife, Kyunghwa Ji, and his children, Choonghun and Suhjin, who continued to encourage and motivate him during the long journey of writing.

This publication was supported by the UNIST's education and research innovation support fund, the Korean government's National Research Foundation of Korea (NRF) grant (NRF-2020S1A5A8047591), and 2019 research fund of Korea Military Academy (Hwarangdae Research Institute).

Contents

1	Prologue	1
2	The Origin of the ROK Nuclear Program	13
3	The U.S. and the Emerging Threat of Proliferation: Opportunities and Risks for the Non-proliferation Regimes Created in the Changing Context of the Cold War Order, 1960–1974	29
4	The Rise and Downfall of Gaullism and France’s Nuclear Deals with Third World States, 1945–1974	49
5	The Coexistence of the ROK–France–IAEA Nuclear Cooperation Agreement and the ROK–U.S. Nuclear Cooperation Agreement, 1975	67
6	The Fall of the Gaullist Technocrats and End of the ROK Nuclear Weapons Program, 1976–1979	85
	Epilogue	101
	References	109

About the Authors

Lyong Choi is Associate Professor of the Asia-Pacific Research Center at Hanyang University. He was Associate Professor of Political Science and Sociology at the Korea Military Academy when this book was written. He obtained a Ph.D. in international history from the London School of Economics and Political Science. His research focuses on issues of modern and contemporary American, East Asian, and Korean history. He published “Human Rights, Popular Protest and Jimmy Carter’s Plan to Withdraw U.S. Troops from South Korea” for *Diplomatic History* in 2017, “North Korea and Zimbabwe, 1978–1982: from the strategic alliance to the symbolic comradeship between Kim Il Sung and Robert Mugabe” in 2017 and “Re-thinking Normalization between ROK and PRC in the Early 1990s: The South Korean Perspective” in 2014, and “The First Nuclear Crisis in the Korean Peninsula, 1975- 76,” in 2013 for *Journal of Cold War History*.

Jooyoung Lee (Ph.D., History, Brown University) is an Assistant Professor in the School of Liberal Arts at Ulsan National Institute of Science and Technology in South Korea. His research topics include the histories of U.S. democracy promotion, transnational human rights politics, and international nuclear diplomacy. He is particularly interested in examining the roles that various ideas such as democracy, human rights, liberalism have played in international relations. He also considers U.S. diplomacy in the global context by paying attention to how U.S. policy has been constrained on the stage of international relations and how the U.S. has tried to overcome these constraints. He has published articles in *Interventions*, *Diplomatic History*, *Journal of American-East Asian Relations* as well as in several Korean history journals.



Puzzle in the Birth and Demise of the ROK Nuclear Program Behind the U.S.–France Diplomacy Scenes

In April 1975, the Republic of Korea (ROK) signed a contract with the French multinational company Saint Gobain for the import of technologies and facilities involved in plutonium reprocessing. In September of that same year, under the supervision of the International Atomic Energy Agency (IAEA), the ROK and France signed an agreement for cooperation on nuclear technologies. As such, the ROK was ready to secure the required capabilities for its nuclear weapons program.¹ Against this backdrop, President Park Chung Hee of the ROK cautiously revealed his country had taken the steps for its nuclear weapons program:

[...] There were and still are quite a number of Koreans doubting the commitment of the United States since the fall of Vietnam. Even without assistance, our people are determined to fight to the last man and not to concede an inch of our territory [to North Korea]. We have the [nuclear] capability, but are not developing it and are honoring the Nuclear non-proliferation treaty. If the U.S. nuclear umbrella were to be removed, we would have to start developing our nuclear capability to save ourselves. [...] If American ground troops were removed, the enemy will be inclined to make a miscalculation, and American promises would carry far less credibility.²

These significant events in 1975, however, did not cause any fundamental change in the ROK's nuclear history since Seoul soon canceled the contract with Saint Gobain and returned to its original course for "peaceful uses for nuclear energy" guided by Washington. So, why did the ROK terminate its nuclear weapons program despite its partnership with France, one of the major suppliers of nuclear technologies? The answer to this question is not simple as we need to review the motivations of the three nations and their interactions during that period. To answer these questions, *Fission*

¹ "Agreement between the IAEA-ROK-FR for the Application of Safeguards," Class No.: 741.61FR, Diplomatic Archive of Republic of Korea.

² Rowland Evans and Robert Novak (June 12, 1975).

and Fusion of Allies: The ROK Nuclear Quest and U.S.–France Competition and Cooperation broadens the view beyond the relationship between the United States (U.S.) and the ROK and considers the U.S.-led global nuclear non-proliferation efforts. In particular, it examines how the establishment of a cooperative relationship between the U.S. and France as well as the changes in their domestic politics in the 1970s critically influenced the suspension of the Park Chung Hee Administration's nuclear weapons development program. Therefore, the American process of building an international non-proliferation regime could serve as a useful window that not only highlights the complex international relations during the Cold War but also shows the changes in America's relationship with its allies in Europe and the Third World in response to the changes in the nature of the Cold War.

The American process of building an international non-proliferation regime since the President Dwight D. Eisenhower's 1953 "Atoms for Peace" speech was a complex one. Moreover, with regard to dealing with various countries possessing different strategic priorities and understandings, the U.S. faced several problems and difficulties. First, there were the inherent limitations in the Atoms for Peace program itself. At the time of the IAEA establishment in 1957, the U.S. pushed forward with its proliferation of nuclear scientific technology by signing bilateral nuclear agreements with multiple countries while simultaneously striving to prevent such countries' nuclear armament by controlling the nuclear fuel cycles. However, such a limited form of technological support often left countries that wanted to secure economic and military gains through nuclear power, dissatisfied. As a result, these countries that could not join the U.S.-built international nuclear order—or were discontented—began searching for alternatives to the U.S.

The U.S. also experienced difficulties in its non-proliferation efforts in the Third World due to its discord with France and a difference of opinion regarding nuclear proliferation. A series of events, including the establishment of the Atomic Energy Act in 1946, the United Kingdom's (UK's) atomic bomb experiment in 1952, the Suez Crisis in 1956, and the U.S.–UK Mutual Defence Agreement in 1958, caused France to harbor security concerns over the Soviet Union's nuclear threats, to develop a nuclear rivalry with the UK, and to fear losing its conventional influence in Europe. The French government eventually resolved to pursue nuclear armament. Subsequently, France went further and involved itself in the nuclear agreement between the U.S. and several Third World countries after the "Atoms for Peace" speech and the establishment of the U.S.-centered and IAEA-based international nuclear order.

In March 1957, under the Treaty of Rome, France formed the European Atomic Energy Community (EURATOM) with several other western European countries to jointly develop nuclear power within the European continent. France also pushed forward an independent proliferation of nuclear technology outside of Europe; notably, it was able to secure a front-end nuclear fuel cycle when Israel built a heavy water reactor in the Negev Desert through nuclear technology cooperation with France in 1958.³ Later, France embarked on individual rounds of negotiations with countries that either had nuclear deals with the U.S. or had engaged in nuclear

³ Karpin (2006, 65).

technology support talks (e.g. ROK, Iran, and Pakistan), thereby weakening U.S. control on proliferation in these countries.

Another problem arose in the 1960s when the U.S. attempted to introduce the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) system to be structured around multilateral agreements. The number of countries with nuclear capabilities had already increased to five—the Soviet Union, the UK, France, and China—in addition to the U.S. It was deemed impossible for the U.S. alone to block the international proliferation trend from the providers' perspective. The NPT had already acknowledged the countries that had succeeded in nuclear experiments prior to January 1967 as Nuclear Weapon States (NWS). While authorizing their nuclear possessions, the NPT banned countries other than the NWS (termed the Non-nuclear Weapon States [NNWS]) from attempting to possess nuclear powers. Simultaneously, the NPT also secured the rights of the NNWS to receive nuclear assistance from the NWS for peaceful purposes. As the NPT design was grounded on the Eisenhower Administration's idea that the beneficiaries could independently develop nuclear power and thus refrain from military use because the providers supported nuclear scientific technology aimed at civil use, the multilateral agreement NPT and the bilateral agreements between the U.S. and other countries shared a commonality in logic, or the idea of "pursuing non-proliferation through selective aid."⁴

However, the level and range of the said selective aid was markedly different between that of the U.S.-pursued nuclear agreements in the post-Eisenhower era and that of the NPT. The NPT was relatively lenient towards the possession of technology and facilities connected to nuclear fuel cycles, including reprocessing and uranium enrichment, which the U.S. did not allow in most of its nuclear agreements. Even so, the U.S. attempted to sustain its preexisting nuclear agreements to maintain its control of nuclear scientific technology on a larger scale than permitted by the NPT. However, the coexistence of and the gap between the NPT and the American nuclear agreements left the beneficiary countries with room to reinterpret the idea of non-proliferation. Thus, they began to develop the idea that signing another nuclear agreement with providers other than the U.S. and nurturing nuclear capabilities within the NPT guidelines could be admissible.

What made the U.S.-led non-proliferation efforts more difficult was the dwindling control of the U.S. over multiple non-nuclear weapons allies outside of Europe. The U.S. signed bilateral nuclear agreements with various allies such as the ROK, Iran, and Japan after the 1950s to encourage the peaceful use of nuclear power through U.S.-provided technology and facilities while at the same time regulating their potential military applications. However, in resistance to limited nuclear applications confined by their nuclear agreements with the U.S., such countries began to look for new partners to replace the U.S. because of rising domestic and international security concerns. This later culminated in active attempts to sign nuclear agreements

⁴ Ibid., 6–7.

with other nuclear states. Fuhrmann argues that after the “Atoms for Peace” declaration, U.S. nuclear assistance to the Third World failed to control nuclear applications in the military sector, contrary to the government’s expectations.⁵

Each of the issues discussed above caused trouble for the U.S. with regard to building a non-proliferation regime. The most challenging part, however, was that such variables did not exist independently; they were complexly intertwined and overlapping, thus complicating the problem further. The ROK’s pursuit of nuclear weapons was, therefore, a more complex issue than a simple security problem between the ROK and the U.S. since it was related with all those problems implicit in the U.S.-led non-proliferation efforts. So, while the ROK fast-tracked basic nuclear technology development based on bilateral relations with the U.S., it was not satisfied with the limited aid granted by the U.S. due to unstable regional security issues and distrust in the U.S.-led proliferation deterrence. The ROK also strove to locate alternatives to scientific technology and facilities for the military application of nuclear power through countries such as France.⁶ When France and the ROK were negotiating, they considered the gap between the NPT and the ROK’s existing bilateral agreement with the U.S. In this sense, the development and suspension of the ROK’s nuclear programs may not be separated from the broader global non-proliferation efforts. However, most studies on the ROK’s push for proliferation focus on the driving force for developing nuclear weapons arising from an alliance dilemma between the U.S. and security threats in Northeast Asia. In fact, they fail to associate the larger international issues such as the establishment of the Nuclear Suppliers Group (NSG) meetings—a major international nuclear-related talk at the time—or the U.S.–France strategic nuclear cooperation negotiations concerning the ROK’s nuclear weapons development.

When we consider the ROK’s nuclear program from the broader international perspective, it is critical to reconsider the U.S.–France strategic cooperative nuclear relationship. There were changes during the American Secretary of State Henry Kissinger’s diplomatic efforts with France after the President Richard Nixon’s inauguration in 1969. The primary purpose of the shift in the American policy towards France was to improve France’s nuclear capabilities to deter Soviet control over Europe; yet, it was an equally important goal to narrow the difference of opinion regarding international nuclear proliferation between the U.S. and France. However, even after the discussions on U.S.–France strategic nuclear cooperation began, France did not instantaneously alter its policies. Accordingly, from 1973 to 1976, France continued negotiations on reprocessing facilities and technology provisions with the countries that had nuclear agreements with the U.S.

There is an intriguing and important fact in France’s nuclear agreements with those potential nuclear states: all these agreements either were cancelled or broke down. In all cases, the counterparts, not France, canceled negotiations or agreements due to pressure from the U.S. The signing of the ROK–France–IAEA Trilateral Nuclear Agreement in 1975 and its cancellation the following year was an example

⁵ Fuhrmann (2012).

⁶ Kim (2001, 53–80), Hong (2011, 483–510).

that France was likely to cause conflicts with the U.S. and impair U.S.–France negotiations. However, the U.S. continued to strive to improve its relations with France by supporting nuclear technology at the time, albeit focusing its non-proliferation policy more on the restriction on the demander, not the provider, by urging the ROK to cancel its agreement with France. How, then, did this contradictory situation emerge? Why did the U.S. urge the ROK (the demander) and not France (the supplier) to waive the deal? Why did it not make determined efforts to dissuade the provider (France) from conducting nuclear diplomacy, which would have been a more definite method of building a non-proliferation regime?

Historical research on what strategies the U.S. applied to various stakeholders, including France and other agreement partners; how France responded to such attempts; and how France's international nuclear policies shifted as a result, remain inadequate. In light of the above, this study aims to fill the gaps in the previous literature on U.S.–France diplomacy on nuclear technology during this era, a critical time in the history of international proliferation and non-proliferation. Specifically, the study answers this historical question by focusing on the signing and cancellation processes of nuclear agreements between France and Third World countries in the 1970s, in particular, the ratification and cancellation of the ROK–France–IAEA Trilateral Nuclear Agreement in 1975, when the ROK–U.S. Nuclear Cooperation Agreement was still binding. This offers an excellent example showing the process of France joining the U.S.-led international nuclear scientific technology regime.

The efforts of researchers like Richard Ullman and William Burr helped to reveal the secret strategic nuclear cooperation between the U.S. and France, in the historical context of the U.S. shifting its nuclear policy toward France.⁷ After the Cuban Missile Crisis in 1962, the U.S. and the Soviet Union started witnessing the possibility of coexistence by discussing arms control under the Strategic Arms Limitation Talks (SALT). Under the circumstances, the two superpowers had to prevent the countries belonging to their respective spheres of influence from pursuing proliferation so that unnecessary tension would not accumulate. In particular, it was critical for the U.S. to manage France's nuclear weapons development and nuclear diplomacy actions, which had begun to slip out of the control of the U.S.

Research by many historians and political scientists sheds some light on the fore mentioned questions. Lewis and Tetrais state that the changing security environment in the 1970s played a role in U.S.–France nuclear cooperation.⁸ This new security environment raised the need for U.S.–France nuclear cooperation, while sparking debate on how much nuclear technology the U.S. should transfer to France. It was imperative for France to swiftly develop nuclear weapons technology to secure itself against the Soviet threat, which required getting more support from the U.S. Therefore, France, which needed political leverage to receive greater aid from the U.S., may have attempted to utilize countries such as the ROK, whose nuclear technology was being controlled by the U.S. in the form of bilateral agreements for non-proliferation purposes, to gain it.

⁷ Ullman (1989, 3–33), Burr (2011). Accessed May 20, 2019.

⁸ Lewis and Tetrais (2015, 11).

In Chap. 2 (“Origin of the ROK Nuclear Program”), we discuss the origin and nature of the ROK nuclear program. A number of political scientists and historians have discussed the political background and processes of the ROK’s nuclear program in the 1970s. They have argued the ROK sought its own nuclear weapons when the U.S. weakened its security guarantee in the context of the ROK–U.S. alliance. Kim (2001), Choi and Park (2008), Hong (2011), and Choi (2014) examined the origin and causes of the ROK nuclear program in the context of the alliance dilemma.⁹ Using newly declassified documents from Canadian archives, Se Young Jang introduced details of the CANDU-NRX deal between the ROK and Canada.¹⁰ These prior studies have contributed to security research with their explanations of how and why some states attempt to develop nuclear weapons. However, they have not fully discussed the technological endowment of the ROK, which is the basis for its indigenous nuclear program; the role of scientists and technocrats group in the policy making process; or how the U.S. rolled the ROK’s nuclear program back with specific consideration for the ROK’s nuclear capability. They have focused more on political motivations and negotiations between the ROK and the U.S. than the nature of the ROK’s nuclear program. As Cohen and Pilat noted, nuclear energy has a dual-use nature, and there is continuity between civil and military nuclear programs. Thus, nuclear capability is formed by the accumulation of relevant technologies and economic means.¹¹

Indeed, in the field of nuclear energy, a group of technocrats with expertise in science and technology can be an important part of policymaking processes; thus, it is also significant to explain the impact of their role on the ROK’s nuclear program. Yet, few studies have shed light on this important aspect of the ROK’s nuclear program. In particular, they have not fully explained the existing scientific basis for the ROK’s nuclear program. In practice, the Park Chung Hee government designed its own military nuclear program based on ideas already suggested by the nuclear scientist group which regarded nuclear power as the ultimate solution to the ROK’s economic development and security. Since the 1950s, the nuclear scientist group had built such an image of nuclear power in the ROK society. Jasanoff and Kim (2009) suggest the national socio technical perception in the ROK drove its nuclear politics and hence pushed the Park government to expand its nuclear program.¹²

This chapter scrutinizes how and why the ROK decided to seek a partner for its further development of a nuclear program other than the U.S. As the ROK’s nuclear program advanced, discussions about the problems of the ROK–U.S. Nuclear Cooperation Agreement intensified. As generative reactor projects proceeded, the amount of enriched uranium provided by the U.S. increased significantly. Consequently, Korean technological bureaucrats and nuclear scientists repeatedly emphasized to the government the necessity of introducing reprocessing technology, which

⁹ Kim (2001, 59–65), Hong (2011), Choi and Park (2008), Choi (2014, 71–90).

¹⁰ Jang (2017).

¹¹ Cohen and Pilat (1998, 130). The following works explain how countries utilize nuclear latency as leverage to influence U.S. policy decisions: Levite (2003, 59–88) and Volpe (2017, 517–544).

¹² Jasanoff and Kim (2009, 47).

would enable them to reprocess and reuse the spent fuel.¹³ Furthermore, as President Nixon, who was sworn into office in 1969, pushed for the withdrawal of the United States Forces Korea (USFK), strategic application methods through reprocessing also gained momentum. The Park Chung Hee government decided to use nuclear power in a military approach by bypassing the ROK–U.S. Nuclear Cooperation Agreement.¹⁴ The ROK started to seek a potential partner for its new nuclear program—reportedly a nuclear weapons program—which would supply the plutonium reprocessing facilities and technologies to the ROK. The Park government persistently contacted France in May 1972 and initiated negotiations for the “ROK-France Nuclear Cooperation for Peaceful uses of Nuclear Power.” Notably, the ROK’s Ministry of Science and Technology met in Paris with its French counterpart (*la Commissariat à l’énergie atomique et aux énergies alternatives [CEA]*), which had led France’s nuclear development, and discussed nuclear technology assistance.¹⁵

Chapter 3 (“The U.S. and the Emerging Threat of Proliferation: Opportunities and Risks for the Non-proliferation Regimes Created in the Changing Context of the Cold War Order, 1960–1974”) considers how the changing international relations and Cold War order from the late 1950s to the early 1970s caused the U.S. to revise its world strategy, which in turn, led to the reshaping of the U.S.-led non-proliferation process. This policy modification transformed the basic diplomatic framework towards the U.S. enemies and allies, shifting the relations among the Cold War participants, and further complicated the international order. While Eisenhower considered that the nuclear proliferation in the Western Bloc could be a tool for undermining the Eastern Bloc, John F. Kennedy and Lyndon B. Johnson believed that the nuclear armament of allies would only accelerate the proliferation in the Communist camp and endanger U.S. national interests. Specifically, they started to apply a strict non-proliferation approach toward the allies of the U.S.¹⁶ This political shift slowed down the trend of proliferation in some states but worsened U.S. relations with one of its key allies, France, which craved for a deterrence force.

This chapter then discusses the new stage of non-proliferation which involved President Nixon waiving the conventional strategy of strongly and proactively deterring the spread of Communism by directly deploying the American military and, instead, reducing the direct deployment and fighting against the Communist bloc by utilizing the strategic assets of allies (Nixon Doctrine). As such, Nixon reduced the excessive military support and intervention on American allies—especially the ROK and South Vietnam. Eventually, the Nixon Administration could sustain the balance of military power in the Asia-Pacific region by reducing excessive military force deployed there and amending relations with China, even in the face of the failed

¹³ Kim (2012, 211).

¹⁴ Kim (2010), http://news.chosun.com/site/data/html_dir/2010/01/12/2010011200988.html. Accessed July 2, 2019.

¹⁵ The MOU Exchanges between the ROK and Republic of France in Paris, 19 Oct. 1974, Class No. 741.61 FR, 1973–74, Diplomatic Archives of Republic of Korea; Atomic Energy Research Institute (2019, 30–31). At that time, the “alternative energies” dimension in the acronym of the CEA did not exist, it dates from 2010.

¹⁶ Miller (2018, 51–67).

Vietnam War. However, such changes in strategy later created a butterfly effect as they were locked in with the U.S. policies in other regions, ultimately affecting the process of non-proliferation building as discussed in following chapters. As part of its new Cold War strategy to fully engage its allies, the U.S. attempted to strengthen the military applicability of NATO in Europe.

However, France was the biggest barrier to this goal; specifically, the U.S. and France had been in continued disputes due to their differences in opinion on European security. The U.S. built a European security system in which it controlled the nuclear weapons while encouraging European countries to fortify traditional military capabilities. France, however, had attempted to develop nuclear weapons independently while trying to build a European security regime led by European states. The strategic differences between the U.S. flexible response and France's massive retaliation continued into Lyndon Johnson's Administration and well into 1968. As the U.S. pushed forward with signing the NPT with the Soviet Union under this circumstance, the U.S.–France relationship was strained further. However, Nixon's new Cold War policies aimed at actively engaging the American allies helped reduce the escalated tensions between the U.S. and France. As French nuclear power became increasingly important for the U.S., the difference in strategies towards the European security between the two countries was narrowed, thus creating a possibility for nuclear technological cooperation between them.¹⁷ However, the cooperation between the two countries was not easy due to France's existing contracts with other non-nuclear states, including the ROK. In addition, the domestic politics of France regarding the export of nuclear technology further complicated the issue.

Chapter 4 (“The Rise and Downfall of Gaullism and France's Nuclear Deals with Third World States, 1945–1974”) explains the policy making structure in the French government concerning its nuclear policy and then the associated changes in the domestic politics of France and their impact on French relations with the U.S. In post-war Europe, the position of France was tested mainly because of its bitter experiences in World War II and a lack of a deterrence force. The craving for deterrence in France conflicted with the American strategy in the post-war era as the U.S. rejected sharing its nuclear technologies with France while overlooking the British pursuit of nuclear arsenals. The U.S.–France split tested the position of France in Europe; moreover, its fear of nuclear war nurtured the needs for helping itself with its own technological development. This technonationalism (*nationalisme technique*) under Charles de Gaulle's leadership pushed its indigenous nuclear weapons program forward in the 1950s and 1960s.¹⁸

However, there was a significant diversion in the policymaking process and opportunities regarding the key actors for France's nuclear policy in the late 1960s. After de Gaulle resigned his presidency following the referendum defeat initiated by the May '68 civil unrest, the Gaullist idea in the French government started to be replaced by more pragmatic and flexible ideas. However, the technonationalism under nuclear power failed to address the efficiency of energy generating with its indigenous reactor

¹⁷ Trachtenberg (2011, 3–6).

¹⁸ Juan et al. (2015, 190–191).

system, Uranium Naturel Graphite Gaz (UNGG).¹⁹ After deciding to replace UNGG to a U.S. light water reactor in 1969, the Georges Pompidou government started to enter into nuclear technology negotiations with the U.S.

This does not mean that the Gaullist technocrats were under complete control of Pompidou. On the contrary, key technocratic organizations—for instance the CEA—still worked with considerable autonomy in exporting France’s nuclear technologies and devices to secure the economic sources for further development of nuclear capabilities. The Gaullists still resisted the diversion of the French nuclear strategy initiated by Pompidou and his successor, Giscard d’Estaing.²⁰ In October 1974, the ROK Ministry of Science and Technology and the CEA of France exchanged a “Memorandum of Understanding for the Peaceful Use of Nuclear Energy” in Paris, where the ROK requested France to provide it with the technology and developmental information on fuel rod manufacturing and reprocessing. Subsequently, the two countries signed a less binding MOU instead of an international treaty though they interpreted the MOU differently. The ROK’s negotiating counterpart, the Ministry of Science and Technology, explained that “the two countries can bypass the IAEA safeguards by signing an MOU.”²¹ While Giscard and U.S. President Gerald Ford attempted to enforce the non-proliferation rule, the CEA under Jacques Chirac’s supervision pushed the nuclear export to the ROK. After June 1975, France still maintained its stance that the reprocessing deals could be suspended under the condition the ROK paid a due penalty.²² France began formalizing the ROK-France Nuclear Cooperation Agreement, while in principle opposing the ROK’s nuclear weapons development. In April 1975, the ROK ratified the NPT as a precondition to signing the CANDU-NRX deal with Canada. The ROK’s ratification of the NPT automatically required IAEA safeguards following the introduction of reprocessing facilities regardless of the MOU signing status; in addition, the ROK and France officially began discussing the ROK-France Nuclear Cooperation Agreement with the IAEA in charge. In July 1975, the IAEA Board of Governors started to review the first draft of the ROK–France agreement. Despite warnings from Washington, Seoul proceeded with the ROK–France Nuclear Cooperation Agreement as France continued the reprocessing negotiations. In September 1975, the parties signed the agreement. France stipulated that as per the NPT and IAEA regulations, reprocessing technology and facilities should be provided to the ROK and safeguards should be executed to prevent the ROK from weaponizing nuclear power.²³

Chapter 5 (“The Coexistence of the ROK–France–IAEA Nuclear Cooperation Agreement and the ROK–U.S. Nuclear Cooperation Agreement, 1975”) describes the process in which the d’Estaing and Ford Administrations ended the connection

¹⁹ Finon (2009, 188).

²⁰ Pouponneau and Mérand (2017, 123–135).

²¹ “The Agreement of Cooperation for Peaceful Uses of Nuclear Energy between ROK-France,” 1973–74, Class No. 741.61 FR., Diplomatic Archives of Republic of Korea.

²² Cameron and Rabinowitz (2016, 855).

²³ “Agreement between the IAEA-ROK-FR for the Application of Safeguards,” Class No.: 741.61FR, Diplomatic Archive of Republic of Korea.

between the Gaullist technocrats and the ROK government. The domestic political split in France for the ROK–France Nuclear Cooperation Agreement on the provision of reprocessing technology and facilities was sparked by the potential strategic cooperation between the U.S. and France in the 1970s. In fact, d’Estaing sought ways to improve relations with the U.S. due to the limits of its original atomic and nuclear power development strategies. In contrast, Gaullists, led by Chirac, attempted to regain the initiative for developing nuclear power by France’s own force based on the economic power from nuclear exports. On the other hand, the U.S. felt the need to use its allies in the new international nuclear security environment brought about after the Vietnam War. These situations opened up the possibility for France to be brought back into the U.S.-led international order. However, the political compensation in exchange for French concessions was delayed due to the preexisting bilateral distrust and the complexity of the bipolar international order. Under these circumstances, the power game between d’Estaing and Chirac expedited U.S. decision-making by influencing the conflicts between the U.S. and its allies. Given this, d’Estaing, in turn, increasingly ensured he had no idea to finalize the nuclear deal between the ROK and Gaullist bureaucrats. Despite having confirmed multiple times that the ROK would use reprocessing technology for peaceful purposes within the international regulations laid down by the NPT and IAEA, d’Estaing denied the Korean request to come through with the reprocessing construction deals on the grounds that the ROK could develop nuclear weapons upon fortification of U.S.–France cooperation.²⁴ Furthermore, the NSG agreements in late 1975 enabled d’Estaing to apply stricter non-proliferation rules, which would finally push the ROK to cancel its contract with France.

Chapter 6 (“The Fall of the Gaullist Technocrats and End of the ROK Nuclear Weapons Program, 1976–79”) discusses how the U.S. and France completed the reprocessing deal between the ROK and CEA after the ROK canceled the contract. While the ROK decided to stop pursuing the reprocessing facilities from France, it, in return, secured the U.S. guarantee for its security. These exchanges in alliance politics were assured once the Ford Administration allowed the ROK to punish North Korea for its provocation in 1976. However, the ROK revived its nuclear program and pushed its ballistic missile program forward after President Jimmy Carter’s election in late 1976. As such, this chapter examines how and why the ROK resumed its nuclear program in a more clandestine manner and utilized its connection with the CEA for its missile program. The ROK, because of America’s tighter control over the supplier side, decided to develop its own nuclear program via its own efforts and acquire technological capabilities—but not the physical bomb. The ROK also actively worked for its first ballistic missile, the K-1 *baekgom*, which was developed with the aid of American and French technology. Although the ROK did not appear to acquire its nuclear arsenal directly, it attempted to show it was able to do so. This nuclear hedging strategy along with the ROK’s quest for ballistic missiles quickly

²⁴ U.S. Embassy Seoul telegram 0552 to Department of State, Jan. 25, 1976, ROK Nuclear Reprocessing; Canadian Reactor Sale [Secret, NARA].

shaped another nuclear crisis in the Korean Peninsula. In the end, there is a discussion about how the ROK officially ended its nuclear weapons program. Besides, this chapter also explains how the U.S. and France advanced their partnership in the Carter era after Ford's tenure.

The last chapter, the epilogue of this book, summarizes our findings from the history of triangular relations among the ROK, France, and the U.S. Moreover, it also introduces the current ROK nuclear policy, seemingly keeping its traditional strategy of nuclear hedging. We discuss how and why the ROK maintains its approach despite its significant nuclear technology development as well as the changes in ROK–U.S. relations. It also explains the nuclear cooperation between the ROK and France and ROK and the U.S. after the end of the ROK's nuclear weapons program.

References

Secondary Sources

- Cameron, James, and Or Rabinowitz. 2016. Eight Lost Years? Nixon, Ford, Kissinger and the Non-Proliferation Regime, 1969–1977. *Journal of Strategic Studies* 40(6): 839–866.
- Choi, Kang, and Joon-sung Park. 2008. South Korea: Fears of Abandonment and Entrapment. In *The Long Shadow: Nuclear Weapons and Security in 21st Century Asia*, ed. Muthiah Alagappa. Stanford University Press.
- Choi, Lyong. 2014. The First Nuclear Crisis in the Korea Peninsula, 1975–76. *Cold War History* 14(1): 71–90.
- Cohen, A., and J. Pilat. 1998. Assessing Virtual Nuclear Arsenals. *Surviva* 140: 129–144.
- Finon, Dominique. 2009. Force et inertie de la politique nucléaire française, Une co-évolution de la technologie et des institutions. In *Etat et énergie XIXe -XXe siècle*, eds. Alain Beltrand et al.. Comité pour l'Histoire économique et financière de la France.
- Fuhrmann, Matthew. 2012. *Atomic Assistance: How "Atoms for Peace" Programs Cause Nuclear Insecurity*. Cornell University Press.
- Hong, S. G. 2011. The Search for Deterrence: Park's Nuclear Option. In *The Park Chung Hee Era, The Transformation of South Korea*, ed. B. K. Kim and E. Vogel. Harvard University Press.
- Jang, Se Young. 2017. Bringing Seoul into the Non-proliferation Regime the Effect of ROK-Canada Reactor Deals on Korea's Ratification of the NPT. *Nuclear Proliferation International History Project of Woodrow Wilson International Center for Scholars*, Working Paper 9, September 2017.
- Jasanoff, Sheila, and Sang-Hyun Kim. 2009. Containing the Atom: Sociotechnical Imaginaries and Nuclear Power in the United States and South Korea. *Minerva* 47(2): 119–146.
- Juan, Salvador, Isabelle Grand, and Julien Vignet. 2015. *La technocratie en France: Une nouvelle classedirigeante? Le bord de l'eau*.
- Karpin, Michael. 2006. *The Bomb in the Basement: How Israel Went Nuclear and What That Means for the World*. Simon & Schuster.
- Kim, Seong Jun. 2012. Formation and Changes in the Technological Regimes of the Nuclear Program in South Korea, 1953–1980. Ph.D. Thesis, Seoul National University.
- Kim, Seung Young. 2001. Security, Nationalism and the Pursuit of Nuclear Weapons and Missiles: The South Korean Case, 1970–82. *Diplomacy and Statecraft* 12(4): 53–80.
- Levite, Ariel E. 2003. Never Say Never Again: Nuclear Reversal Revisited. *International Security* 27: 59–88.
- Lewis, Jeffrey, and Bruno Tertrais. 2015. US-French Nuclear Cooperation: Its Past, Present and Future. *Fondation pour la Recherche Strategique* 4: 1–18.

- Miller, Nicholas. 2018. *Stopping the Bomb: The Sources and Effectiveness of U.S. Nonproliferation Policy*. Cornell University Press.
- Pouponneau, Florent, and Frédéric Mérand. 2017. Diplomatic Practices, Domestic Fields, and the International System: Explaining France's Shift on Nuclear Nonproliferation. *International Studies Quarterly* 61(1): 123–135.
- Trachtenberg, Marc. 2011. The French Factor in U.S. Foreign Policy During the Nixon-Pompidou Period, 1969–1974. *Journal of Cold War Studies* 13(1): 4–59.
- Ullman, Richard H. 1989. The Covert French Connection. *Foreign Policy* 75: 3–33.
- Volpe, Tristan A. 2017. Atomic Leverage: Compellence with Nuclear Latency. *Security Studies* 26(3): 517–544.

Primary Sources

Korea

- “Agreement between the IAEA-ROK-FR for the Application of Safeguards,” Class Number 741.61FR, Diplomatic Archive, Republic of Korea.
- Atomic Energy Research Institute. 2019. *The 60 Years of History in the Korea Atomic Energy Research Institute, 1959–2019*.
- Kim, D. After 30 years, Won Cheol Oh, the Previous Chief of Economy and Man in Charge of Nuclear Program in Park Chung Hee Regime, Broaches the Subject of Nuclear Program. *Weekly Chosun*, published online on 1 December 2010, available at http://news.chosun.com/site/data/html_dir/2010/01/12/2010011200988.html. Accessed 2 July 2019.
- “The Agreement of Cooperation for Peaceful Uses of Nuclear Energy between ROK-France,” 1973–74, Class Number 741.61 FR Diplomatic Archive, Republic of Korea.

U.S.

- Burr, William. 2011. U.S. Secret Assistance to the French Nuclear Program, 1969–1975: From “Fourth Country” to Strategic Partner. *Wilson Centre NPIHP Research Updates*, <https://www.wilsoncenter.org/publication/us-secret-assistance-to-the-french-nuclear-program-1969-1975-fourth-country-to-strategic>.
- Evans, Rowland and Robert Novak. 1975. Park's Instability. *The Washington Post*, June 12.
- U.S. Embassy Seoul telegram 0552 to Department of State, 25 January 1976, ROK Nuclear Reprocessing: Canadian Reactor Sale [Secret, NARA].

Chapter 2

The Origin of the ROK Nuclear Program



Designing a Nuclear Weapons Program in the ROK

Many historical and political studies have explored the Republic of Korea (ROK)'s quest for a nuclear weapons program in the 1970s because of its impact on international politics and non-proliferation efforts. However, they have rarely focused on the origin and technological development of the ROK nuclear program. Relying on the testimonies of policy makers, these studies have clearly explained the political motivations for the military uses of nuclear energy. However, few studies have investigated the technological aspects of the matter. For instance, Won Cheol Oh, head of the Park Chung Hee government's nuclear program in the 1970s, testified that the ROK decided to develop a plutonium nuclear warhead because of "technological problem[s]." However, his testimony raises two significant issues.¹ First, is it technologically easier to develop a plutonium bomb than a uranium bomb? Conventional wisdom suggests that the structure and detonation mechanisms of plutonium bombs are not simpler than those of uranium bombs, as plutonium is less stable than uranium and calculating the critical point of a plutonium bomb is difficult. The Manhattan Project participants were sure of the detonation of a uranium bomb without a detonation test but had to conduct a detonation test in July 1945 for a plutonium bomb.² Next, in the 1970s, South Korea had neither secured the reprocessing plants and technologies for a plutonium-based nuclear program nor secured enrichment facilities and technologies for a uranium-based program. As such, it would have been difficult to say which one was easier. Nevertheless, Mr. Oh and other policy makers did not provide clear evidence for why it would have been easier to produce a plutonium warhead. How and why did ROK's top policy makers develop the foundation for the country's nuclear weapons program? What was its technological nature? Additionally, why did it attempt to secure reprocessing capabilities and

¹ *Weekly Chosun* (January 12, 2010). http://news.chosun.com/site/data/html_dir/2010/01/12/2010011200988.html. Accessed May 2, 2020.

