

The Study on Progression for Consolidating the Nuclear Security Legislative System

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1. Introduction

The terrorism has occurred globally and the consequences of terrorism reached multilateral effects among countries as politically, economically, socially, etc. On the other hand, the threat of nuclear terrorism has taken place increasingly all around the world. So, the importance of protecting the nuclear terrorism has become much deeper than ever in the world. Many countries made efforts to strengthen the nuclear security systems through the internal/external effort.

As the key nuclear security conventions, there are two international conventions for implementing the nuclear security measures, universally. One is the International Convention for Suppressing Acts of Nuclear Terrorism (ICSANT) and the other is amendment to the Convention on Physical Protection of Nuclear Material (CPPNM). ICSANT and CPPNM were proposed by the UN and IAEA, respectively to strengthen the international framework of nuclear security.

The ICSANT was entered into force in 2007, but CPPNM amendment is pending in force because of the shortage of countries who ratify it. For going into effect this convention, it needs the two-thirds of the States Parties to the CPPNM. It is not completed, yet. So, various initiatives such as nuclear security summit, GICNT, UN ministerial conference, etc. treated that those two conventions were the primary basis to strengthen the global nuclear security architecture.

The Republic of Korea (ROK) continuously has made an effort to consolidate the nuclear security legislative framework since the 2010. The purpose of this paper is to provide what we did to strengthen the nuclear security legal framework and what should we do next.

2. Ratification of ICSANT and amendment to the CPPNM

ROK has performed the physical protection activities under the national laws (Act, Enforcement Decree and Regulation for Physical Protection and Radiological Emergency Preparedness (APPREP) and below legal documents) related to the nuclear security. Meanwhile, APPREP was firstly established based on IAEA INFCIRC225/Rev4 since 2004. And until now, there were 5th times of revision process.

During the past 4 years, in the work plan released after the 2010 Washington Nuclear Security Summit (NSS) and Communiqué from 2012 Seoul NSS, these conventions were mentioned as important tools against nuclear terrorism. 2012 NSS stressed the importance of

these conventions and it encouraged the participating countries to ratify them to enter into force.

ICSANT was the first anti-terrorism treaty adopted after 9/11. The treaty was designed to strengthen the global legal framework for countering terrorist threats specifically involving radioactive materials and nuclear facilities. ICSANT requires states to criminalize and prosecute offenses related to the use or possession of radioactive material and use or damage of a nuclear facility, or threats to do so. [1]

Originally, CPPNM required states to apply measures of physical protection to nuclear material used for peaceful purposes during international transport. Also, CPPNM requires states to provide cooperation and assistance in the case of theft of nuclear materials to recover and protect the nuclear material, inform concerned states, and exchange information. It requires states to criminalize certain offenses related to the theft or unlawful possession of, and threats to use, nuclear material. Recognizing the limited scope of the CPPNM (i.e., primarily to nuclear material in international transport), the 2005 Amendment to the convention increased the scope of the CPPNM's coverage to require physical protection measures on nuclear materials in use, storage, and domestic transit and sabotage. [1]

In 2012 NSS, ROK announced that we had a plan to ratify the two conventions in a near future. After that, the previous act was reviewed and APPREP was selected to be revised to adopt the provisions of two conventions. Most of the parts from those two conventions covered into the APPREP including the penalty provisions. Under the criminal act, it was not sufficient to cover the criminal activities related to radioactive materials and devices. The process for revising the APPREP was taken too long. The revised APPREP reflecting the provisions of the conventions was prepared in 2011 and the ratification process was done in May, 2014.

Table I: Comparison of penal provisions specified in the conventions with domestic act [2]

Penal Provision in the Conventions	Domestic Act	Necessary for amendment
Use and storage of radioactive materials	Nuclear Safety Act, APPREP	Non-Necessary
Use and manufacturing of equipment related to Nuclear terrorism	Criminal law	Non-Necessary
Unlawful use and damage of nuclear facility and	Nuclear Safety Act, Criminal law	Non-Necessary

Transportation of radioactive materials		
Unlawful act of those who have authority	Criminal law	Non-Necessary
Threats against natural or international organization and states	None	Necessary
Attempt of crimes	None	Necessary
Crime by group	None	Necessary

