

## The Revision of ROK-U.S. Nuclear Cooperation Agreement: A Comparative Study on U.S.-Japan Accord Case

Hyun Yub Noh, Un Chul Lee

Dept. Nuclear Engr., Seoul Nat'l Univ., Daehak-dong, Gwanak-gu, Seoul, 151-744

### 1. Introduction

For decades, the Republic of Korea (ROK) and the United States (U.S.) have collaborated in the peaceful use of atomic energy. However, this current cooperation agreement would expire in 2014. The government of ROK wants to amend the agreement for maximizing peaceful and commercial use of nuclear power. On the other hand, the U.S. government would worry about spreading the sensitive technologies concerned with enrichment or reprocessing because of the "dual use" characteristic. Most countries which have a nuclear cooperation agreement with U.S. are restricted in many R&D activities by the prior consent article, except Japan, EURATOM, and India. There are some opinions that the agreement revision case between the U.S. and Japan can be invoked in Korean case [1].

### 2. Analysis of U.S.-Japan Accord Revision Case

Japanese nuclear development regime has mainly been affected according to the U.S. nuclear policy. Despite of the increasing worldwide non-proliferation trend in 1970s, Japan could establish his independent fuel cycle. The deployment of U.S.-Japan nuclear cooperation and major events are shown in a chronological table, and it could be divided into three sections [2].

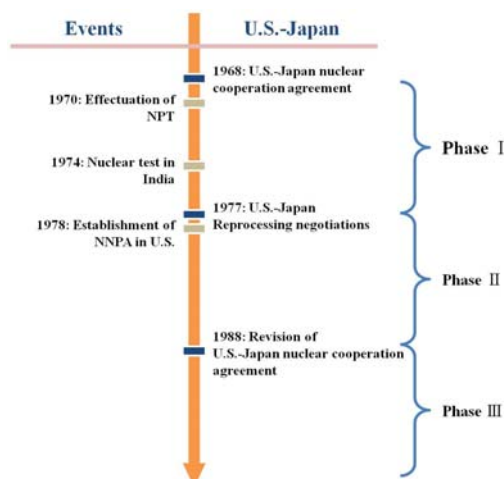


Fig. 1. Major events affecting non-proliferation regime and the deployment of U.S.-Japan cooperation

Phase I is the period that Japanese government had tried to introduce nuclear technologies and facilities from advanced countries like U.S., France, and England.

At the same time, the U.S. had supported and promoted Japan because the U.S. wanted to expand uranium market share. In this era, two Japanese departments had formed a coalition to pursue national interests; those are Ministry of International Trade and Industry (MITI) and Science and Technology Agency. Despite of beginning of the Non-proliferation Treaty (NPT) regime (1970) and nuclear test (1974) in India, Japan could settle the technical base for independence.

In Phase II period, Japan had kept negotiating several times about the operating permission of reprocessing plants with the tougher U.S. administration. Already verified technology and built facilities at that time, Japan could achieve own goal (1977). Then, the Nuclear Non-proliferation Act (NNPA) was enacted (1978) by the U.S. government. It was quite tough situation for Japanese government to prepare the agreement revision. To establish complete fuel cycle in Japan, the programmatic prior consent of the U.S. was required. Many kinds of Japanese actors; the coalition mentioned above (but more strengthen bargaining body), enterprises, research institutions, civilian groups and lobbyists had played roles to attain nuclear transparency. Finally, the revision of agreement was signed in the mutual concession; the U.S. kept own justice for enacting NNPA, and Japan finally secured the programmatic prior consent of the U.S.

Japan has performed R&D activities for front and back-end fuel cycle after the successive accord revision (Phase III). In this era, parts of authority and ability to lead negotiation have transferred to industrial and civil parts who are real actors above such a stable environment. Now, Japan is evaluated as the only country which has the complete fuel cycle without nuclear weapon.

Actually, Japanese agreement signed in 1968 was same in currently ROK's. Therefore, it suggests that the model agreement defined in NNPA could be adjusted under specific conditions. It would be meaningful to understand conditions for deriving an appeasement non-proliferation policy from the U.S. government. In this perspective, the notable features of Japanese diplomatic negotiations could be characterized as clear objectives of bargaining bodies, guarantee of substantial benefits of a counterpart, basis of demonstrated technologies, and nuclear transparency.

### 3. Application to ROK-U.S. accord Revision Case

Most likely to complicate the revision negotiation of ROK-U.S. nuclear cooperation agreement is the

implementation of a U.S. right to consent ROK's reprocessing / recycling of spent fuel from its nuclear program. Especially, the issue of "Pyroprocessing" would be controversial in the negotiation. In the perspective of South Korea, it is important to establish full nuclear fuel cycle because of energy security, exporting nuclear power plants, and solving spent fuel management problem. Nevertheless, there are several points of contention suggested by the U.S [3][4].