² Bernstein (2008, 4–5).

approach France instead of its original partner, the United States (U.S.)? Exploring these questions is not easy if we rely solely on the testimonies and arguments of bureaucrats who made decisions based on scientific knowledge of the technocrats and scientists. To address these questions, we need to explore the endowment of the ROK nuclear science and engineering, which provided the basis for the country's nuclear program. This chapter also reviews how and why the political interests of technocrats triggered the re-emergence of nuclear weapons program in the 1970s, which had been overshadowed by the U.S. security guarantee for the ROK since the early 1960s. There is roughly a two-decade gap between the introduction of nuclear science and engineering and the ROK's nuclear weapons program. For those two decades, the country's scientists and technocrats developed the foundation for a plutonium-based nuclear program and eventually pushed the government to approach France for the completion of its nuclear weapons program.

Atoms for Peace and the Introduction of Nuclear Science in the ROK

Koreans started to take significant interest in nuclear power in 1945 when they were liberated from the Japanese empire. Both South and North Korea directly witnessed the effects of the two atomic bombs on Nagasaki and Hiroshima and recognized that nuclear power would be the ultimate measure for tackling the imminent threats of Cold War rivalry and economic hardship.³ The Korean War (1950–1953) exacerbated South Korea's perception of the Communist threat and severely impacted its economy. Consequently, the ROK was highly motivated to secure nuclear energy.⁴ Immediately after Eisenhower announced Atoms for Peace in 1953, the ROK embarked on its ambitious quest for nuclear power and promoted the introduction of nuclear technology from the U.S. In February 1956, the ROK and the U.S. signed the “Agreement for Cooperation between the Government of the U.S. and the Government of ROK Concerning Civil Uses of Atomic Energy” also known as the ROK–U.S. Non-Military Uses of Nuclear Energy Agreement. Thereafter, in 1957, the ROK joined the International Atomic Energy Agency (IAEA). The ROK mobilized scientists and engineers trained in Japanese institutions during the colonial period to catch up in the international nuclear race.⁵ Most of those scientists were sent

³ Based on newly discovered evidence from Japan, several historians have argued that Japan was determined to continue its campaign against the U.S. after the bombardments. They believe the Soviet offensive in Manchuria, the northern Korean Peninsula, and Sakhalin (the August Storm) prompted Japanese surrender in August 1945. For details, see Wilson (2014). However, the effect of the atomic bombs in Japan was sufficient to impress the world and, especially, people in the former Japanese colonies.

⁴ Di Moia (2009, 170–183).

⁵ Go (1992, 62–87). For details of the ROK–US Nuclear Agreement in 1956, see, “Agreement for Cooperation between the Government of the USA and the Government of ROK Concerning Civil Uses of Atomic Energy” (1956).

to the U.S. and re-trained under the guidance of American scientists. The University of Michigan's Phoenix Project played a significant role in training nuclear scientists from Washington's new Cold War partner in the context of Atoms for Peace. There were also other national sponsorship programs for raising scientists for the ROK nuclear program, such as scholarships for physics, chemistry, metallurgy, etc. Most of those scientists returned to their motherland after their long study abroad and were hired in the national institutes for the nuclear program.⁶ Clearly, in this early phase, the country did not expect to develop its own indigenous nuclear program, either for civil or military purposes. However, it secured the human resources and scientific foundation for future nuclear programs. These scientists and engineers began to organize the technocrat group for the national nuclear program and shaped the policymaking process.⁷

However, the technocrats soon faced obstacles to develop the nuclear program that the Syngman Rhee government had aspired. Despite the ROK's aspiration to become a nuclear State, nuclear development project was limited by three factors: domestic political problems, the gap between the ROK and the U.S. in the pace of nuclear development, and U.S. safeguards against potential ROK nuclear armament via U.S. technologies and facilities. First, after the resignation of President Rhee, who had led the ROK's nuclear program, the country lost its political driving force for the military use of nuclear energy. Park Chung Hee's military regime, which assumed power from the Yun Bo Sun and Jang Myon government through a coup in 1961, attempted to secure the country's safety by strengthening the ROK-U.S. alliance rather than through self-defense with nuclear power. Additionally, because of poor economic and scientific resources in the 1950s and 1960s, the ROK relied on technology and aid from the U.S.⁸ Owing to this dependency, the ROK nuclear development was redirected by the U.S. As Di Moia argues, despite the efforts of ambitious policy makers and scientists of the ROK, the U.S. nuclear scientists did not think the ROK was ready to be a leading nuclear state in the short term. They suggested that the ROK should reconsider its timetable and hence slow down the pace of its nuclear development. Aided by the U.S., the ROK introduced a research reactor, the TRIGA Mark II, in 1959. However, its operation was delayed until 1962, and the introduction of a commercial reactor was not realized until 1978.⁹ Moreover, the U.S. had already prepared institutional measures to control the nuclear fuel cycle for the ROK. As previously mentioned, the ROK-U.S. Non-military Uses of Nuclear Energy Agreement, signed in 1956, limited the possibility of proliferation in the ROK. This resulted in path dependency, which pushed the ROK to use American reactors and rely on U.S. technology. The U.S. agreed to provide light-water reactors, energy

⁶ Di Moia (2010, 603).

⁷ Kim (2012, 53).

⁸ The Rhee Administration originally planned to introduce a pilot reactor by 1959 and a commercial plant by 1962. However, the first pilot reactor became operational in 1962, and the commercial plant was introduced in the 1970s.

⁹ Di Moia (2010, 589–618).

sources (low-enriched uranium), and technology but prohibited the reprocessing of spent fuel and uranium enrichment.¹⁰

The structural limits rapidly blurred the utopian images of nuclear power and its development in the ROK in the 1950s. As many other developing states—the beneficiaries of Atoms for Peace—Seoul found it difficult to become a powerful state with nuclear energy under Washington’s guidance. There were many criticisms of the national mobilization and spending on the nuclear project. For instance, TRIGA Mark II was characterized as an expensive but old-type reactor with no practical use.¹¹ Furthermore, many ROK scientists with international connections, especially Nae Won Jang—a former secretary-general of the Korea National Commission for UNESCO—criticized the Non-military Uses of Nuclear Energy Agreement under which the ROK relied on the supply of low-enriched uranium and technology from the U.S.¹²

However, the national mobilization for nuclear development in the 1950s was not meaningless: it established the basis for nuclear industry and the attempted military uses of nuclear energy in the 1970s. First, scientists who had studied abroad with governmental support in the 1950s started to offer their technological expertise to develop the ROK’s nuclear program. As Gregg Brazinsky notes, with the national sponsorship of the ROK and with U.S. aid, many young scientists and engineers were trained in the U.S. and subsequently returned to their homeland. They became the technocrat group for designing state policy under the guidance of the ROK.¹³ Second, scientists identified how to avoid the restrictions and control of the U.S. over the ROK nuclear program. The competition in the international nuclear market also helped the ROK find a way to bypass U.S. control over its nuclear development. Many technocrats, especially Minister of Science and Technology Hyeong Seob Choi, guided the direction of the ROK’s defense industry, including the nuclear program.¹⁴ The development and procurement strategy for ROK’s nuclear program was guided by those technocrats. They designed the country’s indigenous nuclear program and made plans to materialize its nuclear armaments based on their knowledge of available resources. The growth in the size of ROK’s scientific community and its link with technocrats affected the country’s policymaking processes. In their roles as consultants for technocrats, scientists developed the idea of the strategic uses of nuclear power before the elites of the Park Chung Hee Administration decided to pursue nuclear armament.¹⁵

¹⁰ Kim (2012, 45).

¹¹ “The Operation of Korean Nuclear Reactor is Helpless,” December 29, 1960, *Seoul Sinmun* (December 29, 1960), cited from Kim (2012, 134).

¹² “Jang Nae Won Column: Reviewing Nuclear Agreement,” October 11–16, 1955, *Donga Ilbo* (October 11–16, 1955), cited from Kim (2012, 44).

¹³ Brazinsky (2007, 71–100).

¹⁴ Kim et al. (2018, 47–74).

¹⁵ Ibid.

Redesigning ROK's Nuclear Development with Efforts from Technocrats and the Scientific Community in the 1960s

As already mentioned above, even in the 1950s, the ROK's scientific community recognized the structural problem in the country's nuclear development program—mainly its reliance on the U.S.—and the technocrats who had studied abroad suggested that the ROK should reconsider its path toward becoming a nuclear power state. These technocrats were mainly concerned with how to secure a national sponsor for nuclear energy development, constrained by its limited uses in both industry and national defense. They designed and suggested several new models for nuclear development, and a few ideas were adopted in the 1970s for Park's nuclear program.

Based on the efforts of technocrats and nuclear scientists, ROK's first nuclear institute, the Atomic Energy Research Institute (AERI), was established in 1959 under the Ministry of Education and started to oversee scientific and technological research for the ROK's nuclear energy project.¹⁶ The AERI also introduced discussion in the scientific community about policymaking processes for future nuclear energy development. Although the AERI was not supposed to develop nuclear energy for military purposes, several of its ideas later inspired the design of the national nuclear weapons program in the 1970s. There were two noteworthy initiatives that affected the type of nuclear weapons program: the initiatives for the selection of reactors and for reprocessing nuclear fuel.

The research by ROK's scientists on a potential reactor model for the first nuclear plant in the 1960s provided information about the nature of nuclear reactors and their strategic uses. The first five-year Economic Development Plan of the ROK in the early 1960s included a plan for the introduction of a pressurized water reactor or boiling water reactor from the U.S. As Seong Jun Kim argues, until the early 1960s, the ROK government believed it should adopt a U.S. model mainly because it needed to secure financial resources from the U.S. for its nuclear project. However, as international competition in the nuclear reactor market became tighter, a number of potential suppliers, including the U.S., proposed credit assistance to the ROK to purchase a reactor model at a fairly low interest rate.¹⁷

Starting in May 1966, Korean AERI scientists visited the U.S., the UK, Japan, Canada, Italy, Spain, India, and the Philippines to survey nuclear reactor projects. Consequently, two U.S. water reactor models (the Boiling Water Reactor by General Electric and the Pressurized Water Reactor by Westinghouse), a UK gas-graphite model, and a Canadian heavy water reactor model (CANDU) were considered for the ROK's first nuclear reactor.¹⁸ ROK scientists analyzed the pros and cons of each option and provided a policy report, which concluded that the U.S. water reactor models were the most desirable mainly because of the UK and Canadian models' higher initial costs. However, their report also indicated that the ROK would pay more

¹⁶ Ministry of Education (June 4, 1958).

¹⁷ Kim (2012, 187).

¹⁸ The ROK Bureau of Nuclear Energy (1967, 453).

for the supply of power sources if it selected the U.S. models because they could only use enriched uranium, not natural uranium, whereas the UK and Canadian models could use natural uranium.¹⁹

As the ROK–U.S. Nuclear Agreement already prohibited the enrichment of uranium by the ROK without U.S. permission, the ROK was supposed to rely on the U.S. for its supply of enriched uranium. The AERI researchers also noted the economic and military significance of reprocessing technology and facilities. For instance, the head of the Department of Physics Research, Dr. Young Jae Lee, argued that the ROK should prepare for the introduction of reprocessing technology because the number of nuclear plants would grow in the future, which would increase the demand for nuclear energy as well. Lee also argued that reprocessing technology would facilitate the accumulation of plutonium and provide the ROK an opportunity to be a nuclear weapons state.²⁰ In short, the strategic uses of nuclear energy were discussed in the 1960s and aimed primarily to develop nuclear energy technologies for supplying electricity for the ROK's fast-growing economy and for potential military use.

However, the ideas of scientists were hardly considered by the ROK's top policy makers who focused on the economic benefits of nuclear energy and rejected the nuclear weapons programs. As enrichment activities, mainly through gaseous diffusion during the Cold War, required a lot of electricity, it was not feasible given the weak energy infrastructure of the ROK in the 1960s. Although the country had promoted nuclear science and technology for dual-use purposes since the 1950s, its first priority was to secure power sources for electricity by operating a commercial nuclear plant. On top of this, the terms and conditions of U.S. aid for the ROK nuclear energy program severely limited the ability to develop nuclear energy for military purposes. First, the ROK–U.S. Non-military Uses of Nuclear Energy Agreement of 1956 prohibited the enrichment of uranium by the ROK and declared that reprocessing material, supplied by the US, was banned as well.²¹ According to the ROK–U.S. Nuclear Agreement in 1956, the ROK was guaranteed to secure up to 6 kg of enriched uranium. Furthermore, as the ROK decided to construct a pressurized water reactor (PWR)—the contract was given to Westinghouse—it expected to secure more enriched uranium from the U.S., whereas the U.S. did not want to provide enriched uranium to the ROK more than necessary.²² By the late 1960s, the structure of the ROK nuclear development was tightly framed by the United States. Clearly, as the Park regime did not consider the nuclear weapons program, the ROK accepted the

¹⁹ Ibid. That research later provided the basis for CANDU–NRX introduction initiatives under the Park Chung Hee government that attempted to secure plutonium from the Canadian heavy reactor model.

²⁰ “The Prospect for Production of Nuclear Weapons,” *The Kyunghyang Sinmun* (June 30, 1968).

²¹ “Agreement for Cooperation between the Government of the U.S. and the Government of ROK Concerning Civil Uses of Atomic Energy” (1956).

²² Ibid. In 1972 and 1974, the agreement was amended, and the ROK could secure up to 100 kg of enriched uranium to operate a water reactor, introduced by Westinghouse. For the amended agreement, see “Amendment to Agreement for Cooperation between the Government of the USA and the Government of ROK Concerning Civil Uses of Atomic Energy” (1974).

terms of conditions of U.S. nuclear aid that effectively blocked the front and end of the nuclear fuel cycle. However, the ROK reconsidered its relations with the U.S. and attempted to develop its nuclear weapons program by bypassing the restrictions of the ROK–U.S. bilateral nuclear agreement.

Re-Birth of the Nuclear Weapons Plan

In the late 1960s and early 1970s, continuous provocations from the north as well as U.S. attempts to withdraw from East Asia exacerbated the ROK's perception of external threats.²³ On January 21, 1968, 31 North Korean commandos attempted to raid the Blue House, and on January 23, the USS *Pueblo* was seized by North Korean naval forces. In November, there was another armed guerilla operation in Uljin and Samcheog. However, the Johnson Administration, whose leadership had been severely impacted by the Tet Offensive in Indochina, turned down the ROK's plan for a military retaliation against North Korea.²⁴ The alliance dilemma worsened after Richard Nixon assumed office in 1969 and announced the Nixon Doctrine, which dictated a reduction of U.S. forces in East Asia, including the ROK.

Washington determined the timeline and size of U.S. troop reduction from the ROK. On August 24, 1970, there was a meeting between Vice President Spiro Agnew and Park regarding the issue of U.S. troop.²⁵ Park accepted the U.S. plan for a pullout of 20,000 troops out of the total of 63,000 soldiers. Park, however, suggested the funding and support for the modernization of ROK army and no more reduction in the remaining U.S. forces until the modernization of ROK army was completed.²⁶ However, Agnew did not accept Park's suggestion. And the withdrawal plan was considered in Washington as it scheduled, completing the pullout within five years.²⁷ Clearly, the Nixon Doctrine continued to undermine the threat perception of abandonment from its ally. In 1971, the Park regime decided to develop military technologies for self-reliance.

Moreover, the threat from the north also fueled the ROK's craving for its own nuclear arsenal. There was a short break in the inter-Korean conflict in the early 1970s after the U.S.-China rapprochement was announced: Seoul and Pyongyang held a number of peace talks from 1971 to 1972. They signed and announced a joint

²³ Regarding the theory of alliance dilemma, see Snyder (461–495); For the alliance dilemma between the ROK and USA, see Morrow (103–121).

²⁴ “North Korea's provocation incident in 1968” (1968); Bermudez Jr. (1998, 32) and Cho (2007, 9, 104–136), cited from Choi (2014, 3).

²⁵ Back-channel telegram from the Ambassador to Korea (Porter) to the President's Assistant for National Security Affairs (Kissinger), Seoul, August 25, 1970, 0910Z. Republic of Korea, August 1970. Vice President's Briefing Book, Subject Files, NSC Files, Nixon Presidential Materials, Box 406, National Archives.

²⁶ “Agnew, Spiro T. US Vice President' Visiting to South Korea, 1970. 8, 24-26,” Vol. 1 (basic document), 1970, Class Number: 724. 12 US 1970, Diplomatic Archives, Republic of Korea.

²⁷ Choi (2019, 71–72).

communique for the peaceful reunification of Korea.²⁸ Yet the time of peace on the Korean Peninsula quickly started to end in 1973 when Pyongyang found out that the peace talks were no longer a useful tool for weakening the link between the ROK and the United States.²⁹ The two Koreas returned to confrontation in the mid-1970s, which were covered with military and diplomatic conflicts. Facing an existential threat, the Park Administration decided to develop its own nuclear weapons program, which had been ignored since the early 1960s. The question concerned the clandestine acquisition of weapons-grade fissile materials, and the Park Administration started to review earlier reports from scientists and technocrats, which already provided a roadmap for nuclear armament. So, with support from the government, ROK technocrats attempted to materialize their two decade-old plans.

It was Minister of Science and Technology Hyeong Seob Choi who led these technocrats and oversaw the nuclear weapons program with his expertise in nuclear science. Minister Choi also assumed the head positions at the Korean Nuclear Society (KNS), the AERI, and the Korea Institute of Science and Technology (KIST) and introduced scientific measures for the ROK's clandestine nuclear program in the 1970s. Based on the analyses of those scientist groups, Minister Choi indicated that the key to a successful clandestine program was the rapid accumulation of plutonium.³⁰ Then, how did the ROK scientists suggest the plutonium-based nuclear program?

In the framework of the ROK–U.S. bilateral nuclear agreement, the entire nuclear fuel cycle in the ROK was controlled by the U.S. Regarding the front-end of its nuclear fuel cycle, the ROK was not allowed to independently enrich uranium and had to import it from the U.S. According to the ROK–U.S. bilateral nuclear agreements, the U.S. supplied the required quantity of low-enriched uranium to the ROK for the operation of its PWR (a U.S. light-water reactor) nuclear plants.³¹ As the U.S. supplied the required quantity of fuel to the ROK, the latter had no reason to enrich uranium other than for its nuclear weapons program. If it had attempted to enrich uranium, the U.S. could have surmised that the ROK was developing a nuclear arsenal. Additionally, at the rear-end of its nuclear fuel cycle, the ROK was prohibited to reprocess used nuclear fuel without U.S. permission.³² In this sense, a nuclear weapons program based on either enriched uranium or plutonium appeared impossible—the ROK could not enrich uranium or reprocess the used fuel as long as it depended on the U.S. for technology and funding.

Therefore, ROK's scientists sought solutions to these problems and found a way to bypass the U.S. monitoring of the rear-end of the nuclear fuel cycle. The ROK–U.S. bilateral agreement applied only to technologies, facilities, and materials from the U.S. to the ROK. This implied that the ROK could reprocess used nuclear fuel

²⁸ Ibid., 92.

²⁹ Shin (2005, 269).

³⁰ Kim (2012, 242).

³¹ “Agreement for Cooperation between the Government of the U.S. and the Government of ROK Concerning Civil Uses of Atomic Energy” (1956).

³² Ibid.

if it could import low-enriched uranium from other states. Moreover, the bilateral agreements had not banned the ROK from securing “reprocessing technologies and facilities” from other countries. Based on this logic, the ROK sought to establish other bilateral agreements—a backdoor for its nuclear program that would also be compatible with the ROK–U.S. Nuclear Agreement and would bypass the U.S. monitoring to the rear-end of nuclear fuel cycle. With these goals, Choi initiated negotiations for introducing the Canada Deuterium Uranium (CANDU) and Natural Research Experimental (NRX) reactors from Canada and reprocessing technologies and facilities from France.

CANDU–NRX Negotiation Between the ROK and Canada

Although the ROK planned to construct more PWR plants under its main energy supply scheme, it started to reevaluate the merits of the pressurized heavy-water reactor (PHWR). As Se Young Jang explained, intensive competition in the international nuclear industry market facilitated the ROK’s quest for the PHWR.³³ As light-water reactor models started to dominate the global nuclear industry, Canada attempted to find a new market for heavy-water reactor models. The president of the Atomic Energy of Canada Limited, James L. Gray, visited Seoul in April 1973 and explained the merits of the PHWR to the ROK government.³⁴ Coupled with Canada’s active marketing, the ROK’s new goal for nuclear development rapidly promoted negotiation between the ROK and Canada on the introduction of the PHWR. As already introduced, the ROK had surveyed the nature of PHWR systems in the 1960s. The PHWR was not regarded as the best option because of the high price of the moderator (deuterium) and the high construction costs. Considering U.S. aid and comparative advantages in initial costs, the ROK selected the U.S. model, the PWR. Indeed, the alliance relations between the U.S. and the ROK and path dependency of ROK’s mainly U.S.-educated technocrats also influenced this decision. However, the ROK started to reconsider the heavy water reactor option for its next nuclear project in the 1970s with its strategic merits for bypassing U.S. monitoring of its nuclear fuel cycle. In June 1973, ROK’s scientists and engineers were dispatched to Canada, where they produced a report on their research on CANDU. Unlike the policy reports on the PHWR for the selection as its first reactor model in the 1960s, which highlighted its demerits, the scientists and technocrats of the AERI, KIST, and Korean Electric Power Corporation (KEPCO) immensely appreciated the nature of the PHWR, which uses natural uranium and produces more plutonium in the process of nuclear reaction. It is noteworthy that the AERI report highlights the following strategic merits of the PHWR:

³³ Jang (2017, 12).

³⁴ Memorandum from R. C. Lee to File CK-151-1 (c.c. Campbell), May 7, 1973, Folder “Posting to Korea 1972.07-1974.-1,” Vol. 8–1, Record 13629 (hereafter, 8-1/13629), Ross Campbell Fonds, Library and Archives Canada, cited from Jang (2017, 12).

Because both uranium enrichment and the reprocessing process are not required in the nuclear fuel cycle of PHWR, [the ROK] can avoid international safeguards for non-proliferation.³⁵

Interestingly, the research team did not re-emphasize the disadvantages of the PHWR, which had placed it at the bottom of the list of options for ROK's reactor projects in the 1960s. The researchers also suggested that the ROK should introduce the NRX along with CANDU as the experimental reactor; NRX was more efficient in extracting plutonium from used nuclear fuel than CANDU.³⁶ This is noteworthy because they put more emphasis on the NRX, the experimental reactor than on CANDU. We can interpret this to mean that the ROK preferred collecting plutonium from the used fuel for energy generation in its choice for the nuclear plant program in the second generation. As the AECL also offered the package option of CANDU–NRX sale to the ROK in August 1973, the ROK Ministry of Science and Technology (MIST) swiftly moved to sign a contract for the introduction of the CANDU and NRX. In the contract, the ROK prioritized the introduction of NRX over that of CANDU.³⁷

It appears that ROK's nuclear weapons program was influenced by this report. Accordingly, the ROK government rushed into signing a contract with Canada. Regarding the official reasons for the ROK seeking a new reactor model, the PHWR, government officials explained that it would diversify energy sources; the ROK depended on the U.S. for enriched uranium—its only energy source for operation of its PWR plants. Indeed, because the PHWR operated with natural uranium, the ROK intended to reduce its dependency on the U.S.³⁸ This logic was, seemingly, developed to conceal ROK's ambition for a nuclear weapons program from the eyes of critics who suspected the sudden ROK–Canada nuclear engagement. However, considering that the ROK had no commercial nuclear plant in operation at that time, it seemed too early to worry about energy dependency. Additionally, the diversification of reactors might have undermined the efficiency of nuclear energy program in the ROK. For instance, like the 1960s AERI report in the previous pages, the Long-Range Nuclear Power Program Study 1974, prepared by Kaiser Engineers and Constructors for the AERI and MIST, underlined the disadvantages of the PHWR for energy generation in the ROK, requiring far higher capital costs compared to the PWR, BWR, and HTGR (high-temperature gas-cooled reactor) and a difficult self-supply of heavy water. The authors of this report argued that commitment to either a PWR or PHWR program would be better for self-sufficiency in selected portions of the nuclear cycle.³⁹ In other words, the diversification of reactor models would be inefficient for the ROK in its fledgling stage of nuclear development. Considering that light water reactors

³⁵ AERI (1978, 33).

³⁶ KEPCO (1989, 1039–1040) and AERI (1978, 16–19).

³⁷ Memorandum, Kaufmann, August 15, 1973, 8-1/13629, Ross Campbell Fonds, Library and Archives Canada, cited from Jang (2017, 24). For the ROK prioritization of NRX, see “Negotiation for Introduction of Two CANDU Reactors and NRX from Canada, 1973-74.”

³⁸ Lee (2009, 189–191).

³⁹ Kaiser Engineers and Constructors, Inc. (1974).

were under construction in the ROK, this report appeared to recommend the consistent development of PWR models in the country.⁴⁰ Nonetheless, the ROK proceeded to secure the CANDU and NRX.

The ROK rapidly prepared for the development of technologies for the PHWR mainly because of its intrinsic merits of using natural uranium as a fuel and collecting a considerable quantity of fissile material, plutonium, without the reprocessing process. While the ROK and Canada negotiated the CANDU–NRX deal, the ROK also approached India, which had already introduced the CANDU and NRX. The ROK appeared to be interested in the know-how and expertise of India in its PHWR operation. According to declassified documents from the ROK Ministry of Foreign Affairs, it started discussions with India for a bilateral agreement for cooperation for the peaceful uses of nuclear energy in 1973. However, it halted negotiations with India after the latter's first nuclear detonation, Operation Smiling Buddha in 1974, lest its nuclear cooperation with India aroused suspicion in the international society.⁴¹

Therefore, the ROK's plan had to be revised. As India mainly utilized CIRUS (Canada–India, U.S.) reactors based off of the NRX reactor for its nuclear program, Canada was suspicious of the ROK, which had demanded both reactors but had not ratified the nuclear Non-Proliferation Treaty (NPT) after signing it in 1968.⁴² In particular, Canada questioned why the ROK prioritized the introduction of the NRX over the CANDU. The ROK government attempted to defend its position and requested financing aid for the NRX project. In his letter to Canadian Prime Minister Pierre E. Trudeau, the ROK Prime Minister Kim Jong Pil explained why his country wanted to prioritize the introduction of the NRX:

For an effective implementation of our nuclear power development program, however, it is our government's firm view that training of nuclear reactor and development are prerequisites to our nuclear power program. [...] The NRX reactor, as your Excellency is aware of, has served as a major tool in research and development for Canada's nuclear power development program. Our government, therefore, has requested that the financing for the NRX project with a Canadian government loan be given a priority over the CANDU-PHW project that is to be financed by the Canadian Export Development Corporation (EDC).⁴³

Even though Seoul justified its demand for the NRX with its aspiration for scientific and academic research on the PHWR, Ottawa was not willing to take the risk of exporting the NRX, which was more efficient for producing plutonium than the electricity-generating reactor CANDU. It also questioned why the ROK attempted to secure the NRX deal, which was not affordable for Seoul without a Canadian government loan.⁴⁴ Consequently, Canada demanded NPT ratification from the ROK and dropped the NRX deal from the negotiation.

⁴⁰ Ibid.

⁴¹ "Negotiation for Agreement for Peaceful Uses of Nuclear Powers between the ROK and India, 1974" (1974).

⁴² Jang (2017, 2).

⁴³ "Letter from Prime Minister Kim Jong Pil to Prime Minister of Canada, Pierre Elliott Trudeau" (1974).

⁴⁴ "Negotiation for Introduction of Two CANDU Reactors and NRX from Canada, 1973–74."

After several meetings for securing the NRX deal, the ROK finally accepted Canada's terms and conditions in September 1974. The ROK failed to secure an NRX reactor in its nuclear program. Furthermore, Canada made it clear that the ROK could not use the CANDU for military purposes and prohibited the reprocessing of used nuclear fuel from the CANDU reactors without permission from Canada.⁴⁵ Nonetheless, the ROK still considered that securing at least the CANDU could make a difference in its energy security. ROK's scientists expected that they could save costs on energy generation by operating the CANDU reactors with natural uranium, which the ROK could secure in its territory or from elsewhere.⁴⁶ On January 27, 1975, the ROK signed the contract for the import of the CANDU reactor from Canada and ratified the NPT on March 19, 1975. The construction of the first PHWR plant based on the CANDU model began in Wolsong, in May 1975, and it has been in operation since 1983.⁴⁷ Unlike India, however, the ROK failed to develop its nuclear weapons program with this PHWR plant because of Canada's safeguard. However, the ROK's attempt to secure reprocessing capability would later allow it to extract plutonium from the used nuclear fuel from the PWR plants in the 1970s. Moreover, this would offer a second opportunity to Seoul and pose a more serious challenge to the international non-proliferation regime led by Washington.

The ROK–French Negotiations for Reprocessing Facilities

While the ROK's quest for the CANDU–NRX was mainly for the purpose of securing the front-end of the nuclear fuel cycle to ensure an energy source for nuclear reaction with natural uranium, its quest for the reprocessing technology aimed to secure the back end of the nuclear fuel cycle—reprocessing and using the used nuclear fuel. As the first commercial reactor contract between the ROK and the U.S. was signed in the 1960s, ROK's scientists had been indicating that it should secure reprocessing technologies to recycle used nuclear fuel. On January 11, 1968, ROK's technocrats established the Long-Term Plan for Research, Development, and Uses for Nuclear Energy (1968–1973) at the 162nd Nuclear Energy Committee Meeting. A program for the introduction of nuclear fuel reprocessing facilities was included in the plan.⁴⁸ As in the scheme for reactor models, the reprocessing program was introduced with economic considerations and promoted with the strategic idea of the Park government—that is, the ROK attempted to materialize the existing plan.

As in the reactor program, ROK's technocrats preferred U.S. reprocessing technologies despite U.S. restrictions, mainly because of the U.S. economic support for

⁴⁵ Ibid.

⁴⁶ KEPCO (1989, 1040).

⁴⁷ Three more PHWR plants were constructed in the late 1990s and are operational as of 2022. The first PHWR plant in the ROK ended its operation in 2018. For the history of Wolsong PHWR plants, AERI (2019, 27–29).

⁴⁸ AERI (1990, 170–171).

the ROK nuclear program based on the principles of “Atoms for Peace.” As already discussed, the ROK–U.S. Nuclear Agreement stipulated that the former could reprocess the used fuel from U.S.-originated concentrated uranium with U.S. consent. In January 1972, the AERI submitted the plan for the reprocessing project to the government and approached the Skelly Oil Co. and Nuclear Fuel Services (NFS) of the U.S. and the Mitsubishi Oil and Gas Co. of Japan for the construction of a reprocessing plant near the Gori Nuclear Plant—the first nuclear plant in the ROK, which had been under construction since November 1971. Although the project was reportedly for economic purposes, the U.S. government rejected the participation of the NFS in the joint venture because of the potential for military use.⁴⁹ Thus, the ROK sought alternatives and secured a potential partner, France, which was willing to export all related technologies, equipment, and facilities to other countries for commercial purposes.

In May 1972, a meeting was held between the representatives of the ROK MIST and the French Atomic Energy Agency (Commissariat à l’énergie atomique et aux énergies alternatives, CEA) for the introduction of nuclear fuel processing, raw material, and reprocessing facilities and technology from France to the ROK. In October 1974, the two states exchanged a Memorandum of Understanding (MOU) for the Peaceful Uses of Nuclear Energy. It is noteworthy that Seoul and Paris preferred an MOU to an official treaty; ROK’s official documents stated that there was little difference between an MOU and a treaty in terms of effectiveness but signing an international treaty would have implied the monitoring and regulations of the IAEA over all its nuclear materials, facilities, and equipment. Additionally, it was argued that “if the two States exchange an MOU, then they can avoid the IAEA safeguards.”⁵⁰

Although the ROK did not ratify the NPT until 1975, its quest for reprocessing capabilities could be considered a breach of the ROK–U.S. Nuclear Agreement. However, the nature of the bilateral agreement allowed it to avoid U.S. regulations. The ROK believed it was not allowed to reprocess any nuclear fuel supplied from the U.S. but was free to reprocess nuclear fuel from other states (e.g., France). For the U.S., the loophole in the bilateral agreement and even the NPT did not assume significance until 1974 because it had been the sole supplier of nuclear technology and fuel to the ROK. Furthermore, as the ROK had not ratified the NPT and France had not signed the NPT at that time, they could bypass IAEA regulations. Washington, therefore, soon started to monitor the nuclear exchanges between its two allies and intervened in the ROK–France reprocessing deal immediately after India’s Operation Smiling Buddha breached the fence of the U.S. non-proliferation rule.

⁴⁹ Ibid.

⁵⁰ “The MOU Exchanges between the ROK and Republic of France in Paris, October 19, 1974” (1974).

References

Secondary Sources

- Bermudez, Joseph S., Jr. 1998. *North Korean Special Forces*. Annapolis: Naval Institute Press.
- Bernstein, Jeremy. 2008. *Nuclear Weapons: What You Need to Know*. Cambridge University Press.
- Brazinsky, Gregg. 2007. *Nation Building in South Korea: Koreans, Americans, and the Making of Democracy*. The University of North Carolina Press.
- Cho, Gabje. 2007. *Park Chung Hee*. Chogabje.com 9: 104–136.
- Choi, Lyong. 2014. The First Nuclear Crisis in the Korea Peninsula, 1975–76. *Cold War History* 14(1): 71–90.
- Choi, Lyong. 2019. Reluctant Reconciliation: South Korea's tentative détente with North Korea in the Nixon era, 1969–72. *Modern Asian Studies* 54(1): 59–94.
- Di Moia, John P. 2009. Atoms for Power? The Atomic Energy Research Institute (AERI) and South Korean Electrification, 1948–1965. *Historia Scientiarum* 19(2): 170–183.
- Di Moia, John P. 2010. Atoms for Sale? Cold War Institution-Building and the South Korean Atomic Energy Project, 1945–1965. *Technology and Culture* 51(3): 589–618.
- Go, Dae Seung. 1992. Wonjaryeoggiguchulhyeongwajeonggwageubaegyong [The Process and Background of Emergence of Atomic Organization]. *Korea Journal of Science History* 14(1): 62–87.
- Jang, Se Young. 2017. Bringing Seoul into the Nonproliferation Regime the Effect of ROK-Canada Reactor Deals on Korea's Ratification of the NPT. *Nuclear Proliferation International History Project of Woodrow Wilson International Center for Scholars*, Working Paper 9.
- Kim, Geun Bae, et al. 2018. 'gwahagdaetongryeong Park Chung Hee sinhwareulneomeo ['Beyond the Mythology of President Park Chung Hee': Science, Power, and State]. Yukbi.
- Kim, Seong Jun. 2012. "Formation and Changes in the Technological Regimes of the Nuclear Program in South Korea, 1953–1980." Ph.D. Thesis, Seoul National University.
- Lee, Jeong Hoon. 2009. *Hanguiguihaekjugwon [Nuclear Sovereignty of South Korea]*. Geulmadang.
- Morrow, James D. 2006. The United States and ROK Alliance: An Asymmetric Alliance Over Time. *The Korean Journal of Security Affairs* 11: 103–121.
- Shin, Wookhee. 2005. 'Giheo'eseoGyochkSangtae'ro [From Opportunity to Stalemate], Korea Politics and Diplomatic History Collection 26.
- Snyder, Glenn H. 1984. The Security Dilemma in Alliance Politics. *World Politics* 36(4): 461–495.
- Wilson, Ward. 2014. *Five Myths about Nuclear Weapons*. Mariner Books.

