

## Study on Agreements for Cooperation in Peaceful Uses of Nuclear Energy between ROK and US

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### 1. Introduction

Since the Korea signed an “Agreement for Cooperation between ROK and US concerning civil uses of atomic energy” on February 3, 1956, 52nd years were passed. During this time, the agreement was amended and signed in March 1958, July 1965.

Since 1978, the US has had influence on the agreement as the prototype that all ROK-US bilateral agreements concerning nuclear cooperation are to be based. In general, the nuclear cooperation agreement is the means for the peaceful use of nuclear energy with other countries, but it also provides the powerful legal basis for preventing the nuclear proliferation in the receipt country. Anyway, ROK-US Nuclear cooperation agreement should be revised because the expiration will be ended in 2014. For acquiring the better position comparable with the present agreement, all related information and policy should be considered. And then the strategy of revised agreement should be reflected in negotiation with US.

The purpose of this study is to analyze the detail approaches for the revision of the agreement for cooperation in peaceful uses of nuclear energy between Korea and US. And this approach could be a starting level for understanding and preparing the revision of nuclear cooperation agreement.

### 2. Agreement for Nuclear Cooperation between ROK and US

In this present agreement with US, ROK got some restrictions when we performed the nuclear activities such as nuclear R&D, alteration and transferring the nuclear material, equipment and devices, etc. And through “the Joint Declaration of the Denuclearization of the Korean Peninsula” in 1992, Korea promised that we do not possess the nuclear reprocessing and enrichment facility. Because of this declaration, we abandoned our own right of peaceful use of nuclear energy ourselves.

The articles 8, 9, 10 in agreement contain the restricted provisions for Korea. Under these articles, when Korea accomplished the special nuclear activities such as reprocessing, alteration, transfer of material, equipment and devices, joint determination (prior consent with US) should be performed in each nuclear activity. Nuclear activities in Korea need to come to an arrangement that is acceptable to both parties.

For example, when KAERI took their researches (fuel fabrication using SF, post-irradiation examination and R&D programs using irradiated fuel), ROK have to announce and send the purpose, scope, etc. of research to the US in compliance to Article 8(c) of ROK-US cooperation agreement. In this case, without the prior consent of the US, it is impossible to accomplish the nuclear research and development independently itself.

### 3. States that have Agreements for Nuclear Cooperation with US

In this agreement, the problem is that it contains rigid rule or standards between ROK and US compared to other nuclear developed or developing countries although it emphasizes reciprocity between the two partners. But the cases of US-Japan and US-Europe agreement show that flexible measure according to US political judgment and national security.

#### 3.1 JAPAN

Since 1982, Japan Government took 16 times negotiations for agreement revision for cooperation with US. And the agreement took effect in July 1988. From this agreement, Japan succeeded to accept the long-term consent to US for doing the sensitive activities; reprocessing, alteration, enrichment, transfer of material, equipment and devices etc. Therefore, Japan could minimize the wasteful interference of the US. And then Japan is able to accomplish the long-term plan of nuclear R&D programs independently.

Article	Previous	Revised	Long-term consent
1. Prohibit of nuclear explosion, military use	O	O	
2. Prior consent for transferring the nuclear material, equipment, components	O	O	O
3. Prior consent of reprocessing (3-1) Reprocessing	Δ (nuclear material received from US)	O	O
(3-2) Uranium enrichment up to 20%	X	O	
(3-3) Alteration and fabrication of plutonium, HEU	Δ (alteration of irradiated fuel)	O	O
4. Prior consent of plutonium, HEU storage	(materials under safeguards)	O	O
5. IAEA Safeguards	X	O	
6. Right for requiring the return (material, equipment, device)	O	O	
7. Physical Protection	X	O	

Table1 Agreement for nuclear cooperation US-Japan

Long-term consent means not doing prior consent about case by case nuclear activities but overall approval method for sensitive nuclear activities; reprocessing. So it could cover the wide and acceptable range of nuclear activities between US and Japan.

### **3.2 EUROPE**

In March 1996, the nuclear cooperation agreement US – European Atomic Energy Community was revised and entered into force. In this agreement, US-Europe came to an agreement for nuclear research and development programs such as research on controlled thermonuclear fusion, international thermonuclear experimental reactor (ITER) and disposal or management of nuclear spent fuel. And according to this agreement, Europe obtained the right to carry out the nuclear fuel cycle activities (including reprocessing, enrichment, and alteration) pursuant to this agreement.

### **3.3 INDIA**

On March 2006, US and India announced the conclusion of civilian nuclear cooperation. India agreed to separate its civilian and military nuclear facilities and place 14 reactors (total number of reactor: 22) under safeguards. And US pledged to seek unprecedented exemptions in US law and international export rules to allow for international nuclear trade to India. US Congress also approved implementing legislation with certain conditions in December 2006. Under the agreement, India got the legal recognition of its status as a nuclear weapon state as one can without having signed the NPT. And India had the right to carry out the activities of nuclear fuel cycle program within the civilian nuclear facilities. Therefore, no longer will the existence of nuclear cycle program obstruct India's ability to carry out the reprocessing, enrichment, alteration, etc.

### **3.4 AUSTRALIA**

In Australia's case, they didn't have the commercial nuclear power plant, yet. So there are no sensitive provisions in US-Australia nuclear cooperation agreement. Nevertheless the Australia didn't operate the commercial NPPs, Australia should accept the prior consent from US in case of nuclear reprocessing, enrichment, alteration and retransfer.

### **3.5 CHINA**

Agreement of US-China is both the first nuclear cooperation agreement with communist side and the

agreement with the nuclear weapon state after the agreement of European Atomic Energy Community. This agreement carried an important meaning for mutual control both US and China. So there is no serious provision in this agreement. And when both countries have a plan about nuclear fuel cycle program; enrichment, reprocessing, alteration, storage and retransfer in future, they promised to notice and cooperate this kind of activities.

## **4. Conclusion**

Under this present agreement, ROK has to take the prior consent from the US about the reprocessing, alteration, transfer the nuclear material, equipment and component. Joint Determination is also the same effect of the prior consent. In this situation, Korea seriously has the influence about performing nuclear energy R&D, exporting nuclear technology, materials and KSNP, etc.

So, Korea must have the plan to obtain long term and flexible consent like Japan or Europe (Programmatic prior consent) from the US when ROK-US governments revise the nuclear cooperation agreement. For obtaining the more advantages in revised nuclear cooperation agreement with US, we need to intensively prepare the revision for agreement and set up the strategy for persuading the US government. Also continuously, we have to study and follow up the US nuclear energy policy and keep in mind the changes of nuclear policy.

Now it is time to discuss and make the primary subjects about the revision of the agreement through the established system and strategy. And we must communicate all those information about revision with other experts from government agencies, academic circle, the institute related nuclear industry.

## **REFERENCES**

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