Table II: Amended parts of APPREP including the two conventions

Amended Articles of APPREP	Newly Established
Article 9-2, 3 (Education and Training on physical protection)	Compulsory Education and Training of employees of nuclear energy facility operators or organizations or agencies related to physical protection
Article 13-2 (International cooperation, etc.)	Informing duty of Nuclear Terrorism Activities
Article 47 (Penal Provisions)	Enlarging the criminal activities to radioactive materials, nuclear materials, nuclear explosion devices, radioactive material-dispersing devices, or radiation-discharging devices
Article 47-4, 5, 6, 7, 9, 10 (Penal Provisions)	Expanding the penal scope - Threats against natural or international organization and states - Attempt of crimes - Crime by malicious group - Possessing the nuclear materials criminally

3. Applying the IAEA INFCIRC225/Rev5 to the Enforcement Decree of the APPREP

While the CPPNM amendment, ICSANT, and UNSCR 1540, etc require states to apply physical protection measures, they do not provide specific requirement or guidance on implementation. So, IAEA has published the guidance document such as INFCIRC225/Rev5, nuclear security series. INFCIRC/225 is the primary IAEA document that provides guidelines and recommendations for the physical protection of nuclear material and facilities, measures against unauthorized removal of nuclear materials, and sabotage of nuclear facilities.

While the revision process of ICSANT and CPPNM amendment was performed in 2014, it also started to apply the INFCIRC225/Rev5 to the enforcement decree. INFCIRC225/Rev5 recommended 12 nuclear security fundamentals and requirements of physical protection of nuclear material and nuclear facility to the member states. 12 primary fundamentals consist of the Responsibility of the state, Responsibilities during international transport, Legislative and Regulatory Framework, Competent authority, Responsibility of the license holders, Threat, Contingency plan, and Confidentiality, Security Culture, Graded approach, Defense in depth, Quality assurance (QA). And it provides the detailed requirements for measures against unauthorized removal of nuclear material in use and storage, sabotage of nuclear facilities and nuclear

material in use and storage, unauthorized removal and sabotage of nuclear material during transport.

Most of the elements of INFCIRC225/Rev5 were applied to the Enforcement Decree and Regulation of the APPREP in November, 2014.

Table III: Amended parts in Enforcement Decree of APPREP applying the INFCIRC/225/Rev.5

Amended Articles in Enforcement Decree of APPREP	Additionally Enhanced
Article 7-1 (Assessment of Threats and Establishment of a Physical Protection System)	Assessing threats to nuclear facilities, etc. and formulate response standards by threat every three But, when serious nuclear security event occurs, it is possible to assess threats and formulate DBT frequently.
Article 16 (Protection Requirements of Nuclear Facilities, etc.)	Applying additionally enhanced requirements under INFCIRC/225/Rev.5 - Repatriating the missing and stolen materials - Establishes detection/guard systems and response measures against illicit access into a relevant protection area - Protecting /minimizing the sabotage threat trials - Strengthening the random patrol - Giving a concrete measures of cyber security

4. Conclusion

In 2nd NSS, ROK pledged to receive the IAEA International Physical Protection Advisory Service (IPPAS) missions for consolidating national nuclear security system. IPPAS missions' objective is reviewing state physical protection regime and security systems for nuclear and other radioactive material and associated facilities and compare with international legal instruments and recommendations. We received the IPPAS missions from 24, Feb. to 7, March in 2014. During this period, the legislation system was also reviewed by the IAEA advisors. On the basis of preparedness time for IPPAS, the current legislation can be re-considered by the government and nuclear security experts. In addition, we have reinforced the legal documents such as notice, technical guidance for implementing the nuclear security below the Act, enforcement decree and regulation.

The process for strengthening the legislation system has been performed by the government and its subsidiary, continuously. Until 2014, it was focused to reinforce the penal provisions, education, training, cyber security, illicit trafficking, etc in APPREP and relevant legislations.

In future, we will make an effort to mature these revised legislations. And as necessary parts are reflected to the national nuclear security legislation continuously, the legislative system for nuclear security will be more consolidated.

REFERENCES

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- [4] IAEA, Amendment to the Convention on the Physical Protection of Nuclear Material, 2005.
- [5] IAEA, Nuclear security recommendation on physical protection of nuclear material and nuclear facilities (INFCIRC/225/Rev.5), IAEA Nuclear Security Series-13, 2011.