Primary Sources

Korea

- "After 30 Years, Won Cheol Oh, the previous chief of economy and man in charge of nuclear program in Park Chung Hee Regime, broaches the subject of nuclear program," *Weekly Chosun*, 12 January 2010. http://news.chosun.com/site/data/html_dir/2010/01/12/2010011200988.html.
- "Agnew, Spiro T. US Vice President' Visiting to South Korea, 1970. 8, 24–26," Vol. 1 (basic document), 1970, Class Number: 724. 12 US 1970, Diplomatic Archives, Republic of Korea.
- "Agreement for Cooperation between the Government of the U.S. and the Government of ROK Concerning Civil Uses of Atomic Energy." 1956. Class Number: 741.64 U.S., Diplomatic Archives, Republic of Korea.

- “Amendment to Agreement for Cooperation between the Government of the USA and the Government of ROK Concerning Civil Uses of Atomic Energy,” 1974, Class Number: 741.61 U.S., Diplomatic Archives, Republic of Korea.
- Atomic Energy Research Institute. 1978. *Feasibility Study Report for Heavy Water Reactor Model*. Atomic Energy Research Institute. 1990. *The 30 Years of History in the Korea Atomic Energy Research Institute, 1959–1989*.
- Kaiser Engineers and Constructors, Inc., “Long-Range Nuclear Power Program Study, prepared for Atomic Energy Bureau, Ministry of Science and Technology and Korea Atomic Energy Research Institute, Republic of Korea, December 1974,” Choi Hyeong Seob Archive, Jeonbuk National University, Republic of Korea.
- KEPCO. 1989. *The 100 Years of History in the Korean Electricity*.
- “Korean Policy Reconsideration: A Two-Korea Policy,” 29 May 1973, Pol 32-4 Kor/UN, Subject-Numeric Files, National Archives; Wook Hee Shin, ‘gihoeseogyochaksangtaero [From Opportunity to Stalemate],’ *Korea politics and diplomatic history collection* 26 (2005): 269.
- “Letter From Prime Minister Kim Jong Pil to Prime Minister of Canada, Pierre Elliott Trudeau,” 2 August 1974, Choi Hyeong Seob Archive, Jeonbuk National University, Republic of Korea.
- “Memorandum, Kaufmann, 15 August 1973, 8–1/13629,” Ross Campbell Fonds, Library and Archives, Canada.
- “Negotiation for Agreement for Peaceful Uses of Nuclear Powers between the ROK and India, 1974,” Class Number: 741.61ID, Diplomatic Archives, Republic of Korea.
- “Negotiation for Introduction of Two CANDU Reactors and NRX from Canada, 1973–74” Class Number: 761.64, Diplomatic Archives, Republic of Korea.
- “North Korea’s provocation incident in 1968.” 1968. Class Number: 2664. 729.55, Diplomatic Archives, Republic of Korea.
- ROK Bureau of Nuclear Energy. 1967. *Feasibility Study Report for Nuclear Power Generation*.
- “The MOU Exchanges between the ROK and Republic of France in Paris, 19 October 1974.” 1974. Class Number 741.61 FR, Diplomatic Archives, Republic of Korea.
- “The Prospect for Production of Nuclear Weapons,” *The Kyunghyang Sinmun*, 30 June 1968.

U.S. and Canada

- “Back-channel telegram from the Ambassador to Korea (Porter) to the President’s Assistant for National Security Affairs (Kissinger),” Seoul, 25 August 1970, 0910Z. Republic of Korea, August 1970. Vice President’s Briefing Book, Subject Files, NSC Files, Nixon Presidential Materials, Box 406, National Archives, College Park, Maryland.
- “Memorandum from R. C. Lee to File CK-151-1 (c.c. Campbell),” 7 May 1973, Folder “Posting to Korea 1972.07-1974.-1,” Vol. 8–1, Record 13629, Ross Campbell Fonds, Library and Archives Canada.
- Ministry of Education, “Proposed Activities of Atomic Energy in Korea” 4 June 1958, folder “21.53 Country File: Korea b. General, part 1 of 2,” Box 425, RG 59, National Archives, College Park, Maryland, USA.

Chapter 3

The U.S. and the Emerging Threat of Proliferation: Opportunities and Risks for the Non-proliferation Regimes Created in the Changing Context of the Cold War Order, 1960–1974



Eisenhower's Atoms for Peace initiative, launched in 1953, was intended as the basis of a global nuclear policy. Beginning in the early 1960s, Washington harvested the returns from its investment in the 1950s: the participants of the Atoms for Peace initiative who had benefitted from U.S. tutelage in nuclear science were likely to adopt the U.S. models of reactors and other key facilities for their nuclear energy programs.¹ This technological path dependency augmented the growth of the U.S. nuclear industry. Simultaneously, however, the White House began to face difficulties: it witnessed insatiable demands from its partners, which raised questions about the nature of U.S. assistance, that entailed tight control over the nuclear fuel cycle. Additionally, there was a gap among bilateral agreements regarding the scope and level of U.S. control over each beneficiary. Eventually, the beneficiaries began seeking other partner(s) to secure control over its full nuclear fuel cycle.² Therefore, the U.S. had to deal with additional demands from its clients as well as the potential problem of proliferation based on U.S. assistance. Washington sensed the difficulty in finding equilibrium between the two goals of its nuclear policy in a number of cases, as its Third World allies, such as the Republic of Korea (ROK), contacted France to break out of U.S. control over its nuclear fuel cycle.

These dilemmas of the U.S. nuclear policy originated from the intrinsic problems of the Atoms for Peace program. New developments in international relations during the 1960s further deepened the problems. The successors to the Eisenhower Administration, therefore, struggled to solve the dilemma: while implementing the terms and conditions of bilateral agreements with Third World States according to the Atoms for Peace program, they also had to prevent global proliferation. This chapter introduces the debates of nuclear proliferation and nuclear export policy in the post-Eisenhower Administration before Washington faced proliferation challenges from the Third World in 1974, when India conducted its first nuclear test.

¹ Di Moia (2010, 589–618).

² Drogan (2019, 459–460).

The ROK case is especially noteworthy as it was a formal U.S. ally and had a heavy dependence on the U.S. in terms of its economy, national security, and nuclear program. In the early 1970s, the competition among nuclear powers in the commercial nuclear energy market increasingly loosened the control of the U.S. and re-directed the nuclear policy of Washington. This also occurred between France and the ROK. The Nixon Administration, in this context, began to tighten its monitoring over its Third World allies, including the ROK, and re-consider relations with France, which had been undermined after France's nuclear test, to maintain its influence over the Third World in exchange of its nuclear weapons aid to France.

Intrinsic Problems of the Atoms for Peace Program

After World War II, the U.S. rapidly tightened its control over the management of nuclear energy to remain the sole nuclear power state in the post-War era. However, as the Soviet Union and the UK successfully conducted nuclear tests in 1949 and 1952, respectively, the U.S. failed to monopolize its legacy from the Manhattan Project. This led to growing concerns over further proliferation; states with access to advanced technologies, such as France, Japan, Israel, West Germany, and Sweden, revealed their national aspiration for the ultimate weapon, and a number of states in the Third World also intended to introduce nuclear energy both for their economic development and national security, if possible. Despite significant differences of opinion among U.S. politicians, their perceptions of nuclear proliferation were consistent and clear: it would undermine the status of the U.S. in world politics and increase the risk of the country being entrapped in a nuclear confrontation of its allies with the Soviet Union.³

The U.S., therefore, had to devise solutions to minimize the risk of nuclear proliferation. In the early Cold War era, Washington faced the dilemma of its non-proliferation strategy: should it maintain its original stance, monopolizing the fruits of the Manhattan Project, to prevent further leaks of its nuclear science? Or should it share its nuclear knowledge with others, while monitoring their nuclear activities? The Eisenhower Administration appears to have chosen the second option, not because it certainly preferred that option, but because it was not sure of the effectiveness of the first one. There were two more nuclear weapon states (NWS) in the 1950s, and there was little guarantee that other states would not follow suit. U.S. intelligence repeatedly reported the likelihood and expected consequences of nuclear productions in States with potential.⁴

³ Burr (2018, 10–11).

⁴ Memorandum from W. Park Armstrong, Special Assistant to the Secretary of State for Intelligence to Fisher Howe et al., "National Intelligence Estimate on the 'Fourth Country Problem,' May 3, 1957, enclosing letter to Director of Central Intelligence Allen W. Dulles, April 25, 1957," National Archives, Record Group 59, Records of the Department of State (hereinafter RG 59), Central Decimal Files, 1955–1959, 101.21 NIS/5-357. Despite U.S. efforts in the 1950s, France detonated its first nuclear bomb in 1960 and became the fourth country to join the nuclear club.

Another reason for selecting the second option was to deal with the Soviet challenge to its global leadership: the Cold War rivalry induced the two superpowers to share their nuclear knowledge with others to secure allies as well as endanger each other.⁵ President Eisenhower considered that the fourth country should be a U.S. ally if the emergence of a fourth country was inevitable. In this sense, the White House seems to have adopted a selective approach to proliferation: Eisenhower regarded that there was a good proliferation. If a U.S. ally attempted to obtain nuclear capabilities under U.S. authority and use it as a deterrence against the Communist, Washington would not attempt to stop it. Eisenhower's stance was clear for U.S. wartime allies, especially in Europe.⁶ Therefore, although France became the fourth country in 1960, there was no serious backlash from the White House.

Eisenhower had a different view of the proliferation in the Third World. He was not sure of their intentions or the results of proliferation. Therefore, while maintaining the idea of using nuclear power in U.S.–Third World relations to contain the Communists, he also considered monitoring and controlling the nuclear activities of the Third World allies. The Atoms for Peace initiative, announced by Eisenhower in 1953, invited the interested States out of this consideration.⁷ In 1957, the International Atomic Energy Agency (IAEA) was created to ensure international cooperation for the peaceful uses of nuclear energy following the Atoms for Peace initiative. With this program and institution, the U.S. attempted to control the path of nuclear proliferation and monitor the nuclear activities of potential nuclear powers whose relations with Communists were ambiguous.

Many participants of the Atoms for Peace program—including the main subject of this book, the ROK—developed their nuclear program with the ambition of becoming NWS. However, in contrast to the case of its European allies, Washington was not willing to let them have their own nuclear arsenal. The Atoms for Peace initiative did not imply that Washington was willing to share the know-how of nuclear weapons development, but that it intended to construct the foundation of nuclear supply chains through which it could control the nuclear activities of other states and intercept the access of the Soviet Union to fissionable material.⁸

Eisenhower's Atoms for Peace initiative opened the window for the U.S. to control the nuclear activities in the world outside of the Communist bloc. Dozens of States responded to Eisenhower's speech and signed bilateral agreements with the U.S. in the mid- and late 1950s. These nuclear agreements set the foundation for the civil nuclear program and mechanisms for the international non-proliferation regime. However, there were two problems in the Atoms for Peace initiative. First and foremost, the selective approach of Eisenhower, especially regarding the proliferation

⁵ Drogan (2019, 441–460).

⁶ For Eisenhower's idea on sharing the nuclear technologies with European allies, see Memorandum of Discussion at the 413th Meeting of the National Security Council, July 16, 1959, Eisenhower Administration, FRUS, 1958–1960, vol. 3, doc. 67, cited from Miller (2018, 160) and “Transcript of Eisenhower's News Conference on Domestic and Foreign Matters,” *New York Times*, February 4, 1960, 12.

⁷ Schmid (2006, 331–365).

⁸ Sokolski and Woolsey (2001, 25–29).

by France, sent out a wrong signal for the other recipients of the Atoms for Peace that the U.S. would not attempt to stop their nuclear weapons programs unless they attempted to use them against the U.S.

Second, this program was not designed for non-proliferation and/or counter-proliferation. As Burr argues, the primary goal of this initiative was to maintain the U.S. hegemony in the Cold War world with multiple NWS.⁹ Gradually, however, there was a growing concern over the possibility that even the participants of the Atoms for Peace program could build the scientific and technological ground for nuclear armament as there was little fundamental difference in the mechanism between civil and military nuclear programs.¹⁰ Washington, already in the late-Eisenhower era, increasingly sensed that the outcomes of this program could threaten U.S. national interests. The U.S., thus, added provisions to monitor the nuclear activities of recipient states in the bilateral agreements. Nonetheless, the ROK—as well as a few other beneficiary states including Iran, Pakistan, and Taiwan—proceeded toward the goal of nuclear armament based on nuclear technologies developed with U.S. aid.

The combination of the above two factors increasingly complicated the non-proliferation issue in the 1960s. With U.S. aid and Cold War propaganda, the recipient states were motivated to develop their own nuclear weapons programs. In this context, the primary goals of policymakers in the post-Eisenhower era can be summarized as follows: first, monitor and curb unauthorized nuclear activities of Third World states receiving U.S. nuclear aid and, second, effectively prevent the emergence of N-th States, triggered by the nuclear threat from existing NWS.¹¹ Despite the grand inauguration of the Atoms for Peace program in the Eisenhower Administration, its successors, who were materializing the U.S. nuclear assistance to the beneficiaries, reconsidered the range and level of assistance and devised a new mechanism to control allies' nuclear activities, the Non-Proliferation Treaty (NPT).¹² However, the NPT, by itself, did not prevent the additional progress in the Third World proliferation: the U.S. faced the fear of proliferation in Third World States when they began introducing technologies from NWS without NPT membership.

The Kennedy–Johnson Era: Stabilizing the Superpower Nuclear Game and Road to Non-proliferation Treaty

In addition to the two problems mentioned above, there were new events in the first half of the 1960s that further complicated the U.S. non-proliferation policy: the emergence of a fourth and then a fifth country in the first half of 1960s—France and the People's Republic of China (PRC). The Kennedy and Johnson Administrations, therefore, recognized that it would be impossible to prevent additional onset of the

⁹ Burr (2018, 10).

¹⁰ Fuhrmann (2012, 2).

¹¹ N-th state means a new nuclear weapon states, for instance, China is the “Fifth” state.

¹² Burr (2018, 8–9).

“N-th” country with the existing non-proliferation regime framework because the new members of the nuclear weapons club had succeeded in their independent nuclear weapons programs without relying on technological assistance from the U.S. or the Soviet Union.¹³ Already toward the end of the Eisenhower Administration, the U.S. elites began to fear that the U.S. nuclear assistance lowered the threshold for being a nuclear weapon state.¹⁴ The Kennedy–Johnson Administrations (1960–1968) began devising a “realistic” mechanism to prevent additional emergence of NWS.

The Kennedy Era: Tightening the Non-proliferation Policy

From the beginning, the U.S. government under John F. Kennedy’s leadership faced unprecedented challenges of proliferation from the remaining great powers without nuclear weapons in the previous decade: France began producing nuclear weapons and China was ready to follow suit. Adding two more into the list of NWS was not a simple choice for Washington. The independent nuclear programs of France and China increasingly ruined the foundation of the bipolar world and added more complexity and variables to superpower relations.¹⁵ Although Paris and Beijing experienced considerable discord with their respective allies, Washington and Moscow, their nuclear programs were sufficient to threaten their respective enemies. Although both superpowers avoided direct confrontation, their allies with nuclear weapons programs exacerbated their mutual suspicion, further embroiling them in conflict. The early years of 1960s were replete with ominous news of potential military conflict between the East and West and of impending nuclear tests in the states with nuclear latency, alarmed by the emergence of NWS both in Europe and Asia.¹⁶

In this complicated situation, the Kennedy government felt that the U.S. should abandon the selective approach of the Eisenhower era to proliferation, which seemed to encourage the nuclear armament of U.S. allies—and of its enemies, in return. The U.S. political elites considered this as a tit-for-tat equilibrium of the Cold War game; any proliferation attempt either by U.S. allies or enemies elevated the risk of a U.S.–Soviet Union conflict. Even the two superpowers’ attempts to secure the nuclear deterrence capacity of their allies resulted in tension—the Cuban Crisis

¹³ Clearly, the early stage of the Chinese nuclear program benefitted from the Soviet nuclear assistance during the Stalin era. However, the assistance was discontinued after the demise of Stalin, and Mao’s and Khrushchev’s conflict over Stalinism.

¹⁴ J. Robert Schaetzel to Philip Farley, January 29, 1959, 12H Peaceful Uses Subject File, 2a. Administration of Atoms for Peace Program, 1959, S/AE, cited from Drogan (2019, 459).

¹⁵ Burr (2018, 16). For U.S. concern over China’s nuclear program, see Burr and Richelson (2000/2001, 54–99). For U.S. response to France’s nuclear test, see Martin (2014).

¹⁶ Although China conducted its first nuclear test in 1965, the international community had long expected that it will acquire its own nuclear arsenal. See NIE 100-4-60, “Likelihood and Consequences of the Development of Nuclear Capabilities by Additional Countries,” September 9, 1960, in “National Intelligence Estimates of the Nuclear Proliferation Problem,” NSA, EBB, no. 155, doc. 5.

adequately demonstrated the potential of mutually assured destruction (MAD).¹⁷ The solution was simple: no more proliferation should be allowed even by the allies of Washington. As the U.S. elites perceived, the “independent nuclear policy” of U.S. allies, especially in Europe, induced the proliferation domino effect inside the Capitalist Bloc—for example, the UK and French nuclear programs appeared to instigate West Germany to join the NWS club.¹⁸ The Kennedy Administration contemplated severing this proliferation chain using a stricter and indiscriminate approach. This implied not only horizontal proliferation—that is, adding more NWS—but also vertical proliferation, that is, augmenting the nuclear arsenal and strengthening the destructive power of nukes as well as developing delivery vehicles. The Kennedy Administration swiftly acted to implement a new policy for a world with multiple NWS.¹⁹ For this, inevitably, Washington required the cooperation of the Soviet Union as well as its own allies.

However, this new idea did not achieve the immediate objective of non-proliferation, mainly because of the conflict between allies and Cold War dynamics. Although the Soviet Union generally agreed to the concepts of non- and counter-proliferation, it was unwilling to set a common approach to non-proliferation until the U.S. rolled back its decades-old plan for collective security with European allies, the Multilateral Force (MLF). Sharing nuclear forces on the European Continent, the North Atlantic Treaty Organization (NATO) member-states secured a deterrence against the nuclear threat from the East. The new U.S. stance on non-proliferation seemed to benefit from the MLF initiative because Washington could prevent the nuclear armament of NATO members, especially West Germany, in exchange for this extended deterrence.²⁰ Yet, for Moscow, the MLF plan was no less than the emergence of the “N-th” state—neither nuclear sharing nor independent nuclear programs in Western Europe was acceptable to the Soviet Union.

Washington also faced resistance from its NATO allies regarding the former’s strict approach toward their existing nuclear programs. Kennedy offered transfer of technologies and access to advanced delivery vehicles for nuclear forces to the UK and France under the condition that they would commit these assets to their nuclear forces to NATO and future MLF.²¹ Additionally, for France, he made another offer: France would receive nuclear aid and data on nuclear tests if it signs the Limited Test Ban Treaty (LTBT).²² French president Charles de Gaulle spurned these offers.²³

¹⁷ Potter and Mukhatzhanova (2008, 160).

¹⁸ Burr (2018, 9).

¹⁹ Draft Position Paper, August 14, 1964, Johnson Administration, FRUS, 1964–1968, vol. 11, doc. 44, cited from Miller (2018, 51).

²⁰ Maddock (2010, 167).

²¹ Telegram From the Embassy in France to the Department of State, 4 January 1963, Kennedy Administration, FRUS, 1961–1963, vol. 13, doc. 263, cited from Miller (2018, 49).

²² Maddock (2010, 214).

²³ Shaker (1980, 135).

For de Gaulle, the nuclear weapons program was not merely a deterrence against the Soviet Union but also the foundation for its independence from U.S. intervention.²⁴

In short, the Kennedy Administration initiated the indiscriminate approach to proliferation and attempted to secure the cooperation of U.S. allies as well as the Soviet Union. However, the conflicts within the alliance and between the two superpowers deterred the emergence of a multilateral regime for non- and counter-proliferation. Especially, Kennedy's offers to France failed to prevent the vertical proliferation of the latter's nuclear arsenal. Lyndon Johnson, the vice-president in the Kennedy Office and president after Kennedy's sudden demise, succeeded the spirit of Kennedy, and was able to establish the foundation of an international effort for non-proliferation: the NPT in the late 1960s. However, the U.S.–Franco split in the early 1960s induced France's reluctance to sign the NPT in the late 1960s and its selective approach toward proliferation. Additionally, the U.S. hardships in the Vietnam War began to weaken its control over politics of Northeast Asia, resulting in the discourse of self-defense with nuclear forces in the ROK.

The Johnson Era: The U.S.–Soviet Union Agreement on the NPT and the U.S.–France Split

In the early months of the administration, Johnson was committed to the MLF, which was regarded as a useful means of solving the dilemma of countering the Soviet threat against Europe without promoting nuclear proliferation.²⁵ He, however, soon encountered several obstacles. The U.S. tried, but in vain, to assure the Soviet Union that the MLF initiative was not the path for additional proliferation in Europe, but an effort for non-proliferation.²⁶ It also had difficulties in coordinating the clashing interests of European powers on the issue. Furthermore, China's first successful nuclear test in 1964 heightened a sense of crisis over nuclear proliferation and increased the voice of those who favored the NPT against the MLF within the Johnson Administration.²⁷ While facing domestic as well as Soviet criticism on the MLF plan, the U.S. also failed to achieve a consensus among its NATO allies on the plan. Furthermore, U.S. policymakers were also concerned of a domino effect spurred by the China's nuclear test with increasing evidence of India's pursuit of nuclear weapons. Johnson Administration, therefore, abandoned its bystander stance toward proliferation attempts by its allies and finally decided to drop the MLF plan. And then, it began to materialize the universal system of non-proliferation, NPT.²⁸ As Miller argues, the fear of a nuclear proliferation and losing its power projection increasingly pushed

²⁴ Gunston (1973, 104).

²⁵ Solomon (1999, 87–88).

²⁶ Draft Position Paper, 14 August 1964, Johnson Administration, FRUS, 1964–1968, vol. 11, doc. 44, cited from Miller (2018, 51).

²⁷ Schrafstetter and Twigge (2004, 147), cited from Miller (2018, 55).

²⁸ Miller (2018, 62–64), Solomon (1999, 92–115).

Washington to assign greater priority to non-proliferation than to other agendas such as the alliance relations and containment of the Red Army.²⁹

This shift in policy priorities was significant for U.S. efforts for non-proliferation as it facilitated U.S.–Soviet Union cooperation to prevent further proliferation. Sharing the fear of proliferation and split in allies, the Soviet Union joined the NPT initiative; however, both superpowers failed to curb their allies. Although France and China were recognized as NWS along with the U.S., the Soviet Union, and the UK in the NPT, the two new NWS refused to sign the treaty until the end of the Cold War. In contrast to Kennedy, who attempted to appease de Gaulle, Johnson responded to de Gaulle's independent policy for nuclear deterrence with a tit-for-tat strategy; he ordered that the U.S. would not provide assistance to France's nuclear weapons program.³⁰ This action could be interpreted as a gesture for the Soviet Union, through which the U.S. reaffirmed its policy change. However, the alliance relations froze with mutual mistrust thereafter.

While the two superpowers adopted the policy of universal application of non-proliferation and accused the new NWS of inducing further proliferation and instability in world politics, France took additional action to resist the Cold War order. De Gaulle approached Mao and recognized the PRC with sharing antipathy toward their respective wartime ally in 1964. Not surprisingly, their efforts for better and more nuclear forces continued along with their disregard for the ongoing U.S.–Soviet Union NPT negotiations.³¹ Additionally, France secured funds and technological support from West Germany and exported nuclear technology and equipment to Third World states, even selling technologies and facilities for plutonium reprocessing and uranium enrichment.³² This, without doubt, soon turned out to be one of the challenges to the fledgling multilateral NPT. The details are explained in the next chapter.

Johnson's Failure to Stabilize East Asia: Rebirth of the Nuclear Weapons Program in the ROK

Another potential factor that threatened the new non-proliferation policy of the U.S. under the Johnson Administration was the unsuccessful U.S. campaign in Indochina. U.S. elites were concerned about the proliferation in South Asia—India and Pakistan—after a direct threat from the Chinese nuclear test in 1964. The U.S. also faced nuclear challenges from its East Asian allies after it failed to assure their

²⁹ Miller (2018, 67).

³⁰ National Security Action Memorandum No. 294, 20 April 1964, Johnson Administration, FRUS, 1964–1968, vol. 12, doc. 30, cited from Miller (2018, 51).

³¹ Martin (2008, 54).

³² Goldsborough (1976, 496–510); for France's nuclear export to Third World states, see Kohl (2015).

security in the late 1960s. Despite the nuclear armament of the PRC in the mid-1960s and the Communist threat in Indochina, the Johnson Administration was able to prevent nuclear proliferation by its East Asian allies with its continuous security assurance in the region.³³ The ROK, Taiwan, and Japan rapidly accepted the universal nature of the non-proliferation rule from the U.S. and decided to sign the NPT as non-NWS once the Johnson Administration initiated the discussion on the foundation of the new regime for global non-proliferation. However, the unsuccessful U.S. campaign in Indochina and the failure in deterring Communist military action in Northeast Asia undermined the status of the U.S.

Since Park Chung Hee's achievements, economic development and strengthening of military power were heavily dependent on American support, the ROK was significantly influenced by the United States. Therefore, Park's anti-Communist foreign policy, especially his confrontational Northern policy, was inspired by Washington.³⁴ However, two incidents on the Korean Peninsula redefined their relationship. On January 21, 1968, North Korea dispatched 31 commandos to assassinate Park. Two days later, its navy captured an American spy ship, the USS *Pueblo*. At first, the ROK and the U.S. reacted with astonishment and anger. Adopting a strong preparatory posture against a possible state of emergency, the U.S. moved its mobile troops, including the aircraft carrier USS *Enterprise*, from Okinawa to the ROK on January 24, 1968. President Johnson acted on his promise that the U.S. would not tolerate this kind of hostile activity.³⁵ However, Washington decided not to punish Pyongyang, but to negotiate with it for the lives of the crew of USS *Pueblo*. This reluctance of the U.S. in resolving the conflicts of the two Koreas only further reinforced Park's hostile position toward Kim Il Sung.³⁶

The 1968 Korean Crisis thus marked the beginning of a deviation in Cold War policy between Seoul and Washington. After the U.S. refused military intervention in the 1968 conflict, South Korean leaders came to realize the limits of their superpower patron. They then began to build up military strength to ensure national security. However, the top policymakers of the ROK did not yet consider the nuclear weapons program. Despite American reluctance to help the ROK militarily punish the north, the U.S. promised additional funding and support for the modernization of the ROK's armed forces.³⁷ However, some of the ROK policymakers had already begun discussing the nuclear option to prepare for a potential Communist attack after the Vietnam Crisis.

³³ In 1966, for instance, Washington asked Seoul to send additional military forces to South Vietnam. In return, Washington provided financial and military aids to Seoul. See Brown Pledge (Additional dispatch of ROK forces to Vietnam) (1966) and Choi (2012, 28).

³⁴ Oberdorfer (2002, 13), cited from Choi (2012, 31).

³⁵ Blackburn (1994, 31–42), cited from Choi (2012, 33–34).

³⁶ Telegram from the Embassy in Korea to the Department of State, Seoul, January 24, 1968, Cables, Country File, Korea, National Security File, LBJ library, cited from Choi (2012, 34).

³⁷ Choi (2012, 40–41).

The nuclear scientists and technocrats of the ROK, who had participated in the initial nuclear program prior to the Park government, attempted to revive their initiative for the dual-use of nuclear energy. As Seong Jun Kim explains, the Korea Atomic Energy Research Institute (KAERI), comprising technocrats and specialists in nuclear science and engineering, led the ROK nuclear program in the 1950s with the idea of potential nuclear armament.³⁸ However, it lost ground for its policy influence after the Park regime decided to develop nuclear energy only for civil purposes, following the U.S. direction in the early 1960s. In the 1960s, as the main actor of the ROK nuclear development was the Korea Electronic Power Corporation (KEPCO), supervising the electronic power supply in the ROK, the KAERI became a sub-actor for policymaking related to the ROK nuclear development, mainly serving the research of electronic development with nuclear power.³⁹ The destabilization of the ROK–U.S. alliance and the security crisis in the ROK, ironically, provided a political opportunity for the KAERI and nuclear specialists to retake the initiative in the field of nuclear program. In January 1968, at the 162nd forum of the ROK AEC (Atomic Energy Commission), the technocrats of KAERI planned the introduction of reprocessing facilities for the “long-term plan for the research, development, and uses of nuclear energy (1968–1973).”⁴⁰ Clearly, the nuclear weapons program was not the official idea at this moment; however, the top elites in the ROK government began to perceive that the country was being prepared for nuclear armament.

The Nixon Era

Taking the White House after witnessing Johnson’s hardships from the Communist threat in Indochina and the Warsaw Pact Invasion of Czechoslovakia in 1968, Richard Nixon initially decided to revitalize U.S. relations with its European allies, overshadowed by the superpower relations during the Johnson era, but reduced the U.S. intervention in Asia. In Europe, the U.S. attempted to strengthen the military applicability of NATO as part of its new Cold War strategy to fully engage its allies. This “Pivot to Europe” strategy can be summarized by the approach of the Nixon Administration toward France and the ROK. Nixon re-summoned the idea of the U.S. support for the French nuclear weapons program, whose procedure had long been stopped since the Kennedy era. Alternatively, Nixon weakened the U.S. ties with its East Asian allies, especially the ROK and South Vietnam. The pull-out of U.S. forces from the region was planned and reported to the Asian allies. Washington also initiated the reconciliation with Beijing, which further undermined the U.S. link with many of its Asian anti-Communist allies.⁴¹ One of them, the ROK, responded to this

³⁸ Kim (2012, 196–203).

³⁹ Ibid., 242.

⁴⁰ Ha (1991, 172–73), AERI (1990, 170–71).

⁴¹ Regarding the background and process of decision-making in the Nixon Administration, see “Minutes of the Senior Review Group Meeting, Washington, 15 May 1969, 2:10–3:55 pm,”

threat of abandonment from the U.S. by revitalizing its nuclear weapons program, forgotten for a decade. Coupled with the reluctance to follow Johnson's strict rule for non-proliferation and bipolar politics, the U.S. policy changes in the Nixon era accelerated national debates for independent nuclear weapons programs in the Third World states.

Strategic Shift from Confrontation to Cooperation: Nixon–Pompidou Talks for Strategic Nuclear Cooperation

Facing Soviet aggression in Eastern Europe, the U.S. began augmenting its relations with key allies in Europe. One of these crucial allies was France, which had been challenging U.S. leadership. So far, the U.S. had failed to pacify its wartime ally whose nuclear weapons program destabilized the superpower relations. Additionally, France's sale of sensitive nuclear technologies and facilities to other states undermined the ground of superpower control over global nuclear proliferation.⁴² Yet, the U.S.–Franco split was overshadowed by the Soviet threat and U.S. hardships in Indochina. For Nixon, alliance with France was among the key driving forces to block the Soviet threat along with his other initiative, reconciliation with China.

The primary purpose of the shift in the U.S. policy toward France was to improve the latter's nuclear capabilities to deter Soviet control over Europe. Of equal significance was to reduce the difference of opinion regarding international nuclear proliferation between the U.S. and France. These two goals complicated Nixon's nuclear policy. As Miller argues, Nixon adopted an ambivalent stance toward non-proliferation: even though he did not intend to return to the selective approach of Eisenhower, he rejected Johnson's universal approach. Not so long after his inauguration in January 1969, Nixon slowed down the pace of NPT application and began exploring ways to convince France to accept its invitation to walk the new path of partnership.⁴³ Georges Pompidou, then French President, responded to Nixon's invitation with his visit to Washington, D.C. in early 1970.

However, even after discussion on the U.S.–France strategic nuclear cooperation began at the presidential level, the two parties failed to change the policy inertia of their respective nations because of their respective domestic political structures; Pompidou needed to keep the foundation of national support for his leadership. Additionally, he had founded it on the independence of French politics from the NATO—more specifically, the U.S.—as his predecessor de Gaulle had done. The legislative of France was dominated by the Gaullists, and the bureaucrats for the nuclear and national defense also worked under the idea of Gaullism; they resisted

SRG Minutes, Originals, 1969, Box H-111, NSC Institutional Files (H-Files), NSC Files, Nixon Presidential Materials, U.S. National Archives and Records Administration (hereafter NARA).

⁴² Details are explained in Chap. 4.

⁴³ Miller (2018, 69–71).

the universal application of non-proliferation on France by the U.S.⁴⁴ The details of this topic are discussed in the next chapter.

Meanwhile, Nixon also hardly made dramatic changes in the non-proliferation policy. The implementation of strategic nuclear assistance that the Nixon Administration had promised to France was at a stalemate because of deteriorating domestic and diplomatic conditions in the U.S. The Nixon Administration was losing political ground because of the 1972 Watergate Scandal and the 1973 Oil Shock that shattered the economy. The government's position was further aggravated as the Congress and the public increasingly criticized the Administration.⁴⁵ Such complications made it difficult for the U.S. government to proactively deal with nuclear negotiations with France. Particularly, nuclear talks with France had no simple solution as there was still opposition from the State Department and the Congress. The nuclear negotiations with France were also tied to bigger external issues, such as the U.S.–Soviet Union SALT negotiations and the changing U.S.–Europe relations.⁴⁶

This complex situation, therefore, prompted the U.S. to adopt a cautious approach and use stalling tactics instead of actively resolving issues with definite policy alternatives. The U.S. government, while offering hope to France in response to its demands when French Minister of Defense, Michel Debré visited the U.S. in July 1972, delayed its actual response. At the Pentagon meeting on September 5, 1973, Kissinger instructed the negotiating team members not to decide on anything at the upcoming meeting with the successor to Debré, Robert Galley and to delay the talks until spring of the following year.⁴⁷

Another cause for the delay in U.S.–France negotiations was the U.S. seeking to gain maximum strategic benefits from the talks, while coordinating the strategic objectives of the two nations. For instance, the U.S. linked ways to create fractures within Europe when it discussed providing technological support for Poseidon and the Multiple Independently Targetable Re-entry Vehicle (MIRV) that France had requested.⁴⁸ Additionally, because finding specific ways for the U.S. and NATO to efficiently use French power required a fundamental shift in France's diplomatic policy, it required time to gain control of the strategic goals of the two countries. A memorandum, sent by the National Security Council (NSC) senior staff member Helmut Sonnenfeldt to Kissinger on September 25, 1973, emphasized that coordinating France's strategic goals and sensitive issues with the U.S. was critical in

⁴⁴ Trachtenberg (2011, 4–9).

⁴⁵ Borstelmann (2012).

⁴⁶ The White House, "Memorandum of Conversation with Robert Galley, Henry A. Kissinger, James Schlesinger, Vernon Walters, Brent Scowcroft, Helmut Sonnenfeldt Kathleen A. Ryan, 27 Jul. 1973," Wilson Center Digital Archive, 1973, available at <https://digitalarchive.wilsoncenter.org/document/113223>. Accessed 22 June 2019.