First of all, the U.S. worries that acceptance of ROK pursuit of pyroprocessing would raise regional and global non-proliferation concerns. The U.S. could not find a rationale for setting exception for ROK to the policy of preventing the spread of sensitive technologies. The U.S. thinks that it would rather make a precedent for nuclear developing countries which want to possess the technology for strategic weapon. Besides, the U.S. points out that related facility or technology is neither in ready nor demonstrated. Therefore, ROK cannot be considered a same case as Japan without concrete plan to use residual products from pyroprocessing. At last, the nuclear issue of Democratic People's Republic of Korea (DPRK) makes the U.S. hesitate to consent to any kind of sensitive concern on the Korean Peninsula. If the pyroprocessing would be allowed to the ROK, all efforts of disarmament to the DPRK might be in vain, as the U.S., non-proliferation communities thought.

Table I : Comparison of main conditions for agreement revision between Japan-U.S case and ROK-U.S. one

	<b>Japan-U.S.</b>	<b>ROK-U.S.</b>
<b>Consistency of objectives</b>	Clear goal for establishing the full fuel cycle	Keep coordinating for consensus among each actors
<b>National benefits for counter part</b>	Suggesting an uranium market, respecting the NNPA	The joint research for pyroprocessing could be possible as a one of option
<b>Nuclear transparency</b>	Specified and concrete plan has increased predictability and transparency	Unreported cases, vague long-term plan makes hard to attain credibility of U.S.

Before refuting against these assertions, it is necessary that the U.S.-Japan revision case could be referred to the ROK-U.S one. To jump to the conclusion, it is not appropriate to quote the whole case as a supporting theory. Comparing the existing conditions of ROK with the Japanese features as mentioned above, prominent differences are verified. First, the contents of requirements are inconsistent among the domestic actors related the nuclear policy. It shows that ROK has vague objective, or lacks the will for a successive revision. Additionally, ROK has not suggested enough benefits to the counterpart. The National interest would be the weightiest motivation in bilateral negotiation. With nothing gained, no one would move toward friendly partnership. Finally, ROK needs to realize the current nuclear transparency is

lower than the level of own thought [5]. There are some domestic opinions that ROK has followed the non-proliferation regimes excellently, so ROK attained enough transparent to overcome past mistakes. In currently ROK's preparation status, the successive amendment could not be expected. In the perspective of the U.S., ROK's claims without understanding of the differences with the Japanese revision case could be easily disparaged just as a complex or competition against Japan [6].

#### 4. Preparations for Logical Responses

Most of all, characteristics of pyroprocessing is not needed to debate; proliferation-resistance, ability of reducing spent fuel. The logical bases of opponents are mainly political, non-technical valuation. Therefore, the bargaining body of ROK should more concentrate on transparency and credibility for non-proliferation. In addition, the concrete long-term plan is needed to help the U.S. enhance the predictability. Beside, the long-standing ROK-U.S. alliance would play a positive role, and additional programs which can reinforce the relationship would be required. Most of these requirements are suggested in many papers, but they are not organized in systematic process. In further works, collecting and classifying various opinions will be valuable.

#### 5. Conclusions

Despite of all the unfavorable circumstances, ROK would endeavor to secure full nuclear fuel cycle. Recognizing the difference with U.S.-Japan revision case correctly, the proper preparations can be possible, and should be established as soon as possible. If upcoming negotiation is revised in reasonable, the ROK-U.S. accord revision case can be evaluated as a representative precedent not only peaceful use, but independent process of nuclear technology in step by step.

#### REFERENCES

- [1] J. Jun, Study on Nuclear Cooperation with U.S.: U.S.-Japan Nuclear Cooperation for Operating the Rokkashomura Reprocessing facility, Korean Atomic Industrial Forum, 2008.
- [2] J. Jun, Japanese Nuclear Policy Making Process: Domestic Response for International Nuclear Environment, Korean International Politics Society, Vol.41, p. 184-189, 2001.
- [3] B. Jun, Task and Measure of Korean Nuclear Diplomacy in the 21st Century, Institute of International Affairs, 2008.
- [4] F. McGoldrick, New U.S.-ROK Peaceful Nuclear Cooperation Agreement, Center for U.S.-Korea Policy, 2008.
- [5] S. Lee, Korean Non-proliferation Policy: ROK-U.S. Nuclear Cooperation Agreement, Sejong Policy Institute, Vol.6, 2010.
- [6] O. Jung, Measures for Nuclear Cooperation Diplomacy toward R&D and Policy Implementation of Atomic Energy, Sunmoon University, 2007.