⁴⁷ "National Security Adviser, Memoranda of Conversation," box 2, September 5, 1973—Kissinger, Schlesinger. Ford Presidential Library, Gerald R. Ford Papers. Obtained and contributed by William Burr and included in NPIHP Research Update #2. Accessed June 20, 2019. <https://digitalarchive.wilsoncenter.org/document/113232>.

⁴⁸ Ibid.

supporting nuclear technology for France.⁴⁹ There was a glimpse of hope. According to the Intelligence Summary of October 2, 1973, drafted by the Defense Intelligence Agency, France's deterrence policy had come closer to NATO's "flexible response." Even so, France remained skeptical about using traditional weapons, causing strategic differences to linger between the U.S. and France.⁵⁰ In this context, it was not easy for the Pompidou Administration to move away from Gaullism.

Aggravation of the U.S.–Europe relationship further impeded the U.S.–France talks from making headway. Kissinger's "Year of Europe" speech on April 23, 1973 was meant to apply brakes on Europe's attempt to escape from political and economic subordination which was regarded as payback for the security guarantees provided by the U.S.⁵¹ More specifically, the declaration was Kissinger's attempt to break the unity of Europe by providing France with nuclear weapons.⁵² European countries, including France, questioned the underlying pretext rather than welcoming it.⁵³ While France saw an opportunity to receive nuclear weapons technology from the U.S., it also had to abandon its efforts to strengthen the European Community, which implied it had to engage with the NATO. Against this backdrop of deteriorating U.S.–Europe relations, the U.S. and the Soviet Union would eventually sign the Prevention of Nuclear War Agreement in June 1973. This left many European countries feeling betrayed and further sparked U.S.–France conflicts, which significantly worsened when the U.S. sided with Israel in the Middle Eastern war in October of the same year. As such, the deadlock in the U.S.–France nuclear weapons technology cooperation continued.

Deepening Alliance Dilemma in East Asia: The Nixon Doctrine and Rebirth of the Nuclear Weapons Program in the ROK

There was a growing concern that the U.S. would reduce its military aids and/or presence of combat troops in several Asian countries. The Guam Doctrine, aka Nixon Doctrine, was announced in 1969 and reaffirmed the U.S. reluctance to provide unlimited support to its allies for the sake of their safety. The immediate target of the Nixon Doctrine was South Vietnam, where U.S. troops had suffered significant casualties. However, the Nixon Administration included the other allies in the list of the new doctrine; the ROK was also on the list.⁵⁴ This policy shift impacted the

⁴⁹ "Memorandum for Mr. Kissinger, Nuclear Cooperation with France—Galley-Schlesinger Meeting," National Security Council, 25 September 1973, WCDA, <https://digitalarchive.wilsoncenter.org/document/113238>. Accessed 21 June 2019.

⁵⁰ Defense Intelligence Agency, Intelligence Summary, October 2, 1973, DNSA.

⁵¹ Lundestad (2005, 182–183).

⁵² Burr (2018).

⁵³ Goldsborough (1974, 547).

⁵⁴ Choi (2019, 59–61).

discussion on the ROK's nuclear weapons program. Whereas the idea of dual use of nuclear energy in the ROK remained an ambitious issue at the academic and bureaucratic levels during the Johnson era, it was discussed as a policy priority at the top level of the ROK elites during the Nixon era.

In 1970, the Nixon Administration made a quick decision to withdraw a considerable number of U.S. troops from the ROK. Accordingly, twenty thousand soldiers, about one third of the U.S. troops, were pulled out of South Korea and relocated by the end of 1971. On the other hand, the White House decided to support the modernization of ROK forces still facing the North Korean threat.⁵⁵ Although Washington promised more military aid for the ROK forces, the new U.S. Asia policy destabilized the foundation of the Park regime. The new approach by Washington toward Beijing also exacerbated the fear of abandonment in the ROK. After witnessing the Sino-Soviet border conflict in 1969, the White House quickly moved forward to alleviate tensions in Northeast Asia by making a conciliatory gesture toward Beijing while maintaining stable relations with Moscow.⁵⁶

This crack in the ROK–U.S. alliance during the Nixon era fueled domestic discussions on the redirection of the ROK nuclear program from single-use to dual-use—that is, for both civil and military purposes. This idea was hardly discussed at the policy level in the ROK when they first faced the threat of abandonment from the U.S. during the Johnson era; however, it became a national agenda as the ultimate solution for the ROK's security during the early 1970s. In 1971, after the reduction of U.S. forces in the ROK was confirmed, the Park Administration decided to adopt the policy of dual use of nuclear energy and develop its own nuclear program. Regarding ways to clandestinely acquire weapons-grade fissile materials, the Park Administration began reviewing previous reports from scientists and technocrats, which already provided a roadmap for nuclear armament. Therefore, backed by political support, the ROK's technocrats attempted to materialize their two-decades-old plan as soon as possible. Eventually, they found a shortcut—a partnership with France. As the two U.S. allies were secretly planning a nuclear partnership, Nixon was removed from office in the wake of the Watergate Scandal. His vice-president and successor, Gerald Ford, had to deal with the proliferation challenge from U.S. allies both in Europe and Asia.

⁵⁵ National Security Decision Memorandum, Washington, March 20, 1970, Subject Files, Box 363, National Security Decision Memoranda, NSC Files, Nos. 1–50, Nixon Presidential Materials, National Archives to Seoul, March 25, transmitted a summary of this NSDM (*ibid.*, Box 541, Country Files, Far East, Korea, Vol. II, 10/69–5/70), cited from Choi (2019, 69).

⁵⁶ Minutes of the Senior Review Group Meeting, Washington, May 15, 1969, 2:10–3:55 p.m. SRG Minutes, Originals, 1969, National Archives, Box H–111, NSC Institutional Files (H-Files), NSC Files, Nixon Presidential Materials, National Archives, cited from Choi (2019, 62).

Conclusion

After Dwight Eisenhower vacated the White House, his successors directed the focus of the U.S. nuclear policy with stricter and universal rule of non-proliferation. As France joined the NWS club without U.S. support, the possibility of emergence of the “N-th” NWS haunted policymakers in Washington. They, at least, shared the idea that the U.S. should prevent the additional emergence of “N-th” state(s), which would destabilize the international bipolar order. They also considered that the selective approach of non-proliferation toward U.S. allies exacerbated the relations between the superpowers and accelerated proliferation elsewhere. The three presidents in the post-Eisenhower era—John F. Kennedy, Lyndon B. Johnson, and Richard M. Nixon—attempted to invite U.S. allies to support the global non-proliferation regime. However, mainly because of different priorities and failure to complete their term(s), these presidents could not convince their allies of the consistency of the U.S. non-proliferation policy.⁵⁷ Indeed, despite their efforts and different approaches, France did not subscribe to the U.S. idea of universal application of the non-proliferation rule.

Additionally, the Indochina Crisis increasingly undermined the U.S. leadership and tested the U.S. determination for the universal application of the non-proliferation rule. Without any doubt, the presence of U.S. forces—conventional or unconventional—provided a strong rationale for the non-proliferation rule to the U.S. allies in Asia. However, as Johnson failed to assure the safety of U.S. allies under Communist attack, and as Nixon confirmed the U.S. reluctance to ensure their security at the cost of U.S. lives, the U.S. allies in the region increasingly sought alternative options for self-reliance.⁵⁸ The ROK was one such case, and in the context of partial withdrawal of U.S. troops from its soil, the country decided to revitalize its nuclear weapons program after a decade of inactivity.

The proliferation challenges from the First and Third Worlds finally became intertwined with each other and increasingly damaged the foundation of the U.S. non-proliferation initiative in the mid-1970s. Soon after India conducted its nuclear test based on technologies from the Western bloc, the non-proliferation in the Third World became one of the top policy priorities in the Ford Administration. The ongoing nuclear talks between the two U.S. allies—France and the ROK—irritated the White House. Paris and Seoul launched negotiations for a nuclear partnership in which the former supplied reprocessing facilities and technologies to the latter. The ROK–France nuclear talks in the early 1970s intended to circumvent the restrictions and regulations of the ROK–U.S. Nuclear Agreements that prohibited the reprocessing of used fuel ignited in U.S.-supplied reactors and enriching U.S.-supplied uranium.⁵⁹

⁵⁷ JFK was assassinated; LBJ gave up the campaign for the re-election due to Vietnam hardship; and RBN left the office during his second term because of Watergate Scandal.

⁵⁸ Choi (2019, 62–71).

⁵⁹ Since the ROK joined the Atoms for Peace program, the U.S. and ROK signed a number of nuclear agreements. Although they added or revised the type of reactors, technologies, facilities, and amount of fuel from the U.S. to the ROK, the restrictions on the ROK nuclear program set by the

This was not the only case where a state signed nuclear agreements with multiple states to avoid the regulations of bilateral agreement with a specific state. However, it was a grave and imminent threat to the U.S. that would destroy the very foundation of the NPT and U.S. leadership in the Capitalist Bloc. The ROK delayed the ratification of the treaty at the legislative level, and France did not sign it while the two states discussed the contract for reprocessing facilities and technologies. U.S. fears were aggravated when the two countries obtained the official guarantees from the IAEA in November 1974. Meanwhile, the U.S. continued to convince them to sign the NPT. For Washington, the ROK question was simpler than the French one; it decided to roll-back the Nixon Doctrine and guaranteed security to the ROK. However, it faced significant challenges regarding the French nuclear export policy, which raised several proliferation obstacles, including the Korean one.

The Ford Administration found the answers for this puzzle, intertwined and deep-rooted with the alliance dilemma, in an unexpected place: the domestic political game in France. Prior to delving into the triangular relations of the ROK, the U.S., and France regarding nuclear proliferation in the mid-1974 in Chap. 5, the structure and dynamics of French politics—especially in terms of its nuclear policymaking—which influenced France’s final decision on the ROK reprocessing issue and its revised relations with the U.S. will be reviewed in Chap. 4.

References

Secondary Sources

- Blackburn, Robert M. 1994. *Mercenaries and Lyndon Johnson’s “More Flags”: The Hiring of Korean, Filipino, and Thai Soldiers in the Vietnam War*. Mcfarland & Co Inc Pub.
- Borstelmann, Thomas. 2012. *The 1970s: A New Global History from Civil Rights to Economic Inequality*. Princeton University Press.
- Burr, William. 2018. Nuclear Proliferation and Conception of National Interest. In *Joining the Non-Proliferation Treaty: Deterrence, Non-Proliferation and the American Alliance*, ed. John Baylis. Routledge.
- Burr, William, and Jeffrey Richelson. 2001. Whether to ‘Strangle the Baby in its Cradle’: The United States and the Chinese Nuclear Program, 1960–64. *International Security* 25: 54–99.
- Choi, Lyong. 2012. The Foreign Policy of Park Chung Hee, 1968–1979, Ph.D. Thesis, London School of Economics.
- Choi, Lyong. 2019. Reluctant Reconciliation: South Korea’s tentative détente with North Korea in the Nixon era, 1969–72. *Modern Asian Studies* 54(1): 59–94.
- Di Moia, John P. 2010. Atoms for Sale?: Cold War Institution-Building and the South Korean Atomic Energy Project, 1945–1965. *Technology and Culture* 51(3): 589–618.

U.S. were consistent, prohibition of enrichment with U.S. supplied uranium and reprocessing used fuel with the U.S. supplied fuel. For details of the ROK-U.S. nuclear agreement, see “Agreement for Cooperation between the Government of the USA and the Government of ROK Concerning Civil Uses of Atomic Energy” 1956, Class Number 741.64 US, Diplomatic Archives of Republic of Korea and “Amendment to Agreement For Cooperation between the Government of the USA and the Government of ROK Concerning Civil Uses of Atomic Energy” (1974).

- Drogan, Mara. 2019. The Atoms for Peace Program and The Third World. *Cahiers Du Monde Russe* 60: 441–460. <https://www.jstor.org/stable/27056911>.
- Fuhrmann, Matthew. 2012. *Atomic Assistance: How “Atoms for Peace” Programs Cause Nuclear Insecurity*. Cornell University Press.
- Goldsborough, James O. 1974. France, the European crisis and the Alliance. *Foreign Affairs* 52(3): 538. <https://doi.org/10.2307/20038068>.
- Goldsborough, James O. 1976. The Franco-German Entente. *Foreign Affairs* 54(3): 496. <https://doi.org/10.2307/20039590>.
- Gunston, Bill. 1973. *Bombers of the West*. Charles Scribner’s and Sons.
- Ha, Young Seon. 1991. *hanbandouihaengmugiwasegyejilseo* [*The Nuclear Weapons in the Korean Peninsula and World Order*]. Nanam.
- Kim, Seong Jun. 2012. *Formation and Changes in the Technological Regimes of the Nuclear Program in South Korea, 1953–1980*. Ph.D. Thesis, Seoul National University.
- Kohl, Wilfred L. 2015. *French Nuclear Diplomacy*. Princeton University Press.
- Lundestad, Geir. 2005. *The United States and Western Europe since 1945: From “Empire” by Invitation to Transatlantic Drift*. Oxford University Press.
- Maddock, Shane. 2010. *Nuclear Apartheid: The Quest for American Atomic Supremacy from World War II to the Present*. University of North Carolina Press.
- Martin, Garret. 2008. Playing the China Card?: Revisiting France’s Recognition of Communist China, 1963–1964. *Journal of Cold War Studies* 10(1): 52–80.
- Martin, Garrett Joseph. 2014. *General de Gaulle’s Cold War: Challenging American Hegemony, 1963–1968*. New York: Berghahn.
- Miller, Nicholas. 2018. *Stopping the Bomb: The Sources and Effectiveness of U.S. Nonproliferation Policy*. Cornell University Press.
- Oberdorfer, Don. 2002. *The Two Koreas: A Contemporary History*. New York: Basic Books.
- Potter, William, and Gaukhar Mukhatzhanova. 2008. Divining Nuclear Intentions. *International Security* 33(1): 139–169.
- Schrafstetter, Susanna, and Stephen Twigge. 2004. *Avoiding Armageddon: Europe, the United States, and the Struggle for Nuclear Non-Proliferation, 1945–1970*. Westport: Praeger.
- Schmid, Sonja. 2006. Celebrating Tomorrow Today: The Peaceful Atom on Display in the Soviet Union. *Social Studies of Science* 36(3): 331–365.
- Shaker, Mohamed. 1980. *The Nuclear Non-Proliferation Treaty: Origin and Implementation, 1959–1979*. London: Oceana Publications.
- Shin, Wook Hee, and Young Ho Kim. 2000. jeonhwangiuidongmaeng: Détente sigiuihanmianbogwange [Alliance in Transitional Period: ROK–U.S. Security Relations in the Détente Era]. Korea Political History Conference.
- Sokolski, Henry D., and R. James Woolsey. 2001. *Best of Intentions: America’s Campaign Against Strategic Weapons Proliferation*. Westport, CT: Praeger.
- Solomon, Midshipman James B. 1999. *The Multilateral Force: America’s Nuclear Solutions for NATO (1960–1965)*. Annapolis: U.S. Naval Academy.
- Trachtenberg, Marc. 2011. The French Factor in U.S. Foreign Policy During the Nixon-Pompidou Period, 1969–1974. *Journal of Cold War Studies* 13(1): 4–59.

Primary Sources

Korea

- “Agreement for Cooperation between the Government of the U.S. and the Government of ROK Concerning Civil Uses of Atomic Energy” 1956, Class Number 741.64 U.S., Diplomatic Archives, Republic of Korea.

“Amendment to Agreement For Cooperation between the Government of the USA and the Government of ROK Concerning Civil Uses of Atomic Energy,” 1974, Class Number 741.61 U.S., Diplomatic Archives, Republic of Korea.

Atomic Energy Research Institute. 1990. *The 30 Years of History in the Korea Atomic Energy Research Institute, 1959–1989*.

“Brown Pledge (Additional dispatch of ROK forces to Vietnam), 1966,” 1966, Class Number, 1867, 729.13 U.S., Diplomatic Archive, Republic of Korea.

“Chinese Premier, Zhou Enlai’s visit to North Korea in April 1970,” 1970, Class Number 3598. 725.32, CP, Diplomatic Archives, Republic of Korea.

Telegram from the Embassy in Korea to the Department of State, Seoul, January 24, 1968, Cables, Country File, Korea, National Security File, LBJ library, Austin, Texas.

U.S. and Canada

Action Memorandum from the Director of the Korean Task Force (Berger) to Secretary of State Rusk, Washington, 7 February 1968. POL 33-6 KOR N-US, Central Files 1967–69, RG 59, National Archives and Records Administration.

Defense Intelligence Agency, Intelligence Summary, 2 October 1973, DNSA.

Draft Position Paper, 14 August 1964, Johnson Administration, FRUS, 1964–1968, vol. 11, doc. 44.

Kissinger, Schlesinger, Gerald R. Ford Papers, Ford Presidential Library, Grand Rapids, Michigan, USA. Obtained and contributed by William Burr and included in NPIHP Research Update #2. <https://digitalarchive.wilsoncenter.org/document/113232>. Accessed June 20, 2019.

“Letter From President Nixon to Korean President Park,” Washington, 26 May 1970, Presidential Correspondence 1969–1974, Korea: President Park Chung Hee, Box 757, NSC Files, Nixon Presidential Materials, National Archives, College Park, Maryland, USA.

“Memorandum for Mr. Kissinger, Nuclear Cooperation with France—Galley-Schlesinger Meeting,” National Security Council, 25 September 1973, WCDA. <https://digitalarchive.wilsoncenter.org/document/113238>.

Memorandum for the Files, 9 June 1966, Johnson Administration, FRUS, 1964–1968, vol. 11, doc. 136.

Memorandum from W. Park Armstrong, Special Assistant to the Secretary of State for Intelligence to Fisher Howe et al., “National Intelligence Estimate on the ‘Fourth Country Problem,’ 3 May 1957, enclosing letter to Director of Central Intelligence Allen W. Dulles, 25 April 1957,” National Archives, Record Group 59, Records of the Department of State, Central Decimal Files, 1955–1959, 101.21 NIS/5-357.

“Memorandum of Conversation with Robert Galley, Henry A. Kissinger, James Schlesinger, Vernon Walters, Brent Scowcroft, Helmut Sonnenfeldt Kathleen A. Ryan, 27 July 1973,” Wilson Center Digital Archive, 1973. <https://digitalarchive.wilsoncenter.org/document/113223>.

Memorandum of Discussion at the 413th Meeting of the National Security Council, 16 July 1959, Eisenhower Administration, FRUS, 1958–1960, vol. 3, doc. 67.

Minutes of the Senior Review Group Meeting, Washington, 15 May 1969, 2:10–3:55 pm. SRG Minutes, Originals, 1969, Box H–111, NSC Institutional Files (H-Files), NSC Files, Nixon Presidential Materials, U.S. National Archives and Records Administration, College Park, Maryland, USA.

National Security Action Memorandum No. 294, 20 April 1964, Johnson Administration, FRUS, 1964–1968, vol. 12, doc. 30.

“National Security Adviser, Memoranda of Conversation,” box 2, 5 September 1973—Kissinger, Schlesinger. Gerald R. Ford Papers, Ford Presidential Library. Obtained and contributed by William Burr and included in NPIHP Research Update #2. 20 June 2019. <https://digitalarchive.wilsoncenter.org/document/113232>.

National Security Decision Memorandum, Washington, 20 March 1970, Subject Files, Box 363, National Security Decision Memoranda, NSC Files, Nos. 1–50, Nixon Presidential Materials, National Archives, College Park, Maryland, USA. To Seoul, March 25, transmitted a summary of this NSDM. (Ibid., Box 541, Country Files, Far East, Korea, Vol. II, 10/69–5/70).

- National Security Decision Memorandum 17, Washington, 26 June 1969. NSDM Files, NSDM 17, Box H-210, NSC Institutional Files (H-Files), NSC Files, Nixon Presidential Materials, National Archives, College Park, Maryland, USA.
- NIE 100-4-60, "Likelihood and Consequences of the Development of Nuclear Capabilities by Additional Countries," 9 September 1960, in "National Intelligence Estimates of the Nuclear Proliferation Problem," NSA, EBB, no. 155, doc. 5.
- Notes of the President's Meeting with the Joint Chiefs of Staff. Washington, 29 January 1968, 1:04–1:40 pm, Tom Johnson's Notes of Meetings, Pueblo, VIII. Top Secret. Drafted by Tom Johnson, LBJ Library, Austin, Texas.
- Telegram From the Embassy in France to the Department of State, 4 January 1963, Kennedy Administration, FRUS, 1961–1963, vol. 13, doc. 263.
- "Transcript of Eisenhower's News Conference on Domestic and Foreign Matters," New York Times, 4 February 1960, 12.

Chapter 4

The Rise and Downfall of Gaullism and France's Nuclear Deals with Third World States, 1945–1974



The Nixon and Ford Administrations of the U.S. sought France's cooperation in its effort to control the supply chain of sensitive nuclear technologies. Washington was willing to provide what Paris required for its national security and economic development if Paris accepted the terms and conditions of non-proliferation under U.S. control. Although the Kennedy and Johnson Administrations failed to obtain Charles de Gaulle's cooperation for a global non-proliferation effort, the Nixon–Ford Administration succeeded in bringing de Gaulle's successors to the negotiation table to discuss policy change in France. The changes in Washington's policy toward Paris appeared to be a good opportunity according to the new French leaders, President Georges Jean Raymond Pompidou and Giscard d'Estaing, who sought a new impetus for France's defense and economic development. France's stance, however, was complicated. The two successors of de Gaulle: Pompidou and then d'Estaing, had to handle the challenges of the Gaullists, who had led nuclear technology development and its exports, while trying to receive nuclear technology support from the U.S. In fact, while the Republic of Korea (ROK) was seeking the path for nuclear armament with Gaullist assistance, these two French leaders were striving to receive nuclear technology assistance from the U.S. Interestingly, the ROK–France negotiations were held at a time when the two nations were separately negotiating with the U.S. As the U.S. was not allowing the ROK to secure reprocessing technologies and facilities to avoid the possibility of weapons development, France's provision of reprocessing facilities to the ROK could have undermined France–U.S. relations. In this sense, France seems to have acted inconsistently. On the one hand, it endeavored to obtain nuclear technology from the U.S. and, on the other hand, negotiated nuclear technology transfers with countries controlled by the U.S., such as the ROK, Pakistan, and Iran, for potential proliferation. However, a closer look into the process of diversion in France's nuclear policy at the time clarifies France's actions.

There was a significant diversion in the policymaking process and changes in the key actors related to France's nuclear policy in the late 1960s. Commissariat à l'Énergie Atomique (The French Atomic Energy Commission [CEA]) promoted the export of nuclear devices and technology for securing economic resources for

further development of nuclear power in the context of technonationalism (*nationalisme technique*)—an extension of Gaullism.¹ However, technonationalism under nuclear power failed to address the issue of efficiency of energy generation using its indigenous reactor system: the Uranium Naturel Graphite Gaz (graphite-moderated gas-cooled reactor model [UNGG]).² After deciding to replace the UNGG with U.S. light-water reactor in 1969, the Pompidou government entered nuclear technology negotiations with the U.S. After the sudden demise of Pompidou in 1974, d'Estaing continued to talk with the U.S. concerning the new direction of French nuclear strategy and attempted to curb the dauntless Gaullists. The Gaullist technocrats were, however, not yet under the complete control of d'Estaing. The CEA and other bureaucratic agencies continued to work with considerable autonomy in exporting France's nuclear technologies and devices to secure economic resources for the further development of nuclear capabilities.

As Pouponneau and Mérand explain, in the form of checks and balances, the decision-making power related to the French nuclear export policy was shared among the political actors in the executive, legislative, and bureaucratic arms of the government, including experts in certain fields, that is, technocrats. The two post-de Gaulle leaders clearly perceived the structural limits of the Gaullist nuclear policy. It was inefficient in the civil energy field, and there was scant development of sophisticated nuclear weapons delivery platforms, such as intercontinental ballistic missiles, mainly because of conflict with leading nuclear weapon states: the U.S. and the Soviet Union. In this sense, they considered that France should join the multinational non-proliferation regimes, led by the U.S. and Soviet Union, to secure the impetus for further development of nuclear power beyond de Gaulle's legacy. For them, the Gaullist approach—building bilateral commercial relations with Third World states by supplying sensitive nuclear technologies and raw materials—was outdated and even endangered France. However, the technocrats who led the initial nuclear program—and had already experienced U.S. opposition in the 1950s—considered the global non-proliferation regimes: the Non-Proliferation Treaty (NPT), International Atomic Energy Agency (IAEA), and Nuclear Suppliers Group, were threats to the national interest of France, undermining and limiting French autonomy and influence over the Third World. As the CEA enjoyed autonomy in nuclear sales and cooperation with other states, the political leaders were unable to control it directly.³ Moreover, politicians were subject to public opinion and could exercise their powers only during their tenure and under fixed terms and conditions approved by the Constitution. Despite the departure of de Gaulle, the legislature was dominated by the Gaullists and supported the idea of the CEA that proliferation did not bother France, but it bothered the U.S. and Soviet Union. The Gaullists' approach toward Third World states intensified U.S. fear of nuclear proliferation.⁴

¹ Juan et al. (2015, 190–191).

² Finon (2009, 188).

³ Pouponneau and Mérand (2017, 126–127).

⁴ Embassy of the United States in Moscow, “Nuclear Safeguards Consultations First Plenary Session, Message Number One,” 1974MOSCOW16050, October 22, 1974; State Department,

For the two successors of de Gaulle—especially the first non-Gaullist president: d’Estaing—it was difficult to redirect France’s Third World and nuclear approaches without the support from the Parliament and bureaucrats. Since the Fourth Republic, the CEA and Ministry of Foreign Affairs have worked on their deals with Israel, Iran, Pakistan, and the ROK. Additionally, the Gaullists believed that France could gain strategic benefits and/or secure economic interests for further development of its indigenous nuclear power. They did not consider that the exclusive position of France in the Third World and nuclear industry would be undermined if it joined the non-proliferation regime under the U.S. and Soviet Union.⁵ Against this backdrop, the Pompidou and Giscard governments sought to secure American cooperation to assure the legislative and bureaucratic agencies that France required a new approach to national defense other than exporting sensitive nuclear technologies to states with nuclear ambition. In this chapter, we discuss how and why France approached the Third World states, which already had a nuclear partnership with the U.S. Additionally, this chapter explains why and how France practiced an ambivalent approach: applying the non-proliferation rule without official participation to the global proliferation regime. Finally, it shows how this approach affected the ROK–French negotiations, starting from 1972.

Rise of Technonationalism in Post-war France and Turmoil in the U.S.–France Relations

Ever since Henri Becquerel discovered radioactivity in 1896, France had developed nuclear science and industry until its occupation by Nazi Germany. During World War II, a group of French scientists joined the Manhattan Project. Following the atomic bombing of Nagasaki and Hiroshima in August 1945, the Chairman of the Provisional Government of the French Republic: Charles de Gaulle, decided to develop an indigenous nuclear program for post-War security and economic reconstruction. In this respect, France sought cooperation from its wartime allies: the U.S., UK, and Canada. However, despite its contribution to the Manhattan Project, France was not allowed to share its benefits. The passing of the McMahon Act in 1946, UK’s and Soviet Union’s nuclear tests, and the U.S. pressure on France and the UK during the Suez Crisis further stimulated France’s nationalistic idea for its independent nuclear program.⁶ The sentiment of nationalism in relation to

“France and Nonproliferation,” 1974STATE200307, September 12, 1974; “Briefing Memorandum—French Views on Common Supplier Nuclear Export Policies,” 1975STATE057494, March 14, 1975 (AAD), cited from Pouponneau and Mérand (2017, 127).

⁵ Rabinowitz and Sarkar (2018, 286).

⁶ The McMahon Act of 1946 stipulated that the U.S. should share nuclear technology with other countries, whether for weapons or peaceful.

technologies for national defense accelerated the growth of technocrats in the organizations established for the nuclear program in 1945.⁷ Among these organizations, the CEA, Centre National de la Recherche Scientifique (the French National Centre for Scientific Research [CNRS]), and Electricité de France (Electricity of France [EDF]) played crucial roles in French nuclear development.⁸ The technocrats in these organizations designed and developed France's nuclear program foundation. In 1948, the Zoé reactor—the first research reactor of the CEA—was activated.⁹ In 1956, France extracted plutonium from G1—the first graphite-moderated gas-cooled reactor model—and detonated an atomic bomb in Algeria in 1960 (Gerboise Bleue: Blue Jerboa) despite U.S. resistance.¹⁰

As explained above, the French nuclear program was developed through a series of national crises under both international and domestic pressures. The rise of U.S. hegemony over Europe, the nuclear armament of rivals, and the U.S. and British opposition to France's nuclear weapons program undermined the alliance relations and induced France to seek the path of nuclear independence for deterrence and economic development. Technonationalism of post-War France was the very foundation of this national goal. As de Gaulle, elected as the President of the Fifth Republic of France in 1958, resisted the U.S. influence on Europe, this nationalistic idea was strengthened. Under his leadership, France rapidly developed its nuclear weapons program and doctrine, designed for the protection of France from the nuclear threat from the Soviet Union and/or other potential enemies without U.S. assistance. This so-called *force de frappe* reassured France's determination for self-reliance and resistance to foreign influence over Western Europe.¹¹ Additionally, as discussed in Chap. 3, his resolve was confirmed by his rejection of Kennedy's offer of assistance for advanced weapons technologies in exchange for the Multilateral Force (MLF) initiative.

The Impact of Changes in Domestic Politics and Franco–U.S. Strategic Nuclear Talks on France's Nuclear Export Policy

France increasingly faced the limits of technonationalism. Owing to the U.S.–France split and Soviet Union's threat in Europe, France was isolated in the international community of nuclear power states. As discussed in the previous chapter, France's *force de frappe* increasingly aggravated the foundation of the U.S. and North Atlantic Treaty Organization (NATO) deterrence, the “Flexible Response,” and undermined the ground of the potential Washington–Paris nuclear partnership. This implies that Paris had to develop more sophisticated technologies to match Soviet Union's nuclear threat without U.S. assistance.

⁷ Moon (2017, 95–97).

⁸ CEA (1952, 7–8).

⁹ Malleuvre (2007, 17).

¹⁰ Lovérini (1996, 41–42).

¹¹ Gunston (1973, 104).

Moreover, because the early nuclear program was designed for nuclear weapons production, the development of civil energy schemes was slow and inefficient.¹² France sought solutions for this structural limit, one of which was additional funding for further development of its nuclear program through commercial activities in the global nuclear industry. Technically, France had already recognized the strategic and commercial value of its nuclear technologies in the global nuclear market. As Binyamin Pinkus and Moshe Tlamim explain, even the early stage of the French nuclear program in the Fourth Republic was based on international exchanges: France benefitted from Israel's expertise in nuclear science and commercial interests through France–Israel nuclear cooperation.¹³ The Fifth Republic, especially the de Gaulle government, extended its market search and found potential buyers for its merchandise: the Third World states, which were dissatisfied with the nuclear assistance under the idea of "Atoms for Peace" from Washington after Dwight Eisenhower left the White House.

Critical of the U.S. stance of dominating and monopolizing the international nuclear order along with the Soviet Union, France identified states that shared its nuclear ideology. Similar to France, the national intention for deterrence and self-reliance developed in the states that felt threatened by others. The U.S. offer of nuclear assistance based on "Atoms for Peace" was considered the first and decisive step toward becoming a nuclear weapons power. Ironically, their entrance to the arena of nuclear development via "Atoms for Peace" was an entrapment in the framework of non-proliferation. With U.S. assistance, these states rapidly learned the mechanism of nuclear science and were able to launch their respective nuclear programs for peaceful purposes. However, they were never satisfied with "these generous offers" from the U.S., which did not provide a solution for their security concerns. As the U.S. stipulated its control over the entire nuclear fuel cycle of recipient states in the bilateral agreement for nuclear assistance, these states recognized their inability to acquire independent nuclear arsenals with U.S. aid. However, the development of their nuclear science and technology increasingly induced their desire for indigenous nuclear weapons programs; local scientists and technocrats acquired knowledge about the technologies, fissile materials, and facilities required for an indigenous nuclear weapons program that the U.S. did not control.¹⁴ It is noteworthy that many of these states chose France as a new partner for their national goal.

However, the downfall of the Gaullists after de Gaulle's departure from the French government increasingly changed the nature of French nuclear export policy toward the Third World states. Under the leadership of Pompidou and d'Estaing, France sought commercial benefits from nuclear export but attempted to conform to the non-proliferation order under U.S. rule. However, concurrently, they needed to persuade the Gaullists, who were supported by the conservative French, who believed that

¹² France failed to secure an appropriate level of electricity generation with its indigenous graphite-moderated gas-cooled reactor model in the late 1960s. See Finon (2009, 188).

¹³ Pinkus and Tlamim (2002, 104–138).

¹⁴ Fuhrmann (2012, 51–54).

France should take an independent path to nuclear deterrence. For instance, Jacques Chirac, Prime Minister in the d'Estaing government, attempted to maintain the Gaullist approach toward Third World customers, who sought the transfer of sensitive nuclear technologies from France. The resistance from Gaullists delayed Pompidou and d'Estaing's active cooperation with the U.S. Despite d'Estaing's idea about non-proliferation, they had a hard time stopping the CEA and other nuclear agencies from making deals with their Third World customers. A few deals between the CEA and its customers were deemed to be maintained for the national interest of France, such as petroleum and natural gas (strategic resources). The new leadership of France, therefore, attempted to secure U.S. guarantees of nuclear assistance to enhance its nuclear deterrence capabilities, which would have overwhelmed its political opponents.

The France–U.S. Strategic Nuclear Talks (1969–1974)

The transformation of the structure and nature of the Cold War impacted the U.S. efforts to build a global non-proliferation regime. While being struck with domestic and international crises, the U.S. was challenged by its allies, including France, and dealt with the emergence of newly independent states. To better deal with the changing international order after the mid-1960s, the U.S. began to amend its conventional Cold War policies, further complicating the non-proliferation process. Eventually, the responses of various participants of the Cold War to the changing international relations created both opportunities and risks for the U.S. to establish a non-proliferation regime. While U.S.–France relations began to improve, Third World countries such as the ROK, Iran, and Pakistan attempted to develop nuclear weapons with French support, which further complicated matters for the U.S.

President Nixon, who assumed office in January 1969, waived the conventional strategy of strong and proactive determent of the spread of Communism through the direct deployment of the U.S. military by reducing direct deployment and drawing upon the strategic assets of U.S. allies. In the Asia–Pacific region, Nixon reduced military support for U.S. allies, especially for the ROK and South Vietnam. Although this policy could have weakened its influence in the region, the U.S. was able to sustain the balance of military power by amending relations with China.¹⁵ Such changes in strategy, however, locked in with the U.S. policies in other regions and—as we discuss below—ultimately impacted the expansion of the non-proliferation regime. In Europe, the U.S. attempted to strengthen the military applicability of NATO as part of its new Cold War strategy to fully engage its allies. One of the significant countries to engage was France, which had been challenging U.S. leadership. The primary purpose of the shift in U.S. policy toward France was to improve France's nuclear

¹⁵ Regarding the background and process of decision-making in the Nixon Administration, see “Minutes of the Senior Review Group Meeting, Washington, May 15, 1969, 2:10–3:55 pm,” SRG Minutes, Originals, 1969, Box H-111, NSC Institutional Files (H-Files), NSC Files, Nixon Presidential Materials, US National Archives and Records Administration (NARA).

capabilities to deter Soviet Union's control over Europe. Equally significant was the narrowing of the difference of opinion regarding international nuclear proliferation between the U.S. and France.

In this context, opportunities were growing in the U.S.–France relationship. Nixon's new Cold War policy opened a channel to ease the tensions between the two countries. As French nuclear power became increasingly crucial for the U.S., the difference in strategies toward European security between the U.S. and France narrowed, thus creating the possibility for nuclear technological cooperation between them.¹⁶ Pompidou shifted his predecessor's ambitious policy of placing France at the center of Europe to a more flexible, pragmatic approach to national interests, which created more space for U.S.–France negotiations. Most importantly, Pompidou aimed to reduce the cost of nuclear development while maintaining the objective of nuclear technology cooperation with the U.S. and the UK. France, in turn, shifted its policy focus from West–East reconciliation to nuclear cooperation with its two allies and attempted to amend its relations with NATO.¹⁷ A U.S. State Department document drafted in the early 1970s reported that although there was little possibility of France rejoining NATO, it was willing to improve relations with the U.S. and NATO and that the French military had suggested detailed strategies for that to President Pompidou.¹⁸

After the Nixon Administration expressed its willingness to revitalize U.S.–France relations, which had remained cold during the Johnson–de Gaulle era, Pompidou began redesigning the French nuclear policy. For the French leader, the prospect of utilizing U.S. technologies was a simple solution for an immediate issue: the accumulated inefficiency of the country's independent nuclear weapons program. For instance, Pompidou decided to replace the gas graphite reactors that de Gaulle's Administration had independently developed under *technological nationalism* with pressurized-water reactors using U.S. technology. Gas reactors, although efficient for plutonium production required for nuclear warheads, are not easily commercialized. Additionally, the melting of a fuel rod at the Saint Laurent Nuclear Power Plant 1 in October 1969 raised questions about the plant's safety.¹⁹ Furthermore, by introducing pressurized-water reactors, France could improve its relations with the U.S. and expect nuclear technological support, including mid- and long-range ballistic missiles to deter Soviet Union's nuclear threats. In February 1970, the U.S. and French leaders discussed technological assistance in such fields as conventional weapons projects, sale of computers, and sharing of missile and nuclear-related technologies, as well as potential coordination of the *force de dissuasion* with U.S. nuclear forces.²⁰

¹⁶ Trachtenberg (2011, 4–9).

¹⁷ Kohl (2015, 371–382).

¹⁸ Helmut Sonnenfeldt to Mr. Kissinger, Revised Version of Talking Points for 23 February 1970, Meeting of NSC on France; Revised Analytical Summary of the Review Group Paper, White House Memorandum, 21 February 1970 (Washington D.C., Digital National Security Archive [DNSA]).

¹⁹ Laminat (1998, 118–119).

²⁰ Burr (2011). <https://www.wilsoncenter.org/publication/us-secret-assistance-to-the-french-nuclear-program-1969-1975-fourth-country-to-strategic>. Accessed May 20, 2019.

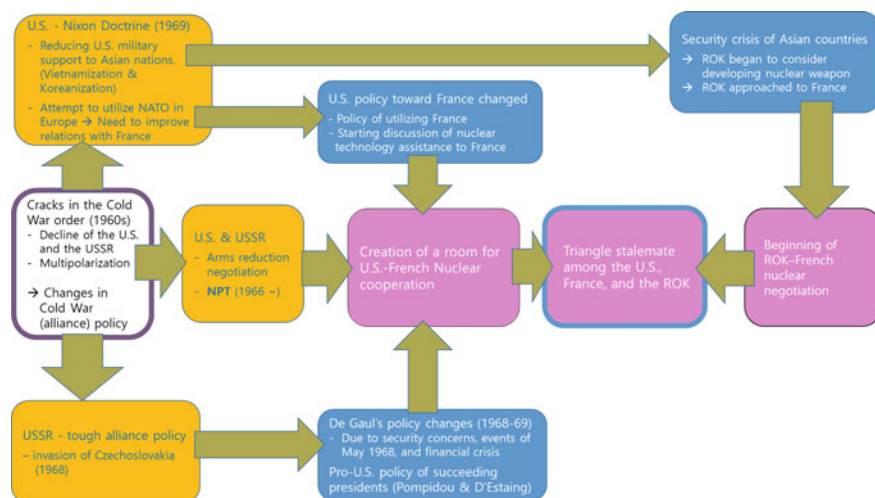


Fig. 4.1 Contexts of the U.S.–French nuclear cooperation

The French government kept pressuring the U.S., and in March 1973, the U.S. promised to provide a series of missile-related technologies to France. Pompidou took it a step further and suggested, at a May 1973 meeting with Nixon and Kissinger in Reykjavik, Iceland, that they also start discussing nuclear weapons technology.²¹ Accordingly, Pompidou sent the Minister of Armed Forces, Robert Galley, to the U.S. for a private meeting with Kissinger and Schlesinger—the newly appointed Secretary of Defense—to seek nuclear weapons technology more enthusiastically, including the *Poseidon* technology.²² However, as explained in Chap. 3, the two sides failed to reach a consensus because of their respective domestic problems (Fig. 4.1).

In short, as the negotiation with the U.S. neither started in the earlier period nor concluded within a short time, they failed to curb the Gaullists completely until 1976. Consequently, the French attitude toward non-proliferation and U.S. hegemony became inconsistent and ambivalent until they concluded the agreement in 1976. For instance, as Kibaroglu argued, France under Pompidou and d’Estaing was neither a participant of the NPT nor a signed member of the treaty. Still, the CEA and several engineering companies in the nuclear industry, such as Saint Gobain, actively engaged with potential customers in the Third World for sales of sensitive nuclear technologies. However, it pushed the recipient states to observe the rules of the NPT and IAEA as if they were an NPT member.²³ This might have been due to the ongoing negotiations between Paris and Washington. France’s approach toward Pakistan, Iran,

²¹ Ibid.

²² The White House, “Memorandum of Conversation with Robert Galley, Henry A. Kissinger, James Schlesinger, Vernon Walters, Brent Scowcroft, Helmut Sonnenfeldt Kathleen A. Ryan, 27 July 1973.” *Wilson Center Digital Archive*. <https://digitalarchive.wilsoncenter.org/document/113223>. Accessed June 18, 2019.

²³ Pouponneau and Mérand (2017, 126).

and the ROK in the 1970s elucidates its ambivalent and inconsistent nuclear export policy. Additionally, it is noteworthy that the deal between France and the ROK on the reprocessing facilities was cancelled in a short run compared to other cases. We discuss the France–Pakistan and France–Iran cases first to explain how and why the French elites did not make quick decisions on these cases vis-à-vis the ROK case. Thereafter, we introduce France’s entrance to the negotiations with the ROK and the structural problems of the France–ROK nuclear deal in 1974 from the perspective of French elites.

France–Pakistan Nuclear Cooperation and Deal for the Nuclear Reprocessing Plant (RPP)

Embroided in a nationalistic conflict with India, the Pakistani leadership has developed military measures for deterrence since the late 1940s. As Dar argued, in the early stage of international conflict with New Delhi, Islamabad focused on conventional military capabilities—until the detonation of an Indian nuclear device under project *Smiling Buddha*. Pakistan quickly joined the “Atoms for Peace” program and launched its nuclear research project under an independent governmental agency: the Pakistan Atomic Energy Commission (PAEC), in 1956.²⁴ Similar to other participants of the “Atoms for Peace” program, Pakistan was well aware of the potential of nuclear power and the benefits of U.S. aid. However, the case of Pakistan is one of the earliest cases that show how and why France could have secured its strategic position and market share in the global nuclear industry by supplying what the U.S. did not.

In the early 1960s, Pakistan identified a significant source for the development of its nuclear technologies: France. In 1962, the PAEC and CEA signed the Franco–Pakistan Atomic Accord that allowed the exchange of technologies, materials, and training of Pakistani researchers in France. Additional agreements for their partnership for nuclear and related sciences were signed during the 1960s.²⁵ However, these agreements do not suggest that Pakistan intended to avoid U.S. checks and develop a nuclear arsenal via French assistance because it rejected Paris’s offer of setting up a reprocessing plant at the end of the 1960s.²⁶ Prior to the Indian nuclear threat in the 1970s, Pakistan was unwilling to resist the non-proliferation order led by the U.S. Considering the diversity of methods for acquiring nuclear power and international competition in the nuclear reactor market, Pakistan might have sought more efficient and economic models for its nuclear energy program by signing nuclear agreements with various states. Therefore, the 1960s partnership between Islamabad and Paris did not directly lead Pakistan down the proliferation route. However, this also implies

²⁴ Dar (2015, 215).

²⁵ Ibid.

²⁶ Rehman (1999, 31).

that the U.S. prevented Pakistan's nuclear proliferation using its economic and military aid, which was inconsistent in terms of the policy orientation and priority of U.S. leaders.

After the India–China War of 1962, U.S. aid for India increased, which bolstered Pakistan's intentions for a French-backed independent nuclear program.²⁷ Simply put, the U.S. increasingly lost its influence over Pakistan in terms of non-proliferation. Additionally, as soon as Islamabad realized U.S.'s unwillingness to prioritize it above New Delhi, it redirected its nuclear program. As the completion of the Indian nuclear weapon was close in the early 1970s, Pakistan, under the new leadership of Z. A. Bhutto, attempted to revive the RPP deal with France. In 1974, the Bhutto government signed a contract with France for the construction of a reprocessing plant but continued negotiation before completing the contract in 1976. France stopped its assistance to Pakistan's reprocessing plant in Chashma in 1978.²⁸

France–Iran Nuclear Cooperation Agreement (1974)

Oil prices became a major variable in the 1970s world economy. French concerns regarding its energy security impacted its nuclear business with major oil exporters of the Middle East. Among those exporters, a few were concerned about their national defense and were willing to exchange oil with nuclear power to secure the potential for nuclear armament. Iran was a major client of France with such a concern, and the CEA began negotiations for the construction of nuclear power plants and a uranium-reprocessing laboratory with Iran in 1974. The U.S. questioned the deals between France and Iran because it seemingly lacked the intention of using nuclear energy for civil purposes. However, the CEA resisted the pressure from its government, given the strategic significance of the Middle East.²⁹ In contrast to the contracts with Pakistan and the ROK, the deals with Iran lasted for decades.

In 1957, Iran joined the “Atoms for Peace” program by signing the Agreement for Cooperation Concerning Civil Uses of Atoms.³⁰ Similar to Pakistan, Iran under Shah Mohammad Reza Pahlavi did not rely exclusively on the U.S. for its nuclear development; it continued to develop its nuclear energy program with U.S. assistance and as well as with its commercial network with Western European states such as France and Germany until the Iranian Revolution in 1979. Although the ROK and Pakistan revealed their intentions for nuclear armament—albeit cautiously—Iran

²⁷ Miller (2018, 195–196).

²⁸ Dar (2015, 217).

²⁹ Présidence de la République, chef de l'Etat-Major particulier, “Echanges franco-américains sur les armements stratégiques,” December 5, 1974, 2 (AN 5AG3/982), cited from Pouponneau and Mérand (2017, 127).

³⁰ The U.S. Department of State, “Atoms for Peace Agreement with Iran,” Department of State Bulletin, No. 36, April 15, 1957.

under Shah actively disavowed its nuclear weapons program.³¹ However, even before the Revolution, Tehran emphasized its right to fully control the fuel cycle, including uranium enrichment and spent-fuel reprocessing.

Given the geopolitical significance of its location and oil reserves, Iran enjoyed active U.S. assistance in the face of the Communist threat before 1979. Despite Iran's immense dependence on the U.S., the fluctuation in U.S. resolve to save Shah from both foreign and domestic threats haunted him. As Miller argues, similar to other U.S. allies with security concerns, Iran repeatedly probed the U.S. determination to punish proliferators. It also attempted to develop its military nuclear capabilities as long as the U.S. evinced tolerance.³² Although Shah received considerable U.S. aid during the 1950s, the Kennedy and Johnson Administrations in the 1960s slowed down military assistance to Shah, which prompted his intention for nuclear armament.³³ Therefore, during the Nixon era, while continuing to negotiate with Washington for securing uranium enrichment and reprocessing technologies, Tehran also searched for other sources, such as the Western European states, some of whom had already secured the full-fledged fuel cycle. Iran secured a 10% share in Eurodif: a joint-venture uranium enrichment program between France, Belgium, Spain, and Italy.³⁴

In 1974, Iran and France signed a nuclear cooperation agreement including the construction of reprocessing laboratory—clearly, Iran had diversified its sources of nuclear development thanks to its strategic position.³⁵ Iran secured the technological foundation for both the front- and rear-ends of the fuel cycle with France's assistance. Regarding this approach, Shah, in an interview with a French journalist, revealed his intention to secure the fuel cycle for potential military purposes; he later denied making this comment.³⁶ It seems he did not intend to antagonize Washington but needed to obtain nuclear leverage to ensure Washington's resolve to work for his survival. Yet, regardless of his real intentions, his actions signaled proliferation in Iran. The question, however, was why and how French leaders did not apply their approach of non-proliferation in Iran's case as they did elsewhere.

In contrast to the deals with other states, Pompidou and d'Estaing could not curb the Gaullists' approach toward Iran—a major oil supplier—after the French economy suffered from 1973 the oil crisis. In this context, the CEA—charged with negotiations with Iran—resisted internal political pressure regarding the terms and conditions of nuclear assistance to Iran. Unlike Pakistan and the ROK cases, deals with Iran

³¹ For instance, "Waiting for the Iranians to 'Put All their Cards on the Table'". U.S. Embassy Tehran cable 5397 to State Department, "Audience with Shah," June 20, 1977, Confidential, National Security Archive. <https://nsarchive2.gwu.edu/nukevault/ebb268/doc30.pdf>. Accessed on July 8, 2022.

³² Miller (2018, 220).

³³ Barnaby (2016, 114).

³⁴ Ibid., 114–117.

³⁵ Kibaroglu (2007, 232).

³⁶ U.S. Embassy Paris cable 15,305 to Department of State, "Interview with Shah," June 24, 1974, in "The Iranian Nuclear Program, 1974–1978," NSA, EBB, no. 268, doc 1A, cited from Miller (2018, 219).

survived until 1981.³⁷ Iran's case clearly demonstrates that the Gaullists' approach toward the export of sensitive nuclear technologies was compatible with that of the non-Gaullist leadership, which aimed to adopt the multilateral non-proliferation rule. However, if there were no such significant variables, the CEA would have been regulated by the executive and hence, unable to fulfill its contractual commitments to client states.

France–ROK Reprocessing and Ballistic Missile Deal (1974)

The ROK elites and technocrats were cognizant of the fact that they could not control the entire fuel cycle as long as they remained within the framework of U.S. nuclear assistance. As discussed in Chap. 2, this structural limitation of the ROK–U.S. nuclear agreement was not a serious issue before the Nixon Administration withdrew some U.S. forces from the ROK. Accordingly, the Park Chung Hee regime redesigned its nuclear program to develop it as a deterrence force to compensate for the potential absence of American forces. The ROK sought a new partner to circumvent U.S. regulations on its nuclear program and partnered with France, which offered to sell what the U.S. refused to provide to the ROK.

However, for CEA officials, negotiating with the ROK was much more difficult compared to Pakistan and Iran. For example, France's history of nuclear assistance to Pakistan made their negotiations easier. Pakistan initiated several projects with France under de Gaulle's leadership in the early 1960s. Accordingly, France trained Pakistani students and scientists, who later formed the core of Pakistan's nuclear program; the Paris–Islamabad association continued for decades.³⁸ Despite the antagonism of post-de Gaulle leaders toward nuclear aspirants in the Third World, the French elites considered that they should maintain de Gaulle's legacy in Third World relations—a potential source of economic benefits. Additionally, Paris was also reluctant to cancel the deal for sensitive technologies with Pakistan because of “sunken cost.” The training of Pakistani scientists in France was not free, and France had incurred considerable expenditure on nuclear projects in Pakistan.³⁹ Therefore, despite pressure from d’Estaing and the U.S., the CEA took a long time to stop its nuclear support for Pakistan because of such sunken costs.

On the other hand, the CEA had difficulty persuading its governments regarding how and why France should sell sensitive nuclear technologies and facilities to the ROK. First and foremost, the ROK had few partnerships with France in the scientific sector—especially nuclear science—until the early 1970s, when the French leadership attempted to curb the CEA. Since 1961, when Park assumed power in the ROK, Seoul had abandoned its nuclear weapons program and emphasized relations with the U.S., whose support for the Park Administration was crucial. The ROK's nuclear

³⁷ Pouponneau and Mérand (2017, 128).

³⁸ Dar (2015, 215).

³⁹ Ibid., 228–229.

program, thus, lacked diversity, as it relied exclusively on the U.S. for technology and engineering assistance. The Park government launched its first reactor program solely for electricity generation, which signifies its lack of interest in France's nuclear expertise. The ROK did not dispatch its team for the selection of a reactor model to France in 1966 when a group of ROK scientists and engineers visited the U.S., the UK, Japan, Canada, Italy, Spain, India, and the Philippines to survey nuclear reactor projects.⁴⁰ The country adopted the U.S. light-water reactor system, which led to the tight control of the U.S. over the nuclear fuel cycle. Perceiving the possibility of abandonment from Washington, Seoul initiated a clandestine nuclear program and contacted the CEA in the early 1970s, but by that time, the CEA's autonomy was significantly curtailed by the government. The absence of any transaction history between the ROK and France left the CEA to design the contract with the ROK on a zero base, which made it difficult to convince the French politicians as to why France needed to discuss the sale of sensitive technologies to the ROK, at the risk of antagonizing the U.S.

Moreover, from the perspective of France, the ROK deal did not have strategic merits vis-à-vis that of other states. For instance, in contrast to Iran, the ROK did not have any lucrative resources, such as petroleum, which could have shielded the CEA from political pressure. The ROK's geopolitical significance factor did not appeal to the French leadership, either; after losing its influence in Indochina and control over the Suez Canal in the 1950s, East Asia was no longer a core area for French diplomacy. Moreover, the ROK was neither a leading industrial state nor a significant trading partner of France. Official ROK documents reveal that the country attempted to pay for French assistance in the construction of reprocessing facilities and technologies with a long-term loan from France—this was not preferable to Paris.⁴¹ Thus, the CEA exercised considerable caution when negotiating with the ROK's Ministry of Science and Technology.

Additionally, there was an unfavorable factor in the ROK–France exchange: the former was unwilling to import France's nuclear technology. As discussed in Chap. 2, the ROK's Ministry of Science and Technology approached the CEA for the purchase of raw materials, fuel processing, and reprocessing technologies in 1972. However, no contract or official agreement was signed until 1974, mainly because of the ROK's hesitancy regarding plutonium reprocessing and the CEA's cautious approach. The ROK still did not launch its nuclear energy program for civil purposes and remained dependent on the U.S. for its nuclear energy program. Without the supply of enriched uranium and reactors for its civil energy program, the country could not realize its nuclear weapons program.

The deadlock began to ease in 1974 because of the changes in the U.S.–ROK and the ROK–France relations. After the 1972 ROK–U.S. Nuclear Cooperation Agreement was amended, the ROK could secure a significant amount of enriched uranium, enabling it to use it as fuel for pressurized-water reactors and extract plutonium

⁴⁰ The ROK Bureau of Nuclear Energy (1967, 453).

⁴¹ "Interim Agreement between KAERI and SGN on 12 April 1975," Hyeong Seob Choi Archive.

through reprocessing.⁴² This enhanced the significance of negotiations on reprocessing facilities between France and the ROK. Meanwhile, as the implementation of strategic nuclear assistance from the Nixon and Ford Administrations to France was delayed, France felt the need to urge the U.S. to fulfill its promises. In 1974, the CEA began nuclear support talks with the ROK Ministry of Science and Technology, which had been delayed by the U.S. Giscard d'Estaing, who assumed office on May 27, 1974—after Pompidou's sudden demise on April 2, 1974—further emphasized the cooperation with the U.S. through nuclear diplomacy.

The successful nuclear test by India in May 1974 severely impacted other nuclear aspirants and the CEA. The U.S. carefully followed the ongoing ROK–France nuclear cooperation talks because it could serve as a potential threat to its nuclear control over its Third World allies. The CEA adopted the strategy of gradually continuing its negotiations with the ROK while watching the U.S. response. Moreover, changes in the NATO–France relations—a significant issue in the U.S.–France negotiations—were not coincidental. The Valentin–Ferber Agreement, which brought France closer to NATO, was signed in July 1974, creating an opportunity for expanded bilateral cooperation.⁴³ Accordingly, France was more deeply interlinked with the U.S.-led European security system, and the U.S. had a basis to leverage negotiations more actively with France.

However, there was a glimpse of hope for the CEA and the ROK as well. Even though the executive under Pompidou and d'Estaing rallied for revitalizing the France–U.S. relations and reconsidering its nuclear policy, the idea did not gather nationwide support. The legislative was still dominated by the Gaullists, and then Prime Minister Jacques Chirac, who represented the French Congress, supported the active nuclear export policy.⁴⁴ In fact, the management of the nuclear industry itself was under the authority of the Prime Minister. Despite pressure from the Presidents, the CEA did not abandon its Gaullist tradition. With this political backdrop, the CEA continued to work on its deals with the ROK, Iran, Pakistan, and other aspirant states regarding the sale of sensitive nuclear technologies, which could secure significant commercial and financial resources for further development of France's indigenous nuclear program.⁴⁵ In this context, despite the split in France's nuclear export policy, the ROK was signaled that it could secure essential technologies—that is, fuel reprocessing for extraction of plutonium—if only it made an agreement with the CEA. In 1974, the ROK and CEA took a cautious step forward, given the instability in French politics. The CEA and ROK attempted to finalize the reprocessing deal in 1975 while responding to the pressure from the d'Estaing and Ford Administrations. The two

⁴² “Interpretation of Clause C of Article 8, Agreement for Civil Uses of Nuclear Energy between ROK and U.S., 1974,” Class No. 8554, Diplomatic Archives of Republic of Korea.

⁴³ Lewis and Tertrais (2015, 12).

⁴⁴ Pouponneau and Mérand (2017, 128).

⁴⁵ Rabinowitz and Sarkar (2018, 275–300).

parties signed the official nuclear cooperation agreement with IAEA's guarantee in September 1975, shocking both d'Estaing and Ford.⁴⁶

The non-proliferation coalition of the d'Estaing and Ford Administrations had to find solutions to sever the connection between the Gaullists and nuclear aspirants in the Third World. After India's successful nuclear test in 1974, the Ford Administration quickly reviewed the progress of nuclear development in the states that received U.S. nuclear assistance and questioned the suspicious actions in the ROK's nuclear diplomacy with Canada and France. Canada, as discussed in Chap. 2, accepted the U.S. idea of non-proliferation and excluded the provision of the Natural Research Experimental (NRX) plant from the contract with the ROK. Along with Ottawa, Washington discussed with Paris its potential nuclear assistance to the ROK. However, it was difficult for d'Estaing to simply follow Washington's directions and terminate the deal with Seoul, as that could have undermined his leadership. If the French president had withdrawn from the deal under U.S. pressure, he would have faced severe political opposition from the Gaullists, who were still active in his government. In this regard, to minimize the political impact of the non-proliferation policy, d'Estaing asked Ford to apply pressure on potential recipient states of French nuclear assistance to unilaterally terminate their contracts.⁴⁷ However, his decision gave a wrong signal to the ROK and CEA that they could finalize the nuclear deal on condition that the ROK did not terminate the contract. Henry Kissinger, then U.S. Secretary of State, not only mounted pressure on the ROK government but also appealed the Park Chung Hee Administration to terminate the contract with the CEA. The ROK government refused to terminate the contract because the assistance from the CEA for reprocessing facilities was not a violation of the NPT. Additionally, d'Estaing had to establish that he had no intention of resisting the multilateral non-proliferation idea and using his action to secure U.S. guarantees of military nuclear assistance to France. Without a significant advancement in France–U.S. relations, there was little chance of stopping proliferation in the Third World, including in the ROK. The U.S. had to find a path for its military nuclear assistance to France, which was prohibited by the 1950s' McMahon Act. Meanwhile, the ROK attempted to introduce reprocessing facilities and missile technologies with CEA support. Thus, in 1975, the U.S., ROK, and France found themselves embroiled in a complex tussle between proliferation and non-proliferation.

⁴⁶ "Agreement between the IAEA-ROK-FR for the Application of Safeguards [Diplomatic Archive of Republic of Korea]," Class No.: 741.61FR.

⁴⁷ Rabinowitz and Sarkar (2018, 286).

References

Secondary Sources

- Barnaby, Frank. 2016. *How Nuclear Weapons Spread: Nuclear-Weapon Proliferation in the 1990s*. London: Routledge.
- Burr, William. 2011. U.S. Secret Assistance to the French Nuclear Program, 1969–1975: From ‘Fourth Country’ to Strategic Partner. Wilson Centre NPIHP Research Updates. <https://www.wilsoncenter.org/publication/us-secret-assistance-to-the-french-nuclear-program-1969-1975-fourth-country-to-strategic>.
- Dar, Humaira. 2015. Franco–Pakistan Nuclear Deal (1976): An Analytical Study. *Journal of Pakistan Vision* 17: 215–257.
- Finon, Dominique. 2009. Force et inertie de la politique nucléaire française: Une co-évolution de la technologie et des institutions. In Alain Bertrand, et al., *Etat et énergie XIXe–XXe siècle*. Comité pour l’Histoire économique et financière de la France.
- Fuhrmann, Matthew. 2012. *Atomic Assistance: How “Atoms for Peace” Programs Cause Nuclear Insecurity*. Cornell University Press.
- Gunston, Bill. 1973. *Bombers of the West*. New York: Charles Scribner’s and Sons.
- Juan, Salvador, Isabelle Grand, and Julien Vignet. (2015). *La technocratie en France: Une nouvelle classedirigeante? Le bord de l’eau*.
- Kıbaroğlu, Mustafa. 2007. Iran’s Nuclear Ambitions from a Historical Perspective and the Attitude of the West. *Middle Eastern Studies* 43: 223–245.
- Kohl, Wilfred L. 2015. *French Nuclear Diplomacy*. Princeton University Press.
- Laminal, Georges. 1998. *Chronique de trente années d’équipement nucléaire Electricité de France, t. 1–2*. Association pour l’Histoire de l’Electricité en France.
- Lewis, Jeffrey, and Bruno Tertrais. 2015. US-French Nuclear Cooperation: Its Past, Present and Future. *Fondation pour la Recherche Strategique* 4: 1–18.
- Lovérini, Marie-José. 1996. *L’Atome de la recherche à l’industrie: le Commissariat à l’Énergie Atomique*. Gallimard.
- Malleuvre, Alain. 2007. *L’histoire de l’énergie nucléaire en France de 1895 à nos jours*. Amis du Vieux, Verneuil.
- Miller, Nicholas. 2018. *Stopping the Bomb: The Sources and Effectiveness of U.S. Nonproliferation Policy*. Cornell University Press.
- Moon, Ji Young. 2017. peurangseuwonjaryeongsaneobuihyeongseonggwaseongjang [Formation and Growth of French Nuclear Power Industry], 1945–1969. *Korean Review of French History* 36: 95–128.
- Pinkus, Binyamin, and Moshe Tlamim. 2002. Atomic Power to Israel’s Rescue: French–Israeli Nuclear Cooperation, 1949–1957. *Israel Studies* 7(1): 104–138.
- Pouponneau, Florent, and Frédéric Mérand. 2017. Diplomatic Practices, Domestic Fields, and the International System: Explaining France’s Shift on Nuclear Nonproliferation. *International Studies Quarterly* 61(1): 123–135.
- Rabinowitz, Or, and Jayita Sarkar. 2018. It isn’t Over Until the Fuel Cell Signs. *Journal of Strategic Studies* 41(2): 275–300.
- Rehman, Shahid Ur. 1999. *Long Road to Chagai*. Islamabad: Print Wise Publication.
- Trachtenberg, Marc. 2011. The French Factor in U.S. Foreign Policy During the Nixon-Pompidou Period, 1969–1974. *Journal of Cold War Studies* 13(1): 4–59.

Primary Sources

Korea

- “Agreement between the IAEA-ROK-FR for the Application of Safeguards,” Class Number: 741.61FR, Diplomatic Archives, the Republic of Korea.
- “Interim Agreement between KAERI and SGN on 12 Apr. 1975,” Hyeong Seob Choi Archive, Jeonbuk National University, Republic of Korea.
- “Interpretation of Clause C of Article 8, Agreement for Civil Uses of Nuclear Energy between ROK and U.S., 1974,” Class No. 8554, Diplomatic Archives, Republic of Korea.
- The ROK Bureau of Nuclear Energy (1967), Feasibility Study Report for Nuclear Power Generation.

U.S. and France

- “Atoms for Peace Agreement with Iran,” Department of State Bulletin, No. 36, 15 April 1957.
- CEA. 1952. Rapport d’activité du CEA du 1er Janvier 1946 au 31 Décembre 1950. *Imprimerie Nationale*.
- “Memorandum of Conversation with Robert Galley, Henry A. Kissinger, James Schlesinger, Vernon Walters, Brent Scowcroft, Helmut Sonnenfeldt Kathleen A. Ryan, 27 July 1973.” The White House, Wilson Center Digital Archive. <https://digitalarchive.wilsoncenter.org/document/113223>. Accessed 18 June 2019.
- “Minutes of the Senior Review Group Meeting, Washington, 15 May 1969, 2:10–3:55 pm,” SRG Minutes, Originals, 1969, Box H–111, NSC Institutional Files (H-Files), NSC Files, Nixon Presidential Materials, National Archives, College Park, Maryland, USA.
- “Revised Version of Talking Points for 23 February 1970, Helmut Sonnenfeldt to Mr. Kissinger, Meeting of NSC on France; Revised Analytical Summary of the Review Group Paper,” White House Memorandum, 21 February 1970, Digital National Security Archive (DNSA).
- “Waiting for the Iranians to ‘Put All their Cards on the Table’,” U.S. Embassy Tehran cable 5397 to State Department, “Audience with Shah,” 20 June 1977, Confidential, National Security Archive. <https://nsarchive2.gwu.edu/nukevault/ebb268/doc30.pdf>. Accessed 8 July 2022.

Chapter 5

The Coexistence of the ROK–France–IAEA Nuclear Cooperation Agreement and the ROK–U.S. Nuclear Cooperation Agreement, 1975



The parallel lines of nuclear politics among Asia, America, and Europe were finally crossed in 1975, and the coalition of non-proliferation (Ford–d’Estaing) came to face the immediate challenge of proliferation triggered by the connection between the Park Chung Hee’s regime and the Gaullists. In 1975, the Republic of Korea (ROK) and the French Atomic Energy Agency (Commissariat à l’énergieatomique et aux énergies alternatives, CEA) made it clear that they would finalize the deal for the supply of reprocessing facilities, technologies, and fissile materials from France to the ROK. First, based on the MOU between the ROK Ministry of Science and Technology and the CEA, signed in 1974, the ROK signed a contract for the supply of technology for reprocessing facilities with Saint Gobain Techniques Nouvelles (SGN), a French engineering firm under the CEA, in April 1975.¹ However, as the ROK ratified the Nuclear Non-Proliferation Treaty (NPT), on April 23, 1975, the MOU became meaningless: all international exchanges of nuclear facilities, technology, and equipment between the ROK and other states—whether an NPT signatory or not—were under the International Atomic Energy Agency’s (IAEA) supervision. The ROK government and the CEA prepared to sign an international agreement for the peaceful uses of nuclear energy with the approval of the IAEA. In September 1975, they signed the Agreement among the IAEA-ROK-FR for the Application of Safeguards.² Undoubtedly, this implied that the reprocessing deal between the ROK Government (ROKG) and CEA did not breach the rule of non-proliferation. In addition, as explained before, reprocessing used fuel supplied from states other than the U.S. was not banned by the U.S.-ROK Nuclear Agreement.

The best—and supposedly sole—solution was to force either side of this contract to cancel it; Washington, however, increasingly lost its legal logic to punish Seoul. Furthermore, neither the ROK government nor the CEA had any intention to cancel

¹ “The MOU Exchanges between the ROK and Republic of France in Paris, October 19, 1974,” 1974, Class No. 741.61 FR, 1973–74, Diplomatic Archives of Republic of Korea.

² “Agreement Between The IAEA-ROK-FR For the Application of Safeguards,” Class No.: 741.61FR, Diplomatic Archive of Republic of Korea.

the contract; more precisely, both argued that they would accept the termination of contract only if their counterpart canceled it first, delaying action to optimize the timing of negotiation with the U.S. The ROKG and CEA needed to keep the contract for their respective political interests. For the Blue House, the contract was a bargaining chip for its new relations with the White House. It was almost clear that the ROK had no intention to break its alliance with the U.S. in exchange for its fledging nuclear weapons program, yet the ROK elites were willing to re-direct the U.S. policy for the Korean Peninsula through the deal with France. The Park regime wanted to obtain a security guarantee—in other words, no more pullout of U.S. forces and tactical nuclear weapons from the ROK and enough economic and military support for the ROK national defense against the North Korean threat, which seemingly intensified after the Saigon fall.

Nevertheless, this was a quite burdensome demand for the White House in the post-Vietnam War mainly because the U.S. Congress rejected to support the Park regime, which imposed an undemocratic rule as in South Vietnam.³ For instance, according to the Solarz-Fraser Amendment, Washington planned the withdrawal of most of its forces in the ROK.⁴ The U.S. Center for Defence Information also advocated the reduction of U.S. support for the ROK:

While the South Koreans have legitimate military needs that should be treated sympathetically, future requests for military aid need to be examined with care. The South Koreans have often understated their own strength and emphasized North Korean strength in order to justify further assistance [...]

Alleged South Korean violations of human rights are a continuing issue and could have a bearing on future military and economic aid to South Korea because of a provision in the Foreign Assistance Act of 1974 and new amendments to the 1975 Military Assistance Authorization Bill passed by House and Senate Committees. The 1974 law directs the President to reduce or terminate military or economic assistance to any government which engages in a consistent pattern of gross violations of internationally recognized human rights violations by advising the Congress that extraordinary circumstances require it [...]⁵

As Seoul demanded more than expected for stopping its fledging nuclear weapons program, Washington started to talk with France. However, the CEA also rejected to cancel the deal by itself: as the deal abided by the IAEA and NPT regulations, it did not need to stop its business.⁶ In fact, the U.S. made a similar argument for

³ “Review of U.S. Policies toward Korea,” Telegram 2807 from Seoul, State Department telegrams to SECSTATE, Korea, Box 11, Presidential Country Files for East Asia and the Pacific, National Security Adviser, Gerald R. Ford Library.

⁴ “Solarz-Fraser Amendment to Withdraw US Troops from South Korea,” December 30, 1975, U.S. Policy toward South Korea, Box 135, Jimmy Carter Papers—Pre-Presidential, 1976 Presidential Campaign Issue Office-Noel Sterret. Clippings-Foreign Issues., Jimmy E. Carter Library & Museum.

⁵ “Korea and U.S. Policy in Asia,” January 1976, U.S. Policy toward South Korea, Box 135, Jimmy Carter Papers—Pre-Presidential, 1976 Presidential Campaign Issue Office-Noel Sterrett. Clippings-Foreign Issues, Jimmy E. Carter Library & Museum.

⁶ “Korean Reprocessing-Next step,” Memorandum for the Secretary of State from the Assistant Secretary of State for East Asian and Pacific Affairs, November 18, 1975, Korea 11, Box 9, Presidential Country Files for East Asia and the Pacific, National Security Adviser, Ford Library.

the CEA contract with Iran for the reprocessing laboratory, which was signed in 1974.⁷ Like the Iran case, the CEA argued that it would be okay for the ROKG to cancel the deal first and hence pay the penalty for it.⁸ This meant that the CEA was not responsible for the proliferation in the ROK with French technologies and facilities because it merely attempted to supply them to the ROK for commercial purposes and was not aware of Seoul's intention. Simply put, Washington had no legal ground to force the CEA to end the contract, and even if it attempted to do so, the nationalistic idea against the U.S. influence would empower the Gaullist in the French government. Furthermore, as already explained above, Washington needed to pay more than necessary if it chose to force Seoul to end the contract, and either option was not welcomed by the White House. However, there was not enough time to consider these options: the Ford Administration needed to break down the stalemate of the ROKG–CEA contract before SGN, under the guidance of the CEA, started to build reprocessing facilities in late 1975. The non-proliferation coalition with d'Estaing based on their talks for strategic nuclear cooperation made a decisive contribution to break down the stalemate by which Ford and d'Estaing minimized the backlash from the Gaullists and the cost for cooling down Park.

In this chapter, we first explain how and why Washington faced the stalemate situation in which it was not able to end the ROKG–CEA contract for reprocessing deals. To be specific, the Ford Administration had a hard time ensuring the security of Seoul in exchange for its fledging nuclear weapons program after Saigon's collapse. Meanwhile, the Gaullists, led by Chirac, shaped a legal framework in which the CEA was not responsible for the proliferation in its client of what it supplied. The ROK–FR–IAEA Nuclear Agreement in the fall of 1975 demonstrates that it was still difficult for Washington to apply the non-proliferation rule even with the multilateral and universal approach of the NPT. Until the end of 1975, Washington did not destroy the ROK–CEA link, which tightly connected the political and legal logics. Then, we explain how the construction of a nuclear partnership between Ford and d'Estaing in 1975 effectively undermined the ROK–CEA coalition. To be specific, the U.S. build-up in the Nuclear Supplier Group, which aimed to control the supply of sensitive materials and technologies for the nuclear fuel cycle, played an important role in providing d'Estaing a logic to prevent the fulfillment of contract between the ROKG and CEA. Despite the domestic resistance, the French president agreed on the general guideline of restraint in exporting sensitive nuclear facilities; simultaneously, he also sought the U.S. response to his cooperation, that is, the technological assistance for the nuclear weapons program in France. Finally, this chapter discusses how the ROK finally canceled the contract with the CEA and entered the negotiation with the U.S. While brawling with the U.S. officials who downplayed its nuclear ambition, the ROKG recognized what it could secure from the end of its indigenous nuclear program and attempted to maximize its political and economic gains in exchange of its fledging nuclear weapons program.

⁷ Présidence de la République, chef de l'Etat-Major particulier, "Echanges franco-américains sur les armements stratégiques," December 5, 1974, 2 (AN 5AG3/982), cited from Pouponneau and Mérand (2017, 127).

⁸ Ibid.

The ROK–U.S. Alliance Dilemma and Nuclear Diplomacy After the Indian Nuclear Test

India's nuclear test in 1974 disrupted the ROK's efforts to develop nuclear weapons. After the test, Washington quickly observed what was going on among its allies and their nuclear actions. As explained in the first chapter, the U.S. started to suspect the ROK's intention behind its nuclear program for peaceful uses: while developing its civil nuclear program with the U.S. aids, fissile materials, and technologies, the ROK also diversified its nuclear program with other states. The ROK's nuclear programs at the time were strikingly similar to those of India: both were striving to introduce the National Research Experimental (NRX) and secure reprocessing technology from Canada. The ROK appeared to be interested in the know-how and expertise of India in its Pressurized Heavy Water Reactor (PHWR) operation. According to declassified documents from the Ministry of Foreign Affairs, the Park government started discussions with India for a bilateral agreement for cooperation in the peaceful uses of nuclear energy in 1973; however, it halted the negotiations after India's first detonation test, Operation Smiling Buddha, because the ROK's intentions in its nuclear cooperation with India could have been viewed as suspicious by the international society.⁹ In this sense, the ROK nuclear diplomacy was fully enough to draw the alert from Washington. After the Indian nuclear experiment, upon the U.S. demand, Canada canceled its talks with the ROK on NRX exports and requested a suspension of the ROK–France reprocessing technology negotiations.¹⁰ The Ford Administration also successfully pushed the ROK to ratify the NPT and let the Canada Deuterium Uranium (CANDU) program in the ROK under the control of Canada.

However, these efforts of the U.S. and Canada neither ended the ROK's nuclear ambition nor concluded the ROK–U.S. nuclear discussion. After the U.S.'s defeat in South Vietnam, the Park regime started to strengthen the anti-Communist propaganda at the national level and revealed that it would not give up the independent nuclear weapons program if the Ford Administration followed Nixon's principles. The Blue House required American confirmation of its security if it was not allowed to possess its own nuclear arsenal. In fact, the U.S. had placed about 600 nuclear weapons in the ROK.¹¹ For the Blue House, the most effective way for security of the ROK was to secure a U.S. guarantee for extended deterrence. Understanding the ROK's security concerns, the U.S. leadership in the post-Nixon era already supported Park's stance on anti-Communism in late 1974. Gerald Ford's inauguration after Richard Nixon's resignation for his Watergate scandal mitigated Park's worries. In contrast to his predecessor, Ford paid more attention to the concerns of U.S. allies in East

⁹ "Negotiation for Agreement for Peaceful Uses of Nuclear Powers between the ROK and India, 1974," Class No.: 741.61ID, Diplomatic Archive of Republic of Korea.

¹⁰ "Negotiation for Introduction of Two CANDU Reactors and NRX from Canada," Class No.: 761.64, Diplomatic Archive of Republic of Korea.

¹¹ Korea and US Policy in Asia, January 1976, US Policy toward South Korea, Box 135, Jimmy Carter Papers—Pre-Presidential. 1976 Presidential Campaign Issue Office-Noel Sterrett, Clippings—Foreign Issues, Jimmy E. Carter Library & Museum, cited from Choi (2014, 6).

Asia. While Nixon generally rejected meeting Park in person after he attempted to materialize his doctrine, Ford performed a number of actions to ensure the safety of the ROK to some extent.¹² In November 1974, Ford visited the ROK and clarified that he would strengthen the alliance with the ROK facing North Korean threats in recent years.¹³

Ford's official visit to Seoul and the summit meeting between Park and Ford on November 22 and 23 recovered ROK–U.S. relations, which were tested and deteriorated in Nixon era, to some extent.¹⁴ In this sense, the Blue House took a breath and had time to consider the costs and benefits of its nuclear weapons program. Yet for the Park government, the verbal commitment by the Ford government was not enough to end its grand nuclear scheme. Still, there was no decision on additional support for the ROK in the U.S. legislature.¹⁵ In this context, Seoul still needed to keep silent and push its nuclear scheme forward until Washington materialized its security guarantee for Seoul.

While the U.S. delayed their decision on the policy over the ROK in the post-Vietnam War era, the ROKG—CEA moved their partnership forward.¹⁶ According to the U.S. Arms Control and Disarmament Agency (ACDA) report to Ford in February 1975, along with other Third-World states, the ROK was not likely to be a nuclear weapons state in the short run; however, the ACDA worried of the impact of proliferation in the Third-World state by the industrialized states with nuclear technologies.¹⁷ In March 1975, the U.S. Ambassador to the ROK, Richard L. Sneider, reported to the State Department that the ROK was attempting to start a secret nuclear weapons development project by securing reprocessing technology and facilities.¹⁸ On March 26, 1975, Henry Kissinger, having been alerted about such moves, called for a State Department meeting, in which the U.S. State Department decided that deterring the ROK's nuclear development would be difficult without France's cooperation after the signing of the ROK–France MOU. The Ford Administration kept pressurizing the ROK to suspend the reprocessing deal negotiations and decided to meet with France in April and in June.¹⁹ While Washington reviewed the details and prospects of the ROK nuclear program, Park mounted pressure on Washington with his interview with a journalist of the *Washington Post*. Park revealed his intention to develop the

¹² Oberdorfer (2002, 336).

¹³ Kim (1997, 507).

¹⁴ War History Compilation Committee, Ministry of National Defense (1981), *gukbangjoyagjip* [The Treaties of National Defense], Joint Communiqué of Ford–Park Summit Meeting, 755, cited from Kim (2011, 464).

¹⁵ Lee and Hideo (1982, 92).

¹⁶ “The MOU Exchanges between the ROK and Republic of France in Paris, October 19, 1974,” 1974, Class No. 741.61 FR, 1973–74, Diplomatic Archives of Republic of Korea.

¹⁷ Memorandum From the Director of the Arms Control and Disarmament Agency (Iklé) to President Ford, February 18, 1975, Nixon–Ford Administrations, FRUS, 1969–1976, vol. E-14, part 2, doc. 120.

¹⁸ “ROK Plans to Develop Nuclear Weapons and Missiles,” State Department telegram 048673 to U.S. Embassy Seoul, 4 March 1975, Secret, NARA.

¹⁹ Ibid.

independent nuclear weapons unless the U.S. assured the security of the ROK after the fall of Saigon.²⁰

While U.S. pressure on the ROK increased, Park remained unflinching without succumbing to it. In latter half of 1975, Washington started to express its concern over the ROK's attempts for the acquisition of reprocessing facilities and technologies. Still, the ROK continued to argue that its access to the CEA for a reprocessing deal was not for the development of its nuclear weapons program. This stance and the attitude of the Blue House on the reprocessing contract with the CEA remained consistent even when U.S. Secretary of Defense James Schlesinger visited Seoul in August. While refraining from directly criticizing the ROK, Schlesinger clearly conveyed the U.S. objection to the dangerous deal between the two U.S. allies. The secretary clarified that the ROK-U.S. alliance would collapse if the ROK breached the NPT.²¹

Facing the firm opposition of the U.S. to its reprocessing deal with the CEA, the attitude and position of the ROK was obscure, as it did not want to end its nuclear program until the Ford Administration performed a clear action for its security. While President Park clarified that the ROK had no intention of breaching the NPT, he said that his government would not cancel the reprocessing deal with the CEA, which would make the ROK to pay a penalty fee and lose credit in international society. In this context, the ROK elites avoided confronting the U.S. directly but took time until the Ford Administration succeeded in passing a bill to support the ROK in Congress. And what Schlesinger was able to do was to remind them that Washington would not abandon the ROK even when the resident of the White House changed in the future.²²

The first attempt by Washington to push Seoul to cancel the deal failed. Park, ignoring the warning from Ford, continued to talk with the CEA. And the attitude of his French partner, the CEA, and other Gaullists in the French government further complicated the U.S. approach toward non-proliferation in East Asia. The Gaullists attempted to reject American intervention in France's commercial operation for its own national interests.²³ The CEA had no intention of cancelling the deal with the ROKG unless it found clear evidence of ROK nuclear weapons program based on the reprocessing facilities and technologies from France. Since the ROKG argued that the reprocessing facilities supplied by the CEA would be used for peaceful and academic purposes, the CEA had no obligation to withdraw the deal, which would

²⁰ *The Washington Post*, June 12, 1975.

²¹ "Meeting between President Park and Secretary Schlesinger, August 26, 1975," Memorandum of Conversation, Seoul, August 27, 1975, Korea 11, Box 9, Presidential Country Files for East Asia and the Pacific, National Security Adviser, Ford Library.

²² *Ibid.*

²³ Memorandum of Conversation, conversation between Secretary of State and Canadian Secretary of State for External Affairs, 17 December 1975, Korea 11, Box 9, Presidential Country Files for East Asia and the Pacific, National Security Adviser, Ford Library.

incur a cancellation penalty on France.²⁴ In this context, the U.S. failed to compel either the ROKG or the CEA to end the nuclear deal in a legal framework.

When the U.S. had a hard time persuading the ROK elites to cancel the deal with France, the ROKG and CEA started to formalize the ROK–France Nuclear Cooperation Agreement. This agreement principally opposed the U.S. and Canada on the ROK's acquirement of reprocessing plants. In April 1975, the ROK ratified the NPT as a precondition to signing the CANDU deal with Canada. The ROK ratification of the NPT automatically required the IAEA's safeguards following the introduction of reprocessing facilities regardless of the MOU signing status, and the ROK and France officially began discussing the ROK–France Nuclear Cooperation Agreement with the IAEA in charge. In July 1975, the IAEA's Board of Governors started the review on the first draft of the ROK–France agreement. Despite warnings from Washington, Seoul proceeded with the ROK–France Nuclear Cooperation Agreement as the CEA continued the reprocessing negotiations. In September 1975, the parties signed the "Agreement between the ROK, France and the IAEA for the Application of Safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons." France stipulated that as per the NPT and IAEA regulations, reprocessing technology and facilities should be provided to the ROK, and safeguards should be executed to prevent the ROK from weaponizing nuclear power. Through the agreement, France made it clear to the U.S. that exporting reprocessing technology and facilities to the ROK had no issues under international law.²⁵

The IAEA confirmed that the bilateral agreement between the ROK and France was effective and valid. For instance, Sections 2 and 7 of the agreement clarified that the ROK and France fully accepted the terms and conditions of the IAEA and NPT: according to Section 2, the ROK was supposed to agree that technologies, equipment, or facilities for processing, reprocessing, or other specified items would not be used to manufacture nuclear weapons, further any other military purpose, or manufacture any other type of nuclear explosive device. According to Section 7, the ROK was asked to provide a list of all specified materials, equipment, and facilities supplied by France.²⁶ On its part, the ROK also attempted to maintain the frameworks of the ROK–U.S. Nuclear Agreement and NPT. In this sense, the ROK would not have breached any agreement if only it had reprocessed a used nuclear fuel supplied from France and with French technology, facilities, and equipment. At least, the ROK claimed the reprocessing would be used solely for economic and civil purposes, and the IAEA approved its idea.

However, despite the logic of Blue House for the peaceful uses of reprocessing technology, the White House demanded that the ROK and France cancel the agreement as well as the contract for sales of reprocessing facilities and technologies.

²⁴ "Korean Reprocessing-Next Step," Memorandum for the Secretary of State from the Assistant Secretary of State for East Asian and Pacific Affairs, November 18, 1975, Korea 11, Box 9, Presidential Country Files for East Asia and the Pacific, National Security Adviser, Ford Library, cited from Choi (2014, 12–13).

²⁵ "Agreement between the IAEA-ROK-FR for the Application of Safeguards," Class No.: 741.61FR, Diplomatic Archive of Republic of Korea.

²⁶ Ibid.

According to declassified U.S. documents, in November 1975, the U.S. State Department considered the ROK–FR–IAEA Agreement another effort by the ROK to secure plutonium.

Intelligence indicates that the ROK has decided to go for nuclear weapons capability. The French reprocessing plant could provide the plutonium. The ROK could abrogate the NPT and safeguards when it wished, i.e., at such time or prior to withdrawal of U.S. troops.²⁷

Along with the CANDU–NRX deal with Canada, the reprocessing deal with France reminded the U.S. that the ROK was attempting to follow the path of India. For Washington, the IAEA's safeguards, the pledge of the ROK, and the official announcement of the CEA for the non-proliferation in the ROK were not reliable: the White House thought it could ensure the end of the ROK's nuclear weapons program only if the ROK was free of uranium enrichment and plutonium reprocessing. However, as long as the ROK abided by international law, it was not possible to force the ROK to cancel the deal without an excessive payment. The U.S., thus, paid more attention to France, which was regarded as a key state in its new non-proliferation regime. Then, the coalition between Ford and d'Estaing began to play an important role for the non-proliferation and counteraction against the CEA's nuclear export practice.

Construction of Non-Proliferation Coalition: The U.S.–France Talks for Strategic Nuclear Cooperation and Building of Nuclear Suppliers Group (NSG)

The U.S. felt the need to use its allies in the new international nuclear security environment brought about after the Vietnam War. From autumn of 1974, especially, the U.S. started forming a new non-proliferation regime to regulate the exports of sensitive nuclear technology from the NSG such as Soviet Union, Canada, the United Kingdom, France, West Germany, and Japan to non-nuclear weapon states. Through the NSG, the U.S. aimed to fill the discrepancy between the NPT (plus the IAEA) and American nuclear agreements by controlling the materials, facilities, and technology exports applicable to producing nuclear weapons after the Indian nuclear experiments.

In this new approach to the non-proliferation policy, the most critical state was France. Not only was it involved in exports of nuclear technologies and facilities, but also remained non-responsive to the multiple requests of the U.S. to participate in the Nuclear Supplier Conference.²⁸ The Ford Administration, therefore, became more active to persuade France and decided to meet with French leaders in April and

²⁷ “ROK-French Plutonium Reprocessing: US Request for Cancellation,” United States. Department of State. Counselor. Secret, Memorandum. Country File; Korea- State Department telegrams, Box 11, National Security Adviser; Presidential Country Files for East Asia and the Pacific, Ford Presidential Library.

²⁸ Ibid.

June. Furthermore, the U.S. also tried to improve NATO–France relations, which were an important issue in U.S.–France negotiations. It was not coincidental that the Valentin–Ferber Agreement that brought France closer to NATO was signed in July 1974 and created an opportunity for expanded bilateral cooperation between the U.S. and France.²⁹ France was thereby more deeply interlinked with the U.S.-led European security system, and the U.S. had a basis for more actively leveraging negotiations with France.

While these situations created the possibility for France to be re-included in the U.S.-led international order, French domestic politics was an obstacle. Indeed, d’Estaing was willing to participate in the NSG meeting, and France seemed to be drawing closer to the United States. However, it was not easy for d’Estaing to simply follow Washington’s direction due to opposition of the Gaullists; thus, he tried to improve France’s relations with the U.S. to overcome the limits of its original atomic and nuclear power development strategies. Furthermore, Gaullists, led by Chirac, attempted to regain the initiative for developing nuclear power by France’s own force based on the economic power from the nuclear exports. If the French president decided to withdraw from the deal with Seoul under U.S. pressure, in this situation, he would face political opposition from the Gaullists still active in his government. To minimize the political impact of the non-proliferation policy, therefore, Giscard d’Estaing asked Ford to push those potential recipient states of French nuclear assistance to terminate their contracts by themselves.³⁰ However, Park’s stance on the nuclear program remained tough.

D’Estaing, therefore, adopted a new strategy: stopping the CEA’s actions. To do so, he came up with a logical foundation, namely that the cooperation with the U.S. served France’s national interests better than a confrontation with the U.S. The Gaullists in French politics questioned how and why France should join the U.S.-led non-proliferation order. Dominating the legislative, the Gaullists would have undermined the political ground of d’Estaing, who dared challenge the legacy of de Gaulle and the Nationalists. The French president, in this context, required the U.S. promise for his difficult quest to suppress the Gaullists. The French government started urging the execution of strategic nuclear assistance, which the Ford Administration had been delaying because of the opposition from the Congress and the Defense Ministry. To make matters worse, based on its MOU with France, the ROK signed a deal on the construction of reprocessing facilities with SGN under the authority of the CEA on April 23, 1975.³¹ D’Estaing became impatient: a week later, on April 30, he sent the Minister of Armaments Jean-Laurens Delpech to the White House to request Sonnenfeldt’s swift execution of the U.S.–France strategic nuclear power assistance

²⁹ Lewis and Tetrais (2015, 12).

³⁰ Rabinowitz and Sarkar (2018, 286).

³¹ “Interim Agreement between KAERI and SGN on April 12, 1975,” Hyeong Seob Choi Archive.

signed in 1971 as well as the authorization on the uses of nuclear testing site in the state of Nevada.³²

Washington increasingly witnessed the need to swiftly provide strategic assistance to France due to the reprocessing negotiations between the ROK and France. With the ROK's success in signing reprocessing facility construction and technology transfer deals, the possibility of the ROK possessing nuclear weapons grew, which pressured the Ford Administration to make quicker decisions. On June 12, 1975, in an interview with the journalist of *Washington Post*, ROK President Park Chung Hee mentioned the possibility of developing nuclear weapons in case of the USFK's withdrawal, which, coupled with France's diplomatic pressure in April, changed the strategic approach of the Ford Administration. Following the ROK's open remarks on nuclear weapons development, France stated that it could suspend the reprocessing provision deals on June 18, adding weight to the Ford Administration's decision to provide nuclear weapons technology assistance to France.³³ Although the Ford Administration could not authorize France to utilize the underground nuclear testing site in Nevada on June 23 due to legal issues stipulated in the Limited Test Ban Treaty (LTBT) and the Atomic Energy Act, it approved the provision of additional ballistic missile aid to France.³⁴ Furthermore, the U.S. expedited the execution of strategic assistance to France to include Paris in the U.S.-led non-proliferation regime. However, the Congress still needed to authorize the issues, and the efforts of the White House alone were inadequate to satisfy France, which caused the latter to keep pressurizing the U.S. as it continued its reprocessing negotiations with the ROK.

While the U.S. Congress's delayed authorization of nuclear technology support to France impeded the mutual assistance between the two states, the resistance from Chirac and other Gaullists in France hindered d'Estaing's active cooperation with the U.S. Despite his idea about non-proliferation, d'Estaing had a hard time stopping Chirac, who quickly attempt to complete the deal with the ROK and other recipients. While reviewing the consequent NSG participation requests by the U.S., France proceeded with reprocessing facility construction negotiations with the ROK and prepared to sign a nuclear cooperation agreement. These ambivalent actions of Paris can be considered as follows: as Giscard d'Estaing concerned the potential political damage incurred by his direct confrontation with Gaullists, the ROK's withdrawal from the deal with the CEA under Chirac might have been the safest way to minimize his political damage while securing U.S. trust.³⁵ However, because Seoul rejected

³² National Archive, Record Group 59, Records of Henry A. Kissinger, 1973–77, Box 11, April 1975 Nodis Memcons. Obtained and contributed by William Burr and included in NPIHP Research Update #2.

³³ “Nuclear Export Policy: Bilateral with France,” U.S. Embassy London telegram 09295 to State Department, 18 June 1975, Secret, NARA.

³⁴ Nixon Presidential Library, National Security Council Institutional Files (NSCIF), Box 222, NSDM 103 [2 of 2]. Obtained and contributed by William Burr and included in NPIHP Research Update #2 and National Archives, Record Group 59, Office of the Counsellor (Helmut Sonnenfeldt), 1955–77, Box 14. Obtained and contributed by William Burr and included in NPIHP Research Update #2.

³⁵ Rabinowitz and Sarkar (2018, 286).

to withdraw from its deal with France despite pressure from Washington, d’Estaing had little leverage in persuading Chirac to follow the new approach.³⁶ In this context, d’Estaing had to change his strategy: instead of trying to obtain nuclear assistance from the U.S. and use it as a leverage to suppress the Gaullists, he began to actively put down the opposition from the Gaullists and then stop the deal with the ROK and other recipients.

Meanwhile, progress was made in the ROK–France negotiations, which made the U.S.–France cooperation more difficult. When the ROK–France–IAEA Trilateral Nuclear Agreement was signed in September 1975, the ROK–U.S. Nuclear Cooperation Agreement came to be at odds with the ROK–France Nuclear Cooperation Agreement. Thus, the CEA could provide the ROK with reprocessing technology, which its own president, as well as the U.S., opposed. By October, SGN had prepared a list of technicians and formed the organization needed for the infrastructure design of the reprocessing facilities construction as well as technology provision business, while waiting for the project’s clearance from the French government. It appeared that the reprocessing construction and technology provision projects were imminent.³⁷ In September 1975, therefore, the U.S. strongly pressured the ROK, which did not take a step back as the CEA had not given up on its deals.

As the ROK adamantly withstood the pressure, the strategic cooperation between the U.S. and France became more difficult. While the U.S. needed French support, it had not yet offered a guarantee for the strategic nuclear partnership with France. The Gaullists, therefore, took bigger voice against the U.S. In the NSG’s meeting of September 1975, the French representatives disagreed with the guideline proposed by Canada of “full scope safeguards,” in which the supplying states should require recipient states to place all nuclear facilities under safeguards.³⁸ In contrast to Washington and Ottawa, Paris suggested less strict safeguards, in which the suppliers should require the recipients only for the technology at issue in the contract, namely “project safeguards.”³⁹ In the view of French representatives, “full scope safeguards” would eliminate the competitiveness of French nuclear industry in the world market, exporting what the U.S. and other nuclear states did not export. In this sense, before the suppliers’ meeting, they expressed their antagonism to the Canadian proposal to the U.S. representatives.⁴⁰

³⁶ “Interim Agreement between KAERI and SGN on 12 Apr. 1975.” Hyeong Seob Choi Archive.

³⁷ Letter from Jae Yang Joo, Deputy Head of AERI to Hyeong Seob Choi, Minister of Science and Technology, Hyeong Seob Choi Archive.

³⁸ “Memorandum from George S. Vest to Secretary of State, ‘September 16–17 Nuclear Suppliers’ Meeting’,” September 23, 1975, History and Public Policy Program Digital Archive, State Department release from P-reels. Obtained and contributed by William Burr. Annotations added by William Burr. <https://digitalarchive.wilsoncenter.org/document/119796>.

³⁹ Ibid.

⁴⁰ “U.S. Embassy London telegram 14177 to State Department, ‘French-U.S. Consultations on Nuclear Suppliers Meeting’,” September 15, 1975, History and Public Policy Program Digital Archive, Declassification release from National Archives Access to Archival Databases Online collections, State Department telegrams for 1974 and other years. Obtained and contributed by William Burr. <https://digitalarchive.wilsoncenter.org/document/119797>.

The dilemmas of all the interested parties together created a stalemate in the U.S.-led non-proliferation efforts. The alliance between the ROKG and CEA was unstable and tentative mainly because fulfilling reprocessing contract itself was not their preferred option. Despite its adamant attitude, the ROK was not reluctant to cancel the contract if only the U.S. assured the security of ROK in the post-Vietnam era: U.S. Congress and the Defense Ministry, however, were still opposing it. For the CEA, the contract with the ROK was important but not indispensable in terms of its political stance: the reprocessing contract symbolized France's independence from superpower politics—especially U.S.-led non-proliferation rule—but could be replaced if only the U.S. recognized the intrinsic position of France in world politics and provided a considerable payment to it in exchange for the cancelation of the ROK contract. Moreover, above all, the CEA needed the approval of French president d'Estaing to finalize the deal, which did not seem realistic. Simply put, what the ROKG and CEA were able to do was to maintain their stance *not to cancel the contract and ask for compensation from the United States*. Notwithstanding the efforts of the U.S., this stalemate of nuclear diplomacy continued.

Finally, the triangular stalemate began to be resolved as the U.S.–France nuclear negotiations progressed. One of the keys to the progress was the role of the NSG: while trying to obtain nuclear technology assistance from the U.S., France also began to support the U.S. non-proliferation efforts through the NSG. In October 1975, France, once again, pressured the U.S. to request the execution of additional assistance, including the sharing of ballistic missile technology.⁴¹ In November, France asked the status of French requests for nuclear assistance, including CDC 7600 mainframe computer and technical help for the development of delivering vehicles.⁴² Simultaneously, France helped the U.S. finalize the NSG guidelines, generally following the Canadian proposals of “full scope safeguards.”⁴³ Although France and West Germany did not completely agree the complete ban of exporting uranium enrichment and reprocessing technologies, they clearly adopted the U.S. principle, namely the restraint in exporting facilities for those technologies.⁴⁴ This does mean that France was obliged to prevent the nuclear proliferation and stop selling sensitive technologies to its recipient states if these appeared to intend to use those technologies for the nuclear weapons program. The question was who would judge the

⁴¹ “Memorandum for the Record by Helmut Sonnenfeldt, ‘Conversation with Delpach,’” October 9, 1975, History and Public Policy Program Digital Archive, National Archives, Record Group 59, Office of the Counselor, 1955–77, Box 14. Obtained and contributed by William Burr and included in NPIHP Research Update #2. <https://digitalarchive.wilsoncenter.org/document/112429>.

⁴² “Memorandum of Conversation between Roger C. Molander and M. Conze, ‘Meeting with M. Conze of France, November 24, 1975,’” November 25, 1975, History and Public Policy Program Digital Archive, National Archives, Record Group 59, Office of the Counselor, Helmut Sonnenfeldt, 1955–77, Box 14. Obtained and contributed by William Burr and included in NPIHP Research Update #2. <https://digitalarchive.wilsoncenter.org/document/112435>.

⁴³ “Memorandum from George S. Springsteen, Executive Secretary, to National Security Adviser Brent Scowcroft, ‘Nuclear Suppliers Guidelines,’” December 31, 1975, History and Public Policy Program Digital Archive, State Department release from P-reels. Obtained and contributed by William Burr. <https://digitalarchive.wilsoncenter.org/document/119820>.

⁴⁴ Walker (2001, 225).

“potent of nuclear proliferation” and the sensitivity of technologies; in the case of ROK–France reprocessing deal, this could be either the IAEA or the supplying state, France. As the IAEA judged that the reprocessing contract between the two states was not an action of proliferation, it was France that changed the interpretation of nature of the contract, and the French president thus had such a responsibility and political right. Undoubtedly, the agreement on the NSG guideline strengthened the non-proliferation coalition between Ford and d’Estaing.

After the conclusion of the NSG meeting, d’Estaing began to manifest a changing attitude toward nuclear export. The French president revealed his intention not to allow the export of reprocessing facilities and materials to the ROK. Despite having confirmed multiple times that the ROK would use reprocessing technology for peaceful purposes within the international regulations established by the NPT and IAEA, d’Estaing denied the Korean request to come through with the reprocessing construction deals on the grounds that the ROK could develop nuclear weapons upon fortification of the U.S.–France cooperation. As discussed above, the NSG agreements in the late 1975 enabled d’Estaing to apply a stricter non-proliferation rule following the U.S. principle.

Despite the efforts of the ROKG and CEA to make progress in their contract, d’Estaing was determined and attempted to frustrate the CEA with his authority. While asking the U.S. to deliver on its promise of technological assistance, he was delaying authorizing the reprocessing project of SGN. The ROKG increasingly sensed that France would not fulfil the contract even if the ROK kept its position. Eventually, the ROK’s project organizer, AERI’s vice director Jae Yang Joo, met with the SGN representative in Japan in December 1975 and inquired about the project’s delay. SGN delivered the message that d’Estaing was delaying authorization as he believed the ROK’s intentions may not be peaceful. SGN further advised the Korean government to reassure its French counterpart that the reprocessing technology and facilities would solely be utilized for peaceful energy projects. The ROK decided to do as SGN had advised and attempted to reassure the French government that its intentions were peaceful.⁴⁵ However, d’Estaing continued to delay the authorization of the reprocessing project and expressed a willingness to cooperate with the U.S. by agreeing the U.S. principle of the NSG treaty in November of the same year. No historical evidence suggests that the CEA made a strong argument against d’Estaing’s actions: it is plausible that the French president started to be able to control the French exportation of sensitive materials and technologies after the NSG made an agreement on the principles of nuclear supplies.

The stalemate was officially ended when the ROK informed its intention to terminate its reprocessing deal with France in January 1976. Recognizing that France would not fulfill the contract, the ROK decided that it could not obtain any more benefit from nuclear negotiations with France as the CEA set back and that it should

⁴⁵ Letter from Jae Yang Joo, Deputy Head of AERI to Hyeong Seob Choi, Minister of Science and Technology, ROK.

move onto the negotiation with the U.S.⁴⁶ At this point, Washington ensured that it successfully cut out external sources for the technologies for the ROK's nuclear weapon program from France and Canada. Since the ROK failed to acquire a reprocessing plant and avoid strict safeguards for the CANDU reactors from Canada, it appeared that the ROK had no option for fast-tracking nuclear armament.⁴⁷ In this context, Seoul initiated talks with Washington to calculate the value of its unfledged nuclear weapons program.

Conclusion

The connection between the CEA and ROKG for the reprocessing deal caused great concern to the U.S. due to the complex U.S.–France relations. The ROK–IAEA–France Nuclear Cooperation Agreement and its negotiations, which proceeded for 5 years from May 1972 to January 1976, and the resulting reprocessing technology and facilities provision contracts formed an important part of Korea's attempts to develop nuclear weapons. India's nuclear test in 1974 alarmed the U.S. of the increasing risk of Third-World proliferation, and the ROK was one of the major targets of U.S. monitoring.

However, the ROK's attempt to develop nuclear weapons was a more complex issue than could be resolved in U.S.–ROK relations. The reprocessing facilities project that the ROK was pushing for had the potential to threaten the fundamentals of the U.S.-led non-proliferation regime. Furthermore, the issue was linked to the changing U.S.–France relations in the broader context of the transformation of the Cold War nature. Therefore, a triangular relationship was formed among the U.S., the ROK, and France, which was not easily resolved. The triangular stalemate began to dissolve when a meaningful progress began to appear in one side of the triangle: U.S. –France relations. The agreements of NSG meeting clearly outlined that France had ended the reprocessing deal with the ROK *de facto*, which demonstrates that the development of cooperative relationship between the U.S. and France played a big role in preventing the ROK from developing military purpose nuclear weapons.

The nuclear power committees of Korea and the U.S. engaged in working-level talks on two occasions in January and August of 1976. At the meetings, the delegations of each party discussed additional support and aids from the U.S. ROK's nuclear program in peaceful and civil purposes in exchange for the termination of

⁴⁶ U. S. Embassy Seoul telegram 0552 to Department of State, 25 Jan. 1976, ROK Nuclear Reprocessing: Canadian Reactor Sale [Secret, NARA].

⁴⁷ “Conversation between Secretary of State and Canadian Secretary of State for External Affairs,” Memorandum of Conversation, Brussels, 24 January 1976, Korea 11, Box 9, Presidential Country Files for East Asia and the Pacific, National Security Adviser, Ford Library, cited from Choi (2014, 14).

the ROK–France reprocessing deal.⁴⁸ Clearly, the ROK appears to have been forced to terminate the deal by the U.S.; however, no additional discussions were held to amend the ROK–U.S. Nuclear Cooperation Agreement for strengthening the monitoring and control of nuclear activities in the ROK. That is, the ROK’s attempt to secure reprocessing, as well as other military purpose nuclear technologies, through nuclear agreements with other countries such as France was still beyond the control of the U.S.

However, Paris was still waiting for the answer from Washington: d’Estaing had not yet gained any tangible payment for his support for Ford. The technological assistance for the French nuclear capabilities and other programs for France were still discussed in the U.S. Congress. In addition, the ROK still doubted the U.S. guarantee for its security. In the first half of 1976, the ROK, France, and the U.S. started to deal with these post-crisis issues, but they failed to complete the task due to Ford’s defeat to Jimmy Carter in the presidential election of late 1976. Beginning in 1977, the other ROKG–CEA connection issue arose: the missile crisis.

References

Secondary Sources

- Choi, Lyong. 2014. The First Nuclear Crisis in the Korea Peninsula, 1975–1976. *Cold War History* 14(1): 71–90.
- Kim, Jeong Ryeom. 1997. *Oh, Park ChungHee*. Seoul: Chungang M&B.
- Kim, Yong Jick. 2011. The Security, Political, and Human Rights Conundrum, 1974–1979. In *The Park Chung Hee Era: The Transformation of South Korea*, eds. Kim Byung Kook and Ezra F. Vogel, 457–482. Harvard University Press.
- Lee, Chae Jin and Sato Hideo. 1982. *U.S. Policy toward Japan and Korea: A Changing Influence Relationship*. New York: Praeger.
- Lewis, Jeffrey and Bruno Tertrais. 2015. US-French Nuclear Cooperation: Its Past, Present and Future. *Fondation pour la Recherche Strategique* 4: 1–18.
- Oberdorfer, Don. 2002. *The Two Koreas: A Contemporary History*. New York: Basic Books.
- Pouponneau, Florent and Frédéric Mérand. 2017. Diplomatic Practices, Domestic Fields, and the International System: Explaining France’s Shift on Nuclear Nonproliferation. *International Studies Quarterly* 61-1: 123–135.
- Rabinowitz, Or and Jayita Sarkar. 2018. It isn’t Over Until the Fuel Cell Signs. *Journal of Strategic Studies* 41(2): 275–300.
- Walker, J. Samuel. 2001. Nuclear Power and Nonproliferation: The Controversy over Nuclear Exports. *Diplomatic History* 25(2): 215–249.

⁴⁸ “ROK Nuclear Reprocessing,” United States. Department of State, Country File; Korea- State Department Telegrams, Box 12, National Security Adviser; Presidential Country Files for East Asia and the Pacific, Ford Presidential Library.

Primary Sources

Korea

- “Agreement between the IAEA-ROK-FR for the Application of Safeguards,” Class Number 741.61FR, Diplomatic Archives, Republic of Korea.
- “Interim Agreement between KAERI and SGN on 12 April 1975,” Hyeong Seob Choi Archive, Jeonbuk National University, Republic of Korea.
- Letter from Jae Yang Joo, Deputy Head of AERI to Hyeong Seob Choi, Minister of Science and Technology, Hyeong Seob Choi Archive, Jeonbuk National University, Republic of Korea.
- “Negotiation for Agreement for Peaceful uses of Nuclear Powers between the ROK and India, 1974,” Class Number 741.61ID, Diplomatic Archives, Republic of Korea.
- “Negotiation for Introduction of Two CANDU Reactors and NRX from Canada,” Class Number 761.64, Diplomatic Archives, Republic of Korea.
- “The MOU Exchanges between the ROK and Republic of France in Paris, 19 October 1974,” 1974, Class Number 741.61 FR, 1973-1974, Diplomatic Archives, Republic of Korea.
- The ROK Ministry of Foreign Affairs. 1975. *The Chronology of ROK Diplomatic History of 1974*.

U.S.

- “Conversation between Secretary of State and Canadian Secretary of State for External Affairs,” Memorandum of Conversation, Brussels, 24 January 1976, Korea 11, Box 9, Presidential Country Files for East Asia and the Pacific, National Security Adviser, Ford Presidential Library, Grand Rapids, Michigan, USA.
- Evans, Rowland and Robert Novak. 1975. Park’s Instability. *The Washington Post*, June 12.
- “French-U.S. Consultations on Nuclear Suppliers Meeting,” U.S. Embassy London telegram 14177 to State Department, 15 September 1975, History and Public Policy Program Digital Archive, Declassification release from National Archives Access to Archival Databases Online collections, State Department telegrams for 1974 and other years. Obtained and contributed by William Burr. <https://digitalarchive.wilsoncenter.org/document/119797>. Accessed 12 December 2020.
- “Korea and U.S. Policy in Asia,” January 1976, U.S. Policy toward South Korea, Box 135, Jimmy Carter Papers—Pre-Presidential, 1976 Presidential Campaign Issue Office-Noel Sterrett. Clippings-Foreign Issues, Jimmy E. Carter Library & Museum, Atlanta, Georgia.
- “Korean Reprocessing-Next Step,” Memorandum for the Secretary of State from the Assistant Secretary of State for East Asian and Pacific Affairs, 18 November 1975, Korea 11, Box 9, Presidential Country Files for East Asia and the Pacific, National Security Adviser, Ford Presidential Library, Grand Rapids, Michigan, USA.
- “Letter from Joo Jae Yang, Deputy Head of AERI to Hyeong Seob Choi,” Minister of Science and Technology, ROK. U.S. Embassy Seoul telegram 0552 to Department of State, 25 Jan. 1976, ROK Nuclear Reprocessing; Canadian Reactor Sale [Secret, NARA].
- “Meeting between President Park and Secretary Schlesinger, 26 August 1975,” Memorandum of Conversation, Seoul, 27 August 1975, Korea 11, Box 9, Presidential Country Files for East Asia and the Pacific, National Security Adviser, Ford Presidential Library, Grand Rapids, Michigan, USA.
- “Memorandum for the Record by Helmut Sonnenfeldt, ‘Conversation with Delpech’,” 09 October 1975, History and Public Policy Program Digital Archive, National Archives, Record Group 59, Office of the Counselor, 1955–1977. Box 14. Obtained and contributed by William Burr and included in NPIHP Research Update #2. <https://digitalarchive.wilsoncenter.org/document/112429>. Accessed 12 October 2021.

- “Memorandum From the Director of the Arms Control and Disarmament Agency (Iklé) to President Ford,” 18 February 1975, Nixon-Ford Administrations, FRUS, 1969–1976, vol. E-14, part 2, doc. 120.
- “Memorandum from George S. Vest to Secretary of State, ‘September 16–17 Nuclear Suppliers’ Meeting’,” 23 September 1975, History and Public Policy Program Digital Archive, State Department release from P-reels. Obtained and contributed by William Burr. Annotations Added by William Burr. <https://digitalarchive.wilsoncenter.org/document/119796>. Accessed 15 October 2021.
- “Memorandum from George S. Springsteen, Executive Secretary, to National Security Adviser Brent Scowcroft, ‘Nuclear Suppliers Guidelines’,” 31 December 1975, History and Public Policy Program Digital Archive, State Department release from P-reels. Obtained and contributed by William Burr. <https://digitalarchive.wilsoncenter.org/document/119820>. Accessed 22 October 2021.
- “Memorandum of Conversation between Roger C. Molander and M. Conze, ‘Meeting with M. Conze of France, 24 November 1975’,” 25 November 1975, History and Public Policy Program Digital Archive, National Archives, Record Group 59, Office of the Counselor, Helmut Sonnenfeldt, 1955–1977, Box 14. Obtained and contributed by William Burr and included in NPIHP Research Update #2. <https://digitalarchive.wilsoncenter.org/document/112435>. Accessed 10 September 2021.
- “Memorandum of Conversation, Conversation between Secretary of State and Canadian Secretary of State for External Affairs,” 17 December 1975, Korea 11, Box 9, Presidential Country Files for East Asia and the Pacific, National Security Adviser, Ford Presidential Library, Grand Rapids, Michigan, USA.
- National Security Council Institutional Files (NSCIF), Box 222, NSDM 103 [2 of 2] Nixon Presidential Library, Yorba Linda, California, USA, and Office of the Counsellor (Helmut Sonnenfeldt), 1955–1977, Box 14, Record Group 59, National Archives, College Park, Maryland, USA. Obtained and contributed by William Burr and included in NPIHP Research Update #2.
- “Nuclear Export Policy: Bilateral with France,” U.S. Embassy London telegram 09295 to State Department, 18 June 1975, Secret, NARA.
- “Policy toward South Korea,” Box 135, Jimmy Carter Papers – Pre-Presidential. 1976 Presidential Campaign Issue Office-Noel Sterret. Clippings-Foreign Issues, Jimmy E. Carter Library & Museum, Atlanta, Georgia.
- Records of Henry A. Kissinger, 1973–1977, Box 11, April 1975 NodisMemcons, Record Group 59, National Archive. Obtained and contributed by William Burr and included in NPIHP Research Update #2.
- “Review of U.S. Policies toward Korea,” Telegram 2807 from Seoul, State Department telegrams to SECSTATE, Korea, Box 11, Presidential Country Files for East Asia and the Pacific, National Security Adviser, Ford Presidential Library, Grand Rapids, Michigan, USA.
- “ROK-French Plutonium Reprocessing: US Request for Cancellation,” United States. Department of State. Counselor. Secret, Memorandum. Country File; Korea-State Department telegrams, Box 11, National Security Adviser; Presidential Country Files for East Asia and the Pacific, Ford Presidential Library, Grand Rapids, Michigan, USA.
- “ROK Nuclear Reprocessing,” United States. Department of State, Country File; Korea-State Department Telegrams, Box 12, National Security Adviser; Presidential Country Files for East Asia and the Pacific, Ford Presidential Library, Grand Rapids, Michigan, USA.
- “ROK Plans to Develop Nuclear Weapons and Missiles,” State Department telegram 048673 to U.S. Embassy Seoul, 4 March 1975, Secret, NARA.
- “Solarz-Fraser Amendment to Withdraw US Troops from South Korea,” 30 December 1975, U.S.

Chapter 6

The Fall of the Gaullist Technocrats and End of the ROK Nuclear Weapons Program, 1976–1979



The Ford-d'Estaing coalition assured the demise of the ROK nuclear weapons program after witnessing the cancellation of the ROK-CEA reprocessing deal and discussing ways to pacify the Park Chung Hee regime and the Gaullists in 1976. First, Washington promised more support for peaceful uses of nuclear energy in the ROK: in exchange for abandoning its fledging nuclear weapons program, the ROK secured a generous loan scheme, designed to help the country construct energy plants and develop technological support, in part by educating and training technicians, engineers, and scholars in nuclear fields. Second, in 1976, the Ford Administration reassured the ROK that its security was a priority by taking determined action against the North Korean threat. In France, after the Ford Administration passed a bill supporting the French nuclear weapons program, d'Estaing increasingly undermined the Gaullist voice, eventually removing Jacques Chirac from his Parliamentary role in August. Against this backdrop, by the first half of 1976, the Ford-d'Estaing coalition appeared to end the East Asian proliferation crisis, triggered by the ROK and the CEA.

However, there were more issues to deal with than they expected. Although the deal failed to provide reprocessing technologies or an official non-proliferation agreement with its Treaty on the Non-Proliferation of Nuclear Weapons (NPT) entry, the Park regime saw a hopeful sign in its nuclear weapons program. The ROKG introduced ballistic-missile technologies from the U.S. via the French company, SNPE (Société nationale des poudres et explosives), which produced missiles for the French forces. Although the Ford-d'Estaing coalition secured a legal framework designed to prevent any trade in reprocessing technologies, it missed the other necessary condition for WMD, namely delivery measures. The ROKG and the Gaullists made sure that these were neither ready nor available. Thus, the ROK developed an indigenous scientific and technological foundation for its nuclear program. As the NPT and Nuclear Suppliers Groups (NSG) guidelines did not provide a protocol for handling indigenous nuclear weapons programs, the U.S. had to find a new approach to tackle this new challenge from the ROK.

Despite the success of Ford Administration during the first crisis of the ROK nuclear weapons program, the U.S. failed to use its success as leverage to prevent a second crisis (involving the missile challenge and indigenous nuclear development during the late 1970s) simply because Ford was not elected and could not deliver what he had promised the Park regime. In late 1976, when Jimmy Carter was elected as the new U.S. president, he pledged a reversal of U.S. policy toward the ROK. Based on a respect for democracy and human rights, Carter began to roll back the ongoing negotiations between Ford and Park. He attempted to withdraw the returns and compensation for ending the reprocessing deal between the ROKG and the CEA. In return, Park reckoned that the ROKG could revitalize its nuclear weapons program if Carter refused to pay for ROK's non-proliferation. Once again, the ROKG attempted to use its nuclear card to secure a U.S. security guarantee. This time, however, the ROKG also attempted to secure the entire fuel cycle through its own efforts.

This chapter begins by discussing the ROK-U.S. Nuclear Committee talks and the inter-Korean clashes that took place during the first half of 1976, both of which contributed to ending the first ROK-CEA nuclear challenge. During the first half of 1976, it is clear that the ROK was able to secure a U.S. security pledge and U.S. assistance for its civil nuclear program. Next, we explain how Ford and d'Estaing repositioned France in the non-proliferation order, after using NSG guidelines to halt the autonomous operations of the CEA during the first half of 1976, downplaying the Gaullist viewpoint and prompting the departure of Chirac as Prime Minister. Third, we discuss how and why Ford's defeat and Carter's election destabilized the ROK's non-proliferation mechanism: the missile crisis as well as political conflicts between Carter and Park over issues of human rights and withdrawal of U.S. ground forces from ROK soil. These developments revived the ROK's nuclear crisis and partnership with the CEA. Finally, we summarize how Washington and Paris ended the second challenge caused by the ROK-CEA connection.

The ROK-U.S. Nuclear Committee Talks and Inter-Korean Military Conflict

Recognizing that the CEA could not execute the reprocessing contract, the ROK entered into lengthy negotiations with the U.S. to maximize its gain. On January 22 and 23, 1976, ROK and U.S. representatives held an informal exchange. The ROK delegation, Ministry of Science and Technology, talked with the U.S. delegation, Department of State for Oceans and International Environmental and Scientific Affairs. The ROK side agreed to stop acquiring reprocessing facilities in return for the following items from the U.S. side:

1. The establishment of a joint standing committee for improved communication
2. Cooperation on nuclear-reactor design, construction, operations, and maintenance

3. The reactivation of a sister-laboratory relationship between KAERI and the Argonne National Laboratory
4. Cooperation on ROK nuclear-fuel fabrication
5. Reactor and nuclear-fuel exports from the U.S. to the ROK
6. Reprocessing services for the ROK
7. Reactor safety and regulatory cooperation
8. A general agreement on science and technology cooperation.¹

The two sides discussed these items and reached an agreement in June 1976. Washington pushed the ROK to cancel its contract with France, while promising more support for the ROK nuclear industry than it would have received under the ROK–U.S. Nuclear Agreement. In addition, the U.S. promised to cooperate with the ROK on the design, construction, and operation of nuclear reactors; the processing (not “reprocessing”) of nuclear fuel; and the export of nuclear reactors and nuclear fuel.² In return, the U.S. strengthened its ability to monitor ROK nuclear activities.³

Nonetheless, even as it reviewed Korea’s negotiations with the U.S. nuclear committee, the ROK government did not cancel its contract with the CEA in official terms. The Ford Administration, therefore, employed a two-track approach. On the one hand, it made an effort to push its ROK military aid bill through Congress.⁴ On the other hand, the U.S. put renewed pressure on Park in May. That is, Washington would not provide the planned aid to the ROK if Seoul did not end its plan to introduce the reprocessing facilities from France.⁵ After reviewing the costs and benefits of its options, the ROKG decided to accept the U.S. demand and compensation for ending its reprocessing deal with the CEA. Still, the ROK appeared doubtful of U.S. intentions and did not make a quick change to the structure of its nuclear program. The problem was that Washington had not yet provided the ROK with a security guarantee.

One key factor in helping to end the ROK’s nuclear ambitions was that Ford showed determination to guarantee the ROK’s national security. As already mentioned in the previous chapter, the Ford Administration paid attention to its ally’s security concerns even before Saigon collapsed. He visited the ROK in 1974

¹ “ROK Nuclear Reprocessing,” United States. Department of State, Country File; Korea- State Department Telegrams, Box 12, National Security Adviser; Presidential Country Files for East Asia and the Pacific, Ford Library.

² Ibid.

³ “The implementation of the ROK–U.S. Joint Standing Committee on nuclear and atomic energy technology matters in 1976. Safeguard for non-proliferation in Korea, especially for the reprocessing plant issue,” Class No. 763.62US; 763.631US, Diplomatic Archives, Republic of Korea.

⁴ “Information Memorandum from the Acting Assistant Secretary for International Security Affairs in the Department of Defense (Bergold) to Secretary of Defense Rumsfeld,” Washington, March 16, 1976. OSD Files: FRC 330-79-0049, Korea, 092, 1976, Washington National Records Center, cited from Choi (2014, 14).

⁵ “Interview with Jang Nae Son,” *Monthly Chosun*, August 1995.

and showed his keen attention to the Communist threat on the Korean Peninsula.⁶ The U.S. government appeared to be concerned about the ROK's security even when the U.S.–ROK relationship was tested in 1975. There was, however, no way for the Blue House to verify Ford's determination. Against this backdrop, an event took place in the Korean Demilitarized Zone (DMZ) that played a critical role in ending the ROK nuclear program by changing the U.S.–ROK relationship. On August 18, 1976, there was a military conflict between UN forces led by U.S. Army officers and DPRK forces in Panmunjom. North Korean soldiers killed two U.S. soldiers with axes and injured a number of UN soldiers who attempted to trim a poplar tree in the Joint Security Area.⁷

This so-called “Axe Murder Incident in Panmunjom” shocked both victims, the ROK and U.S., and once again tested their alliance relationship. Without any doubt, Ford had no choice but to help Park punish the north. According to Jeong Ryeom Kim, the ROK chief secretary of the president, Washington accepted the ROK's call for a retaliatory operation against Pyongyang.⁸ On August 21, the joint forces of ROK–U.S. completely cut down the poplar tree and even eliminated unauthorized guard posts of the DPRK in Joint Security Area.⁹ As Lyong Choi argues, this confirmed the U.S. guarantee of the ROK's national security not so long after the Blue House decided on the cancellation of the reprocessing contract with the CEA.¹⁰

Clearly, the ROK had made a quick move into the new phase of its nuclear age. Before long, Seoul redirected the main goal of its nuclear policy from strategic use to practical and peaceful use. As a result, the technocrats who designed and developed the nuclear weapons program based on the reprocessing facilities and technologies from the CEA, led by Minister Hyeong Seob Choi, lost their initiative in the ROK's nuclear project, which was redesigned to develop more effective and efficient uses of nuclear energy for civil purpose.¹¹ And it is noteworthy that the ROK still maintained a technological partnership with the CEA and other French companies for non-sensitive nuclear energy technology. For example, the AERI introduced facilities for nuclear fuel in 1978 with a loan provided by France.¹² In short, the ROK, facing U.S. pressure, lost a shortcut for nuclear armament and reprocessing facilities, and was only able to develop the foundation of its nuclear technologies at a slow pace.

However, this was not the end of the story: the Blue House soon regretted its quick decision on the withdrawal of its reprocessing scheme and started to find a way to revive its already dead nuclear weapon program. In November 1976, the rollback of

⁶ War History Compilation Committee, Ministry of National Defense (1981), *gukbangjoyagjip* [The Treaties of National Defense], Joint Communique of Ford-Park Summit Meeting, 755, cited from Kim (2011, 464).

⁷ Ford Library, National Security Adviser, Presidential Country Files for East Asia and the Pacific, Box 10, Korea, North Korean Tree Incident, August 18, 1976, Telegrams (1). Secret; Flash; Nodis. Drafted by Hurwitz and approved by Kissinger. And also see Oberdorfer (2002, 74–83).

⁸ Kim (2006, 443–444).

⁹ *Ibid.*, 445.

¹⁰ Choi (2014, 88).

¹¹ Kim (2012, 254).

¹² AERI (2019, 32).

Ford's policy toward Seoul was announced after Jimmy Carter beat Ford and was elected the new U.S. president. While Carter criticized human rights violations of the Park regime, he argued that U.S. land forces should be pulled out of the ROK. It appeared that the new U.S. president attempted to renege on his predecessor's commitment to the ROK in exchange for ending the nuclear weapons program. As a result, Park attempted to revitalize the ROK nuclear weapons program to counteract Carter's withdrawal policy.

The Fall of the Gaullists and the CEA Setback

While the ROK was formally abandoning its nuclear program, French politicians were also making significant changes to their nuclear-proliferation policy. The progress in NSG meetings and the principles agreed in accordance with NSG guidelines clearly redirected the tide of French politics on the proliferation issue; as Florent Pouponneau and Frédéric Mérand have explained, external bureaucrats, who had previously relied on the expertise and philosophy of CEA technocrats, began to share the dominant U.S. view that global proliferation could be prevented through mutual trust and cooperation among weapon suppliers.¹³ In 1976, with this grand step in French politics, Giscard d'Estaing effectively dissolved the Gaullist bureaucratic domination, while waiting for an official answer from the White House about U.S. nuclear assistance with the French nuclear weapons program. It was only a matter of time before Congress passed the bill designed to assist France, with U.S. politicians clearly acknowledging the importance of France in controlling the nuclear supply. Before long, Jacques Chirac and other major Gaullists left the legislature in August 1976. Without any doubt, French politics had a strong policy orientation towards non-proliferation after the departure of the Gaullists.¹⁴ In September, Paris opened a government office for its non-proliferation policy; in December, the government announced that France would no longer export reprocessing technology to any other state.¹⁵

This did not equate to a complete loss of CEA autonomy or political influence on major government bureaucracies. The CEA continued to work on deals with Middle Eastern states, such as Iraq, which involved the transfer of sensitive technologies and facilities to those states, as discussed in Chapter 3. The importance of the oil economy enabled the CEA to survive after its bitter setback in the ROK deal.¹⁶ In addition, Saint Gobain, a company initially contracted to construct reprocessing facilities in the ROK, under the supervision of the CEA, provided a training program

¹³ Pouponneau and Mérand (2017, 127–128).

¹⁴ Ibid., 128.

¹⁵ Lellouche (1981, 47).

¹⁶ “Bombe arabe? Pourquoi Israël accuse la France,” *Le Point*, 409, July 1980; “L’Irak n’a pas la bombe mais la France s’yemploie,” *Libération*, September 25, 1980; “Irak: La bombe... Giscard responsable,” *Le Monde*, February 1–2, 1981, 5.

on reprocessing technologies to ROK scientists. Thus, the CEA appeared to maintain some contact with the ROKG even after the deal was cancelled.¹⁷

ROK Missile Development, 1971–1976

If the ROK's first nuclear program evolved around reprocessing technologies and facilities, one key aspect of its second nuclear program was missile development. As several historians have explained, the ROK initiated its missile program in early 1971, along with a scheme to construct nuclear warheads. As in the case of its warhead scheme, the ROK faced U.S. opposition, once Washington fully recognized its plan to introduce a ballistic missile in 1975. However, one factor distinguished these missile and warhead programs—the ROK had learned to complete the technology transfer, train engineers in the necessary skills, and produce ballistic missiles before the U.S. cut off access to the secrets of missile production.¹⁸ As Seltzer argues, in contrast to the case of the warhead program, the ROK succeeded in launching its ballistic missile program with assistance from the U.S. and France (and particularly from defense-industry firms in those countries).¹⁹ Clearly, while the Park and Ford Administrations both accepted the terms and conditions of the reprocessing-scheme shut down in the first half of 1976, they did not talk much about ending the ROK missile program. This enabled the ROK to advance a missile program, even after its warhead program was frustrated. After Jimmy Carter was elected as the new U.S. president in late 1976, the ROK began to use its missile capability to frustrate Carter's policy.

In 1972 and 1973, a group of ROK scientists and engineers in Korea's leading national defense-industry research institutes, including the Agency of Defense Development (ADD), the Korea Institute of Science and Technology (KIST), and the Korea Advanced Institute of Science and Technology (KAIST), began to develop ballistic missiles, with Park's authorization and guidance.²⁰ The missile-project group aimed to develop a surface-to-surface missile through a reverse-engineering method, based on the Nike-Hercules (a U.S. surface-to-air ballistic missile located on ROK soil). The ROK benefitted from the technological support of the U.S. Army, letting the ROK scientists to learn about the missile technologies.²¹ In addition, the project group was able to acquire propellant technology and a design for surface-to-surface missiles, thanks to defense-industry firms facing financial hardship, such as McDonnell Douglas and Lockheed. The ROK also acquired manufacturing technology from a French company, SNPE, in 1974.²² Won Cheol Oh, who was managing

¹⁷ Kim (2001, 67).

¹⁸ Ibid., 61–63.

¹⁹ Seltzer (2019, 290).

²⁰ Hong (2011, 494).

²¹ Kim (2001, 62–63).

²² An et al. (2016, 162) and Oh (1996, 563–564).

the ROK missile program when Hyeong Seob Choi was working on the CEA reprocessing deal, remembered that this was enabled by a research-team visit to France in 1972.²³ During the early 1970s, the connection between the ROKG and the CEA also seems to have facilitated technological transfers from the SNPE to the ROK missile-research team.

Clearly, by 1975, Washington was aware of the ROK quest for an indigenous missile project, based in part on its own defense industry, as well as a warhead program. However, contrasting with its position on the ROKG-CEA reprocessing deal for the warhead scheme, the U.S. government did not speak in a single voice about the missile program and was unable to prevent the ROKG from accessing Nike-Hercules technologies; as Sung Gul Hong and Seung Young Kim have argued, the U.S. Department of Defense (DoD) assumed that the ROK needed to reinforce its defenses (including tank and artillery forces) to protect itself from North Korea, the main threat, by introducing more sophisticated missile technologies. In addition, the ROK needed to acquire maintenance technologies, which would enable the U.S. to save a considerable amount of money by increasing the life cycle of the Nike-Hercules, an old missile system.²⁴ At the same time, the Department of State (DoS) understood that the ROK was attempting to acquire missile technology to advance its nuclear program and ultimately to produce a nuclear warhead.²⁵ In 1976, the Ford Administration finally opposed any further progress on the ROK missile program. The Blue House accepted this ruling once it was assured of receiving a U.S. security guarantee in exchange for closing down the ROKG-CEA reprocessing deal. At this point, the ROK had already acquired the technologies it needed for surface-to-surface remodeling and the local production of Nike-Hercules missile systems.²⁶ The ADD aimed to complete flight testing around 1980.²⁷ In the late 1970s, the ROK's quest for its missile capability and nuclear hedging strategy worsened Park-Carter relations which were already damaged by their diplomatic conflict over the human rights issue.

The Rise of Jimmy Carter and the ROK Nuclear-Hedging Strategy

Alongside missile development, the ROK also attempted to develop indigenous nuclear technologies for nuclear hedging. The new U.S. president negated the previous Administration's realpolitik approach and set new rules for America's relationship with its Third World allies. Throughout his presidential campaign and during the early years of his tenure, Carter emphasized that his new administration would support qualified allies who shared the same ideals as U.S. citizens, i.e., a respect for

²³ Oh (1996, 556).

²⁴ Kim (2001, 63).

²⁵ Springteen (1975, 3), cited from Hong (2011, 496).

²⁶ Kim (2001, 63).

²⁷ An et al. (2016, 213, 262–263).

democratic values and human rights. From his perspective, the ROK under the Park regime was a type of authoritarian regime, with a number of human-rights violations, and thus a model case that deserved the moral judgment of Washington.²⁸ Without a doubt, his perspective was similar to that of the U.S. Congress during the Ford era, which had refused to provide economic assistance to the Park government and even asked the Executive to pull U.S. forces from ROK soil.²⁹ The Ford Administration never acted on this Congressional demand; instead, Ford promised the ROK a nuclear umbrella and the continuous presence of U.S. forces stationed in the ROK; he even pushed Congress pass a bill to provide more aid for the ROK's civil nuclear program in order to halt the ROKG-CEA reprocessing deal.³⁰ However, the Carter Administration had no intention of following this policy. Almost immediately after his inauguration, Carter informed Park that he would pull U.S. land forces out of the ROK.³¹

Soon after Carter's victory in the presidential election, and the new U.S. leadership's rejection of any security guarantees for the Park regime (despite the deal between Park and Ford), ROK elites attempted to reinterpret the events of early 1976. It was clear that Seoul had cancelled its CEA reprocessing deal in exchange for the protection that Ford had pledged to provide. Before the U.S. presidential election in November, this literally meant the end of ROK nuclear weapons program. However, Seoul recognized that ending the ROKG-CEA deal would not change Carter's plan significantly. Park therefore began to argue that halting the reprocessing contract would not necessarily mean the end of the ROK nuclear weapons program. In November 1976, less than half a year after the ROKG cancelled the reprocessing contract, the Blue House resumed its nuclear weapons program. This time, however, it attempted to acquire nuclear latency to hedge the risk of U.S. abandonment. As Sung Gul Hong has argued, the ROK changed the model for its nuclear weapons program primarily because it had become almost impossible to import the facilities and technologies required for nuclear armament from other states, such as France, due to the Nixon-Ford legacy, i.e., the NPT and NSG. However, if the ROK were to develop reprocessing and/or enrichment technologies by itself, it would be regarded as a potential nuclear weapons state and thus not subject to sanctions from international society.³²

To establish its new goal (acquiring nuclear latency as a hedging strategy), the ROK redesigned its nuclear program in a more clandestine form. In December, Park established the Korea Nuclear Fuel Development Institute (KNFDI) to fabricate

²⁸ Choi (2017, 934).

²⁹ Solarz-Fraser Amendment to Withdraw U.S. Troops from South Korea, 1975, 12.30, U.S. Policy toward South Korea, box 135, Jimmy Carter Papers, Pre-Presidential, 1976 Presidential Campaign Issue Office-Noel Sterrett. Clippings-Foreign Issues, JCL.

³⁰ Hong (2011, 506–508).

³¹ "Letter from President Carter to President Park, February 15, 1977," in the presidential letter exchanges between President Park Chung Hee and U.S. President Carter, February 15, 1977–March 6, 1979, Class Number 722.9 US. Diplomatic Archive, Republic of Korea, cited from Choi (2017, 941).

³² Hong (2011, 508).

nuclear fuel, although not sensitive weaponization technologies. However, the ROKG also intended to use the experience and expertise of KNFDI personnel who had worked on the AERI reprocessing program (such as Vice Director of AERI, Jae Yang Joo) to develop reprocessing technologies.³³ Meanwhile, thanks to its connection with Saint Gobain (the construction firm contracted, under the terms of the ROKG-CEA deal, to build the reprocessing facilities), the ROKG also dispatched a group of scientists to France and Belgium to master reprocessing technologies.³⁴

The Carter-Park Conflict and Cooperation Between Carter and d’Estaing: the Missile Showdown and the Indigenous Nuclear Program, 1977–1978

Soon after his inauguration, the new U.S. president informed his ROK counterpart that Washington would be pulling its ground forces out of the ROK. As Choi explains, the Blue House did not oppose the White House withdrawal plan directly; instead, it demanded more funding to modernize the ROK military forces. This was mainly because Carter had combined his withdrawal plan with moral questions for the Park regime.³⁵ However, this response does not prove that the Park regime really accepted Carter’s pullout plan. On the one hand, the Blue House made use of diplomatic channels to frustrate Carter. It began to cooperate with groups that shared its antipathy toward the pullout plan, including the U.S. Army, Japan, and even the ROK opposition party.³⁶ These groups, which denied any direct connection with Park, expressed concern over the pullout plan, which seemed likely to destabilize Northeast Asia and to damage U.S. interests in the region. Using their political connections to such groups, ROK elites increasingly undermined the rhetoric of the pullout plan: “resetting alliance relations without damaging the U.S. national interest.”³⁷ At the same time, the ROKG resumed its nuclear diplomacy, using its potential for nuclear armament, based on indigenous technologies, as leverage to strengthen its opposition to Carter’s policy. Near the end of 1977, the ROK began to reveal its intention to revitalize its nuclear weapons program and accelerate its missile program.

Meanwhile, Carter took steps to finalize the non-proliferation initiatives launched by his predecessors, achieving a significant goal in the global non-proliferation. He met with the heads of the NSG member states in May 1977 to talk about the future of the NSG.³⁸ Following the President Ford’s strict non-proliferation rules,

³³ Ibid., 509.

³⁴ Kim (2001, 67).

³⁵ Choi (2017, 945).

³⁶ The opposition party in the ROK National Assembly argued that Washington would never be able to retrain the Park regime’s potential for authoritarian rule without the presence of U.S. forces in the ROK. For a detailed discussion of this period, see Choi (2017, 948–949).

³⁷ Lee and Hideo (1982, 104).

³⁸ Memorandum of Conversation, Carter Library, National Security Affairs, Staff Material, Trip File, Box 3, President, Europe, 5/5–10/77: [Memcons]. Secret. Carter visited London May 7–11 for the G–7 and NATO Summits. Carter Library, Presidential Materials.

the Carter Administration proposed a stricter rule to safeguard other members of the NSG. Although France continued to hold different views about the scope and definition of non-proliferation, it continued to cooperate with the U.S. Indeed, the new U.S. president succeeded in bringing about the cancellation of a French project to construct a reprocessing plant in Pakistan.³⁹ In return, Carter was expected to answer d'Estaing's requests, even before his inauguration. The policymakers who reviewed the French requests for nuclear assistance wanted to ask France for more support to the U.S. operations in NATO and NSG.⁴⁰ The cooperative relationship between Carter and d'Estaing continued, which might later help France finally obtain full assistance (including restricted nuclear weapons data) from the U.S. in 1985.⁴¹ In this context, the ROK had no diplomatic leverage for nuclear hedging in response to Carter's pullout plan. Although the ROK had acquired fuel-fabrication technology and finished building facilities to fabricate fuel, with technological assistance from the French company, CERCA (Compagnie pour l'Etude et la Realisation de Combustibles Atomiques) in 1978, this was not a sensitive technology for a nuclear weapons program.⁴² The situation caused Park to take more aggressive actions in his quest for ballistic missile technologies.

In June 1977, the U.S. Ambassador to Seoul, Richard Sneider, reported to the State Department that the ROKG appeared to have told the ROK mass media about a plan to develop a nuclear weapons program once U.S. nuclear weapons were removed from ROK soil.⁴³ According to CIA reports delivered to the White House in June 1978, however, this action seems to have been a bluff on the part of the Park regime. The CIA listed the following aspects of ROK nuclear activities:

No evidence that any nuclear weapons design work is under way at present.

No evidence that the South Koreans are trying to acquire a uranium-enrichment capability.

No evidence of any current activity related to the acquisition of a processing capability.

No evidence of stockpiling of fissile material.

No evidence of work on weapons fabrication.⁴⁴

³⁹ "'Next Steps on Pakistani Reprocessing Issue,' U.S. Embassy Paris cable 29,233 to State Department," September 01, 1978, History and Public Policy Program Digital Archive, Mandatory Declassification Review request. Obtained and contributed by William Burr and included in NPIHP Research Update #3.

⁴⁰ Ullman (1989, 19).

⁴¹ Ibid., 15.

⁴² AERI (1990, 173–175).

⁴³ Korea Intensify Discussion of Nuclear Option, June 17, 1977, Carter Withdrawal of U.S. Troops from Korea—Dep. Of State Documents, box 1, Oberdorfer Korea Collection, National Security Archives.

⁴⁴ National Foreign Assessment Center, *South Korea: Nuclear Developments and Strategic Decision Making* U.S. Central Intelligence Agency, June 1978, declassified for release, October 2005, 2. <https://www.globalasia.org/v6no3/feature/park-chung-hee-the-cia-&-the-bomb-peter-hayes>. Accessed on December 22, 2022, cited from Peter Hayes and Chung-in Moon, "Park Chung Hee, the CIA, and the Bomb", NAPS Net Special Reports, September 23, 2011, <https://nautilus.org/napsnet/napsnet-special-reports/park-chung-hee-the-cia-and-the-bomb/>.

In short, Washington concluded that the ROK nuclear threat was not imminent, as the country no longer had an external channel through which to acquire reprocessing technologies or facilities. However, the CIA report also said that the U.S. needed to monitor the ROK's efforts to develop indigenous technological capability by training research personnel.⁴⁵ Thus, the report implied the ROK could potentially secure reprocessing or enrichment technologies by itself in the future. Moreover, the CIA paid special attention to missile-development measures, which could be used to deliver a nuclear warhead if the ROK completed its warhead program.⁴⁶ As previously explained, by 1976, the ROK was able to produce the remodeled Nike-Hercules missile. This independent missile program was halted in 1976, when the CEA reprocessing deal ended. Once Carter initiated the pullout of U.S. land forces, the ROK quickly resumed its missile program; the White House was shocked a few months later, when the CIA reported on the ROK's nuclear and missile program.

The Blue House began to put pressure on Carter, aiming to frustrate his pullout plan through a series of ballistic-missile demonstrations. On September 26, 1978, the ROK conducted an open missile test of the K-1, *Baekgom* (Polar Bear, 180 km range and 440 kg warhead weight) missile, which was capable of striking Pyongyang from ROK territory.⁴⁷ On October 1, ROK Armed Forces Day, this K-1 missile was shown to an audience of foreign VIPs. In response to the following question from a foreign VIP, "Is it really made with ROK technologies?" the ROK Minister of National Defense, Jae Hyeon Roh, simply answered, "Yes."⁴⁸ The missile displays in September and October were striking enough to confirm the main findings of the CIA report in June. Although the ROK needed more time to acquire sufficient technologies and facilities to build a warhead program through its own efforts, the country succeeded in completing the other part of its nuclear weapons program, delivery measures, in 1978. As reported in the media (above), the ROKG emphasized that the K-1 missile was developed through its own efforts and technologies.⁴⁹ This was not entirely true because the K-1 missile was a remodeled version of the Nike-Hercules; in addition, ROK forces had acquired tricky techniques and technologies, including solid-fuel fabrication, through in-person training from U.S. and French engineers. However, this also implies that the ROK had completely mastered the development of missile capabilities at the point at which it tested the K-1.⁵⁰

After completing the K-1 project, the Blue House ordered a new missile project to ADD for the development of the K-2, which supposedly had a 2000 km range and

⁴⁵ Ibid.

⁴⁶ Ibid.

⁴⁷ Oh (1996, 408–410), cited from Kim (2001, 68). There is also a TV news clip about the missile test and the introduction of the K-1 missile. See "Today, September 26, 1978," KTV Kookmin Broadcast. https://www.youtube.com/watch?v=s3K3j4J5E78&ab_channel=KTV%EA%B5%AD%EB%AF%BC%EB%B0%A9%EC%86%A1.

⁴⁸ "Is it really made with the technologies of ROK? Attention toward the performance of missile" *Donga Ilbo*, October 2, 1977.

⁴⁹ Ibid.

⁵⁰ Seltzer (2019, 290).

rocket capability.⁵¹ Clearly, this ROK missile initiative went further in destabilizing the foundations of Carter's policy, which was already contested by U.S. military and intelligence leaders. In 1976 and 1977, a group of U.S. Army leaders reported to Congress that North Korea had begun to build up forces in the DMZ, following White House preparations for the pullout of U.S. land forces from the ROK.⁵² Carter and Park agreed to have a summit meeting in Seoul to end their conflict over the ROK security and human rights issue. Park aimed to secure U.S. land forces (permanently stationed in his country), while making some concessions on the human-rights issue. By contrast, Carter attempted to add one more condition, setting limits on the ROK missile program. Although the ROK missile issue was not the main agenda item for the summit meeting (and no agreement was reached during the meeting), the two parties dealt with the issue after major deals were concluded on the pullout and human-rights issues.

The Summit Meeting, End of the U.S. Pullout Plan, ROK–U.S. Missile Guidelines, and the End of the ROK Nuclear Weapons Program Following Park's Demise, 1979–1980

The 1979 meeting between the two leaders in Seoul and Washington represented the end of a long road, two years after their initial clash over human rights and the withdrawal of U.S. land forces from the ROK. In preparing for the summit meeting in the ROK, Carter decided to use the planned pullout of U.S. forces to bargain for human rights. In addition, he wanted control over the ROK nuclear program, which was already on the verge of termination. By contrast, Park wanted to end the U.S. withdrawal of land forces from the ROK at any cost. With these clear goals, the two leaders were prepared to narrow their differences.⁵³ On June 29, 1979, Carter arrived in Seoul and met Park in person. On the first day, they did not make much conversation. The U.S. president headed directly to his residence on the U.S. Army base.⁵⁴ On the next day, the real game began.

On the first day of the summit, the two presidents barely narrowed their differences on the issues of human rights and the pullout of U.S. land forces. In fact, the Carter Administration considered that it was not possible to realize the pullout plan. But Park's criticism of the pullout plan enraged Carter, as the ROK president lectured the U.S. president about why the U.S. should stay on the Korean Peninsula for 45 min. And both leaders rejected each other's demand, i.e., the improvement of the

⁵¹ Kim (2001, 68).

⁵² For a detailed discussion of U.S. military opposition to Carter's policy, see Choi (2017, 944–946).

⁵³ Ibid., 955.

⁵⁴ Gleysteen Jr. (1999, 46).

ROK's human rights conditions and termination of the U.S. pullout plan.⁵⁵ Therefore, the first day of the summit was ruined and there was no agreement. The next day, however, presidential aides on both sides informed how their presidents could reach a conclusion: Park promised to release political prisoners in the ROK as requested by the U.S. side, while Carter assured that he would review the pullout plan as the Blue House demanded.⁵⁶

Thus, the ROK–U.S. summit meeting ended with an unexpected success. On July 5, the Blue House announced its release of 180 political prisoners, in accordance with Carter's request. On July 20, the U.S. government announced that it would stop discussing the withdrawal policy in official terms.⁵⁷ This new harmony in the alliance relationship had a positive impact on U.S. efforts to control the ROK missile program, the imminent threat for the proliferation issue in the ROK. In July 1979, John Wickham, Commander of the U.S. Army in the ROK and UN Forces, asked the ROKG to stop developing a ballistic missile. Jae Hyeon Roh, the ROK Minister of National Defense, responded that the ROK would not develop a missile with more than a 500-kg payload or a 180-km range (ROK–U.S. Missile Guidelines). In return, the U.S. promised to transfer missile technology to the ROK.⁵⁸ In this context, the U.S. was able to stop the ROK's missile program, a threat that could complicate the proliferation issue in the ROK if it secured the entire nuclear fuel cycle with its nuclear latency strategy. Although the ROK did not stop its quest to develop nuclear capabilities by its own efforts for potential nuclear armament for some time, the U.S. successfully raised the threshold for nuclear armament of the ROK by limiting the measures of delivery.

However, the sudden downturn in ROK–U.S. relations, triggered by the Park regime's poor management of the human-rights issue, soon destroyed ROK–U.S. cooperation on the ROK nuclear program. Although the Blue House released the democracy activists, resistance from public did not stop. Park suppressed protestors with an iron fist, and this immediately ruined his relationship with Carter. In September, the White House criticized Park's behavior and summoned the U.S. Ambassador to Seoul.⁵⁹ This situation exacerbated the ROK's concerns about being abandoned by the U.S. and could have accelerated the mission to achieve nuclear latency. Before a summit meeting in 1979, Park regularly briefed his aides that he expected to establish a full nuclear weapons program in the ROK by the early 1980s.⁶⁰ However, he failed to complete the nuclear weapons project even with the ROK's indigenous efforts: on October 26, 1979, Park was assassinated by KCIA Director Kim Jae Gyu. After Park's death, the ROK nuclear program entered a new era.

⁵⁵ Ibid., 47.

⁵⁶ Ibid., 49.

⁵⁷ Ibid., 50.

⁵⁸ Hong (2011, 510).

⁵⁹ Gleysteen (1999, 51); Choi (2012, 185).

⁶⁰ "Nuclear Weapons Were Almost Completed in 1979" *Hankyoreh*, October 6, 1995.

Conclusion

Although Seoul experienced frustration at the end of the CEA contract to establish a reprocessing plant and technologies, it hesitated to end its fast-track strategy for nuclear armament. However, Ford's support for retaliatory actions by ROK–U.S. joint forces after the Axe Murder Incident in the summer of 1976 mitigated Park's security concerns and helped the Blue House redesign its nuclear program. In addition, the Ford Administration successfully gained cooperation from the French government for its determined approach to non-proliferation.⁶¹ In combination with the U.S.'s determination for ROK security, France's policy, based on a strict non-proliferation stance, pushed the ROK to re-shape its nuclear policy. ROK-French nuclear cooperation was operated in the limited area of nuclear energy, mainly in the non-sensitive field of nuclear technology. As a result, the ROK focused on the civil and industrial uses of nuclear energy.

However, when the partnership between Seoul and Washington began to falter after Jimmy Carter's election, Park started to re-consider the direction of the ROK's nuclear program once again. Carter rejected following the Korea policy of his predecessor and resumed the debate over the withdrawal of U.S. forces from the ROK while criticizing the desperate condition of human rights in the ROK. Carter also reinforced U.S. relations with France to ensure nuclear-supply control.⁶² Thus, South Korea lost significant leverage in its negotiations with the United States. Facing this new situation, the ROK accelerated its missile program, which benefitted from both U.S. and French technologies. It also began to develop an indigenous capability to build a nuclear weapons program. This development, along with other important factors including the Communist threat, affected the end of the Carter Administration's planned pullout of U.S. forces. Park's sudden demise in October 1979 brought a quick end to the ROK–U.S. conflict and redirected the ROK nuclear program.

References

Secondary Sources

- An, Tong-man, Pyong-gyo Kim, and Tae-hwan Cho. 2016. Baekgom, dojeongwaseungniugirok [Baekgom, record of challenge and victory]. Planet Media.
- Armstrong, Charles. 2009. Juche and North Korea's Global Aspirations. *North Korea International Documentation Project*, Working Paper 1, Woodrow Wilson International Center for Scholars.
- Choi, Lyong. 2012. The Foreign Policy of Park Chung Hee, 1968–1979. Ph.D thesis, London School of Economics.
- Choi, Lyong. 2014. The First Nuclear Crisis in the Korean Peninsula, 1975–76. *Cold War History* 14(1): 71–90.

⁶¹ Pouponneau and Mérand (2017, 127–128).

⁶² Ullman (1989, 19).

- Choi, Lyong. 2017. Human Rights, Popular Protest, and Jimmy Carter's Plan to Withdraw U.S. Troops from South Korea. *Diplomatic History* 41(5): 933–958.
- Gleysteen Jr., William H. 1999. *Massive Entanglement, Marginal Influence: Carter and Korea in Crisis*. Washington, DC: Brookings Institution Press.
- Hong, S.G. 2011. The Search for Deterrence: Park's Nuclear Option. In *The Park Chung Hee Era, The Transformation of South Korea*, eds. Kim B. K. and E. Vogel. Harvard University Press.
- Kim, Jeong Ryeom. 2006. cheongbingugeseoseonjingukmunteokkkaji [From the Poorest Country to the Entrance of a Developed Country]. Random House Joongang.
- Kim, Seong Jun. 2012. Formation and Changes in the Technological Regimes of the Nuclear Program in South Korea, 1953–1980. Ph.D. dissertation, Seoul National University.
- Kim, Seung Young. 2001. Security, Nationalism and the Pursuit of Nuclear Weapons and Missiles: The South Korean Case, 1970–82. *Diplomacy and Statecraft* 12(4): 53–80.
- Kim, Yong Jick. 2011. The Security, Political, and Human Rights Conundrum, 1974–1979. In *The Park Chung Hee Era: The Transformation of South Korea*, eds. Kim Byung Kook and Ezra F. Vogel, 457–482. Harvard University Press.
- Lee, Chae-jin and Sato Hideo. 1982. *U.S. Policy Toward Japan and Korea*. New York: Praeger.
- Lellouche, Pierre. 1981. Breaking the Rules Without Quite Stopping the Bomb: European Views. *International Organization* 35(1): 47.
- Oberdorfer, Don. 2002. *The Two Koreas: A Contemporary History*. New York: Basic Books.
- Oh, Won Cheol. 1996. Hangukyeonggyeongjeonseol: enjinieoringeopeurochi, je5gwon [Korean Economic Construction: Engineering Approach, volume 5]. Kia KyeongjeYeonguso.
- Pouponneau, Florent and Frédéric Mérand. 2017. Diplomatic Practices, Domestic Fields, and the International System: Explaining France's Shift on Nuclear Nonproliferation. *International Studies Quarterly* 61(1): 123–135.
- Seltzer, Nicholas. 2019. Baekgom: The Development of South Korea's First Ballistic Missile. *The Nonproliferation Review* 26(3), 4: 289–327.
- Ullman, Richard H. 1989. The Covert French Connection. *Foreign Policy* 75: 3–33.

Primary Sources

Korea

- Atomic Energy Research Institute. 1990. The 30 Years of History in the Korea Atomic Energy Research Institute, 1959–1989.
- Atomic Energy Research Institute. 2019. The 60 Years of History in the Korea Atomic Energy Research Institute, 1959–2019.
- “Interview with Jang Nae Son,” *Monthly Chosun*, August 1995.
- “Is it really made with the technologies of ROK? Attention toward the performance of missile” *Donga Ilbo*, 2 October 1977.
- “Letter from President Carter to President Park, February 15, 1977,” in the presidential letter exchanges between President Park Chung Hee and U.S. President Carter, 15 February 1977–6 March 1979, Class Number 722.9 US. Diplomatic Archive, Republic of Korea.
- “Nuclear Weapons Were Almost Completed in 1979” *Hankyoreh*, 6 October 1995.
- “Reports of summit meeting, U.S. President Jimmy Carter's visit to Korea, 1979, vol. 3,” Class Number, 724.12U.S., Diplomatic Archives, Republic of Korea.
- “The implementation of the ROK-U.S. Joint Standing Committee on nuclear and atomic energy technology matters in 1976. Safeguard for non-proliferation in Korea, especially for the reprocessing plant issue,” Class Number 763.62US; 763.631US, Diplomatic Archives, Republic of Korea.

U.S. and France

“Bombe arabe? Pourquoi Israël accuse la France,” *Le Point* 409, July 1980.

“Carter-Park Summit in 1979” Memorandum of Conversation, 5 July 1979, Don Oberdorfer Files, Box 2, 1978–79, National Security Archives at the George Washington University, Washington, DC, USA.

“Irak: La bombe... Giscard responsable,” *Le Monde*, 1–2 February 1981, 5.

“Korea Intensify Discussion of Nuclear Option,” 17 June 1977, Carter Withdrawal of U.S. Troops from Korea—Dep. of State Documents, box 1, Oberdorfer Korea Collection, National Security Archives at the George Washington University, Washington, DC, USA.

L’Irakn’a pas la bombe mais la France s’yemploie,” *Libération*, 25 September 1980.

“Meeting with President Park,” Telegram 206084. From the Department of State to the Embassy in the Republic of Korea, 19 August 1976, 0110Z, Korea, Box 10, Presidential Country Files for East Asia and the Pacific, National Security Adviser, Ford Presidential Library, Grand Rapids, Michigan, USA.

Memorandum of Conversation, National Security Affairs, Staff Material, Trip File, Box 3, President, Europe, 5/5–10/77: [Memcons], Secret. Carter visited London May 7–11 for the G–7 and NATOSummits, Presidential Materials, Carter Library, Atlanta, Georgia.

“Memorandum of Conversation of Brent Scowcroft, Richard Sneider, William Gleysteen,” 15 September 1976, Korea 19, Box 10, Presidential Country Files for East Asia and the Pacific, National Security Adviser, Ford Presidential Library, Grand Rapids, Michigan, USA.

Memorandum of Conversation, 5 July 1979, Don Oberdorfer Files, Box 2, 1978–79, National Security Archives at the George Washington University, Washington, DC, USA.

National Foreign Assessment Center, *South Korea: Nuclear Developments and Strategic Decision Making* U.S. Central Intelligence Agency, June 1978, declassified for release, 2 October 2005. https://www.globalasia.org/v6no3/feature/park-chung-hee-the-cia-&-the-bomb_peter-hayes. Accessed 22 December 2022. Cited from Peter Hayes and Chung-in Moon, “Park Chung Hee, the CIA, and the Bomb,” NAPS Net Special Reports, 23 September 2011, <https://nautilus.org/napsnet/napsnet-special-reports/park-chung-hee-the-cia-and-the-bomb/>.

“‘Next Steps on Pakistani Reprocessing Issue,’ U.S. Embassy Paris cable 29233 to State Department,” 01 September 1978, History and Public Policy Program Digital Archive, Mandatory Declassification Review request. Obtained and contributed by William Burr and included in NPIHP Research Update #3.

“ROK Nuclear Reprocessing,” United States. Department of State, Country File; Korea- State Department Telegrams, Box 12, National Security Adviser; Presidential Country Files for East Asia and the Pacific, Ford Presidential Library, Grand Rapids, Michigan, USA.

“Solarz-Fraser Amendment to Withdraw U.S. Troops from South Korea, 30 December 1975,” U.S. Policy toward South Korea, box 135, Jimmy Carter Papers, Pre-Presidential, 1976 Presidential Campaign Issue Office-Noel Sterrett. Clippings-Foreign Issues, JCL.

Epilogue

The triangular relations among the Republic of Korea (ROK), France, and the United States (U.S.) in nuclear diplomacy expose numerous critical mechanisms in proliferation, non-proliferation, and alliance politics. First, the interests and perspectives of technocrats defined the state's approach toward nuclear policy. The growth of experts and scientific societies in the ROK government dictated many parts of the country's nuclear history; they introduced the rationale of dual-use of nuclear energy to cater to their political interests, guided the path for the nuclear weapons program, and re-directed the strategy for the ROK nuclear program—from the nuclear armament to nuclear hedging. It is noteworthy that many of them studied abroad,¹ learning the theories and mechanisms of nuclear physics and other disciplines. This transnational nature of science society allowed the ROK to acquire reprocessing technologies and a heavy-water reactor system from France and Canada to develop its own nuclear warheads without violating the bilateral agreement with the U.S. Clearly, the ROK's case was not the only one. In France, the post-war development of technonationalism and Gaullism nurtured technocrats' growth and strengthened their position in policy-making.² However, the French Alternative Energies and Atomic Energy Commission (Commissariat à l'énergie atomique et aux énergies alternatives, [CEA]) and other key organizations with expertise in the fields of nuclear science and technology did not intend to attempt nuclear proliferation. Their antipathy toward U.S. hegemony in Europe and their attempts to control France's nuclear proliferation affected their efforts to achieve self-reliance by exporting sensitive nuclear technologies to other states, thereby bolstering their ambition to become a nuclear weapons state. The contract between the ROK and CEA—including its subordinate organizations and companies—was the keystone of the former's nuclear weapons initiative that aimed to acquire plutonium within a couple of years.³

¹ Kim (2012, 53).

² Juan et al. (2015, 190–191).

³ Choi (2014, 71–75); “ROK-French Plutonium Reprocessing: US Request for Cancellation,” United States. Department of State. Counselor. Secret, Memorandum. Country File; Korea—State

Next, the transactions and deals among triangular relations also demonstrate that non-proliferation is an important factor in international security. International non-proliferation cannot be accomplished by one or two superpowers as an increasing number of states can access technologies through international exchange and their own efforts. The U.S. had failed to prevent the emergence of 'N'th states since the 1950s. Clearly, U.S. policy lacked consistency regarding non-proliferation, providing wrong signals to its own allies and enemies: Eisenhower's Atoms for Peace initiative and the support for the French nuclear program pushed U.S. allies to develop nuclear capabilities for energy and national defense and aggravated the Communists' needs for seeking deterrence for the nuclear proliferation in the Western Bloc.⁴ Eisenhower's successors attempted to move to the universal application of a non-proliferation policy, but had a hard time acquiring consent from their key allies, France and West Germany, which tried to broaden access to the international market in the nuclear industry.⁵ In particular, the nationalistic antagonism toward the U.S. in France exacerbated the hardships and complexities of the former's efforts for non-proliferation in the Third World. In this context, alliance politics between the U.S. and France was one of the key issues in the U.S. foreign policy. Washington persistently sought the path for the reunion of World War II allies and took the chance after Charles de Gaulle's resignation. The domestic political transformation in France and the U.S. response to the new leadership in France since the late 1960s gradually opened the window of global non-proliferation control. The international coalition for non-proliferation between the U.S. and France—that is, Nixon-Pompidou, Ford-d'Estaing, and Carter-d'Estaing—created fissures in the link of nuclear proliferation and undermined the Gaullists' techno-nationalist tradition in France. The cancelation of the ROKG–CEA contract for reprocessing technologies and facilities symbolizes the success of the non-proliferation coalition and exhibits its mechanism.

Finally, the triangular relations affecting the change in U.S. politics to the ROK nuclear issue in the mid-Cold War era denote the unstable nature of the ROK–U.S. alliance politics. The ROK, under Park Chung Hee, depended on the U.S. for its national security but needed political leverage to maintain U.S. support. On the one hand, leverage was a positive incentive for Washington, which sent ROK forces to Vietnam for the U.S. campaign in Indochina; on the other hand, it was a negative factor threatening Washington's grand strategy. The ROK's connection with the Gaullists in France was a typical example of these leverages with a negative incentive. However, the progress and end of the ROKG–CEA reprocessing deal affected the change in the U.S. approach toward the ROK's nuclear program.⁶ It seems that Washington attempted to control the alliance relations with the ROK

Department Telegrams, Box 11, National Security Adviser; Presidential Country Files for East Asia and the Pacific, Ford Presidential Library.

⁴ Drogan (2019, 441–460).

⁵ Goldsborough (1976, 496–510) and Kohl (2015).

⁶ Memorandum of Conversation of Brent Scowcroft, Richard Sneider, William Gleysteen, 15 September 1976, Korea 19, Box 10, Presidential Country Files for East Asia and the Pacific, National Security Adviser, Ford Library; "The implementation of the ROK-U.S. Joint Standing Committee on nuclear and atomic energy technology matters in 1976. Safeguard for non-proliferation in Korea,

with a bilateral—instead of a multilateral—approach. This was possibly done to prevent another covert connection between the ROK and the other(s) with sensitive technologies, such as the CEA. Coupled with the ROK–U.S. Missile Guideline, first signed in September 1979, the ROK’s nuclear program was restricted by the ROK–U.S. additional agreements in 1977 and the Missile Guideline, which were tighter than the NPT and Missile Technology Control Regime (MCTR) and regulated the range and warhead weight of missiles. As the NPT did not prohibit the possession of enrichment and reprocessing technology and facilities, the ROK–U.S. bilateral nuclear agreement was controversial; hence, the U.S. had to bridge the gap between this agreement and the NPT by means of carrot and stick. In return, the U.S. repeatedly affirmed its commitment to the ROK’s national security and the transfer of nuclear technology for its peaceful use.

Nuclear Latency and Hedging Issue in the ROK

While the history of the ROK’s nuclear weapons program has been overshadowed by the North Korean nuclear crisis since the 1990s, the ROK has developed its foundation for nuclear programs for dual-use and competed with the U.S., France, and other leading nuclear states in the international market of the nuclear industry. The ROK demonstrated its capability for nuclear armament without realizing it and used its nuclear latency as a bargaining chip for extended deterrence from the United States. Despite its special relations with the U.S., the ROK diversified its partners in the 1980s to acquire its capabilities in nuclear technologies, some of which the U.S. was reluctant to provide or ask more payment for (Fig. A1).

Because the ROK’s potential and intention to develop its own nuclear arsenals was emphasized when the U.S. attempted to reduce its troops in ROK soil, its nuclear latency was being used to hedge the threat of a U.S. retreat from the Korean Peninsula instead of the one from North Korea. Although the ROK–U.S. Nuclear Agreement limited the former’s nuclear development to civil uses, the ROK government rationalized its continuous quest for nuclear capability with the NPT, which did not prohibit the ROK from securing reprocessing and enrichment technology.

This structure of the ROK–U.S. nuclear dilemma was constructed based on the ROK’s scientific capability and sponsored by the ROK government. To some extent, it prevented both the nuclear armament of the ROK and the withdrawal of the U.S. from the Korean Peninsula for decades. Although Park’s successor Chun Doo Hwan reassured Ronald Reagan that the ROK had discarded its nuclear program, his and his successor’s government kept sponsoring the nuclear industry and developing

especially for the reprocessing plant issue,” Class No.: 763.62US; 763.631US, Diplomatic Archive of Republic of Korea.



Fig. A1 The contract between the AERI and Siemens-KWU, West Germany, for the introduction of technologies for nuclear fuel for light water reactor⁷

nuclear technology.⁸ At that time, secret research on sensitive nuclear technologies in the ROK was conducted four times without reporting to the IAEA. For instance, in 1980, the AERI extracted 154 kg of natural uranium from phosphate rock and stored 133 kg from AERI facilities; furthermore, it conducted research on chemical uranium enrichment between 1979 and 1981. In addition, it produced a small amount of plutonium between 1981 and 1982, and it enriched uranium by laser and produced 0.2 g of enriched uranium, from 10 to 77%, between 1994 and 1996. The ROK reported these undeclared nuclear activities to the IAEA in 2004.⁹

Since the ROK–U.S. Nuclear Agreement, revised in 1974 and valid for 40 years, limited uranium enrichment and plutonium reprocessing by the ROK, Seoul only secured the scientific and technological foundation for them. For those 40 years, the ROK consistently sought a nuclear hedging strategy, and the structure of the ROK–U.S. nuclear dilemma remained unchanged. When the ROK attempted to come closer to the technological limit of the NPT, the U.S. provided more guarantees for the ROK’s national security to maintain the framework of the ROK–U.S. Nuclear Agreement and ROK–U.S. Alliance. In the 2010s, however, the structure of the

⁷ AERI (2019, 45).

⁸ *Weekly Chosun*, “After 30 Years, Won Cheol Oh, the previous chief of economy and man in charge of nuclear program in Park Chung Hee Regime, broaches the subject of nuclear program,” January 12, 2010. http://news.chosun.com/site/data/html_dir/2010/01/12/2010011200988.html.

⁹ An (2011, 174).

ROK–U.S. nuclear dilemma was challenged by common concerns over the North Korean nuclear threat.

Political Discussion of ROK Nuclear Latency in the 2010s and 2020s

In recent years, there have been two conflicting movements that could change the ROK's nuclear latency: the revision of the ROK–U.S. Nuclear Agreement in 2015 and the ROK's nuclear phase-out policy since 2017. In 2015, 40 years after the 1974 ROK–U.S. Nuclear Agreement, the two countries renewed the agreement with several remarkable changes. First, the ROK was allowed to reprocess used nuclear fuel for the peaceful use of nuclear energy. Second, the U.S. would supply fissile materials for fast-breeder experiments conducted by the ROK. Third, the ROK was allowed to enrich uranium by up to 20%. This does not imply that the U.S. allowed the nuclear armament of the ROK; the limit on the ROK's nuclear capability was moderated. In this new framework, the ROK expected a more efficient use of nuclear energy by securing the nuclear fuel cycle.¹⁰ Additionally, as the ROK–U.S. Missile Guideline was revised in 2012, 2017, and 2020 and completed in 2021, the warhead weight limit and range of the ROK's ballistic missile forces were lifted.¹¹ Coupled with the nuclear threat from the North, the lifting of the restriction on ROK's nuclear and missile capability triggered a political debate in Korean politics for another revision to the ROK–U.S. Nuclear Agreement and the military uses of nuclear energy. In 2017, the ROK government revealed that it considered the acquisition of a nuclear submarine that uses more than 40% enriched uranium.¹² Therefore, the ROK–U.S. Nuclear Agreement should be revised because the new agreement in 2015 limited the ROK's uranium enrichment by up to 20%. Furthermore, the ROK's conservatives called for nuclear armament in late 2017 after the DPRK's sixth nuclear test.¹³ As of early 2019, Washington and Pyongyang discussed the terms and conditions for denuclearization in the North while Washington pushed Seoul to increase its contribution to the expenses of U.S. troops stationed on its soil. With skepticism over the chances of the DPRK's denuclearization and fear of abandonment by the U.S., the ROK's conservatives have argued for the development of nuclear weapons.¹⁴ Considering the influence of the ROK–U.S. alliance on the ROK's national security

¹⁰ Mark E. Manyin and et al., *U.S.–South Korea Relations* (CRS Report No. 41481), 42–43. Retrieved from Congressional Research Service website: <https://sgp.fas.org/crs/row/R41481.pdf>.

¹¹ “U.S. Lifts Missile Limits on South Korea,” *Arms Control Today*, June 2021, <https://www.armscontrol.org/act/2021-06/news/us-lifts-missile-limits-south-korea>.

¹² “(News Focus) Nuclear sub fuel, spy satellites likely on S. Korea's arms shopping list,” *Yonhap News*, September 22, 2017. For instance, the US nuclear submarine uses 90% weapon-grade uranium.

¹³ “Calling for nuclear armament,” *Yonhap News*, August 31, 2017.

¹⁴ “Liberal Korea Party Calls for Nuclear Armament,” *JTBC*, January 23, 2019.

as well as its high dependence on international trade, the voice for nuclear armament sounds unrealistic because it will endanger the viability of alliances and initiate international sanctions on the ROK. However, this can be interpreted as another attempt to hedge against the threat of U.S. withdrawal.

Meanwhile, an anti-nuclear movement was formed. After the Fukushima incident in 2011 and a number of earthquakes on the southeast coast of the ROK, where most nuclear plants are located, nuclear energy safety became a critical concern. In 2013, a scandal involving the use of counterfeit parts in nuclear plants and faked quality-assurance certificates shocked Korean society.¹⁵ The Moon government canceled several plans for the future construction of nuclear plants and decided on the early closure of old nuclear plants. For instance, the cornerstone of the Park Chung Hee nuclear program, the first CANDU plant, Wolsong Mark I, was shut down in 2018.¹⁶ The Moon Administration planned to phase out nuclear energy and develop other green energy sources. If the ROK reduces its investment in the nuclear industry through such a phase-out policy, the effect of the renewed ROK–U.S. Nuclear Agreement in 2015 on the ROK’s nuclear latency would be canceled out.

Nuclear capability and its bearing on the ROK’s national security will depend on the results of ongoing DPRK–U.S. negotiations. If Kim Jong Un decides to accept the principle of denuclearization and starts to dismantle North Korean nuclear weapons, the ROK’s denuclearization policy will spur; in this context, the importance of nuclear latency in the ROK’s national security system will decrease. For the existing North Korean nuclear threat, the ROK even seeks deterrence with conventional measures (e.g., punitive deterrence: Kill-chain and Korea Massive Punishment and Retaliation [KMPPR], and defensive deterrence: Korea Air and Missile Defense [KAMD] and Terminal High Altitude Area Defense [THAAD]). In technical terms, however, as the ROK’s nuclear hedging has focused on U.S. commitment to its national security—not directly on the North Korean nuclear threat—it is hardly expected that the ROK will completely discard nuclear capability until the North Korean threat disappears—both in conventional or WMD forms. Until then, the structure of the ROK–U.S. nuclear dilemma could abide. The key components of the ROK’s deterrence include U.S. intelligence assets and the MD system, by which the Biden Administration demands more contributions from the ROK for the expenses associated with U.S. troops stationed on its soil. In this regard, until the ROK assures its national security, it will not sacrifice the advantage of nuclear hedging, which helps it maintain U.S. presence.

The ROK–French relations in the nuclear industry remain noteworthy because of France—more precisely, the CEA and commercial organizations. Although France generally accepted the U.S. idea of non-proliferation after the d’Estaing era, Seoul worked with the CEA and other French organizations across multiple fields for nuclear latency, except those for reprocessing and enrichment. Even though the ROK could not acquire reprocessing facilities, it could have learned the theoretical

¹⁵ “Korea’s nuclear phase-out policy takes shape,” *World Nuclear News*, June 19, 2017.

¹⁶ “Early closure for Korea’s oldest operating reactor,” *World Nuclear News*, June 15, 2017.

mechanism for nuclear armament through these research programs. For instance, in February 1982, the ROK and France held the first meeting for the ROK–France Joint Coordination Committee for Atomic Energy and agreed on joint research for nuclear fuel cycle technologies for fast-breeder reactors. In July, at the second meeting, both parties agreed on the joint research program for fast-breeder reactors. The joint research program was completed in September 1986. The major participants in these projects were the KAERI and the CEA, the core actors in the 1970s reprocessing deal. In the mid-1980s, the KAERI conducted a number of research projects on uranium dioxide, along with CEN-Saclay and Framema of France.¹⁷ The ROK–France partnership helped the ROK reduce its dependence on U.S. technologies and establish its foundation for nuclear science and technologies for nuclear latency faster than expected. The AERI, as already discussed, was able to reprocess the used fuel and enrich uranium in the 1980s and became one of the leading institutes in the world nuclear science in the late 1990s.¹⁸

Conclusion

The U.S. quest for global non-proliferation during the Cold War was long and tough. Ironically, in many cases, it was the allies of the U.S.—rather than its arch enemy, the USSR—that prevented it from defining the range and level of non-proliferation. The post-war alliance relations in Europe mounted a major difficulty for Washington to apply the universal rule of non-proliferation as its European allies already possessed the capabilities for nuclear armament. Additionally, they rejected the unilateral practice of U.S. hegemony in the global nuclear policy because they wanted to secure more advanced technologies (vertical proliferation). In the Third World, several allies were motivated to arm themselves with nuclear weapons when they noticed the U.S.'s reluctance to protect them from their enemies. However, they required a source for technologies to enter the gate of nuclear weapons states (horizontal proliferation). The equilibrium of these dynamics in nuclear politics was the bilateral agreements avoiding U.S. regulations, which clearly demonstrates this mechanism. In return, Washington quickly responded to halt the development of this connection between its allies: the U.S. guaranteed the security of the ROK and helped France develop its advanced technologies for nuclear arsenals.

¹⁷ AERI (2019, 54).

¹⁸ An (2011, 174).

References

Secondary Sources

- An, Joon Ho. 2011. *haengmugiwagukjeongchi [Nuclear Weapon and International Politics]*. Open Books.
- Choi, Lyong. 2014. The First Nuclear Crisis in the Korea Peninsula, 1975–76. *Cold War History* 14(1): 71–90.
- Drogan, Mara. 2019. The Atoms for Peace Program and the Third World. *Cahiers Du Monde Russe* 60(2, 3): 441–460. <https://www.jstor.org/stable/27056911>.
- Goldsborough, James O. 1976. The Franco-German Entente. *Foreign Affairs* 54(3): 496–510.
- Juan, Salvador, Isabelle Grand, and Julien Vignet. 2015. *La technocratie en France: Une nouvelle classedirigeante?* Le bord de l'eau.
- Kim, Seong Jun. 2012. "Formation and Changes in the Technological Regimes of the Nuclear Program in South Korea, 1953–1980," Ph.D. Thesis, Seoul National University.
- Kohl, Wilfred L. 2015. *French Nuclear Diplomacy*. Princeton University Press.

Primary Sources

Korea

- Atomic Energy Research Institute. 2019. *The 60 Years of History in the Korea Atomic Energy Research Institute, 1959–2019*.
- "Calling for Nuclear Armament," *Yonhap News*, 31 August 2017.
- Chosun Ilbo. 2010. After 30 Years, Won Cheol Oh, the previous chief of economy and man in charge of nuclear program in Park Chung Hee Regime, broaches the subject of nuclear program. Chosun Ilbo. January 12. http://news.chosun.com/site/data/html_dir/2010/01/12/2010011200988.html. Accessed 27 January 2022.
- Lee, Chi-dong. 2017. (news focus) Nuclear sub fuel, spy satellites likely on S. Korea's Arms Shopping List. Yonhap News Agency. September 22.
- "Liberal Korea Party Calls for Nuclear Armament," *JTBC*, 23 January 2019.
- "Memorandum of Conversation of Brent Scowcroft, Richard Sneider, William Gleysteen," 15 September 1976, Korea 19, Box 10, Presidential Country Files for East Asia and the Pacific, National Security Adviser, Ford Presidential Library, Grand Rapids, Michigan, USA; "The implementation of the ROK-U.S. Joint Standing Committee on nuclear and atomic energy technology

matters in 1976. Safeguard for non-proliferation in Korea, especially for the reprocessing plant issue,” Class Number: 763.62US; 763.631U.S., Diplomatic Archives, Republic of Korea.

U.S.

Early closure for Korea’s oldest operating reactor. 2017. *World Nuclear News*. June 15.

Kim, Sang-min. 2021. U.S. Lifts Missile Limits on South Korea. U.S. Lifts Missile Limits on South Korea. *Arms Control Today*. <https://www.armscontrol.org/act/2021-06/news/us-lifts-missile-limits-south-korea>. Accessed 2 February 2022.

Korea’s nuclear phase-out policy takes shape. 2017. *World Nuclear News*. June 19.

Mark E. Manyin and et al., *U.S.-South Korea Relations* (CRS Report No. 41481), 42–43. Retrieved from Congressional Research Service website: <https://sgp.fas.org/crs/row/R41481.pdf>. Accessed 28 January 2022.

“ROK-French Plutonium Reprocessing: US Request for Cancellation,” United States. Department of State. Counselor. Secret, Memorandum. Country File; Korea- State Department Telegrams, Box 11, National Security Adviser; Presidential Country Files for East Asia and the Pacific, Ford Presidential Library, Grand Rapids, Michigan, USA.