

A study on the Development of Cooperation System for Nuclear Liability in North-East Asia

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1. Introduction

The Chernobyl nuclear accident in the former Soviet Union in 1986 proved that radioactive disasters caused by large-scale nuclear accidents are not limited to the country of the accident, but have a wide range of impacts on other countries beyond the borders. The lessons of the Chernobyl nuclear accident, which was a major nuclear accident, are summarized as follows.

First, if nuclear accidents go beyond borders and affect other countries, there is not enough international system to deal with them.

Second, since the Chernobyl nuclear accident was a major accident, the types of damage varied. The compensation amount was also astronomical. Therefore, the large scale of the accident necessitated a large amount of compensation. The Chernobyl nuclear accident caused damage to the accident site, surrounding casualties and property, as well as damages that crossed the border, as environmental damages, resulting in damage prevention and recovery costs.

The Fukushima nuclear accident that occurred on March 11, 2011 caused many casualties and disasters. The amount of liability covered by the Nuclear Damage Compensation Law of Japan is estimated to be about 10 trillion yen (about 100 trillion won). The Japanese government is responding by issuing intermediate guidelines for compensation in order to efficiently respond to various claims of victims.

In the event of a major nuclear accident, the damages are astronomical, it is very important how to procure enormous financing about this situation.

There are only a few countries in the world that can afford such astronomical remedies, including the United States, Germany, and Japan. Even in those countries that compensation is possible, in fact, it is difficult for any country to cover the amount of compensation at a time.

As shown in the figure below, more than 200 new nuclear power plants will be constructed in three Northeast Asian countries since 2011. Northeast Asia will be the region where nuclear power plants are most concentrated in the near future.

Therefore, it is necessary to establish an international coordination system for nuclear damage compensation. In particular, Northeast Asian countries (Korea, China, and Japan), where nuclear power is concentrated, need to establish an international cooperation system for nuclear damage compensation.

Figure 1. Nuclear Power Plants in Northeast Asia Status and Plan (2011)



Table 1. Nuclear Power Plant Status(IAEA PRIS, 2015. 12.31)

Nation	Capacity (MW)	Operation Plant	Permanent suspension	Under Construction
Korea	21,716	24	-	4
China	28,792	33	-	22
Japan	40,290	43	16	2

2. System of Nuclear Damages

2.1. US Price-Anderson Act

The Federal Act on the Nuclear Damage Liability of the United States is the Price-Anderson Act (the "PA Act"). This law stipulates liability and compensation for nuclear accidents by NRC licensees (nuclear operators) and DOE contractors. The NRC also publishes rules to grant compensation for damages to nuclear operators for protection of victims.

The purpose of the PA Act enacted in 1957 is to allow the citizens to receive compensation of damages from "Core Damage Events" (hereinafter referred to as "Events") and to limit liability of Nuclear power companies from such Events, to promote nuclear power development.

2.2. Impact of the PA Act on the International Convention System

The US PA ACT is based on risk liability (or No Fault Liability). The PA Act guarantees the capacity to

bear the responsibility for compensation of damages and institutionalize the liability insurance to a certain amount.

This basic structure is adopted by the Paris Convention(1960) and the Vienna Convention(1963), and is a common structure of the international legal system. However, among these structures, the amount of compensation that can be actually retained by liability insurance is limited, depending on the digestion capacity of the international reinsurance market.

The total amount of damage costs what is expected to be realistic was considered to be insufficient to pay only for compensation of damages. In particular, there has been a growing awareness of the need for additional systems to secure reserves for damages through the 1979 TMI accident and the 1986 Chernobyl accident.

As a result, with the lesson of the Chernobyl accident, the Increase of Compensation Liability and Convention on Supplementary Compensation for Nuclear Damage(CSC) of the Vienna Convention was adopted in 1997.

In the Paris Convention, the increase in the liability limit was adopted in 2004, and the compensation limit for the Brussels Supplementary Convention(1964), which had introduced an additional payment system on the premise of the Paris Convention, was increased from the beginning.

2.3 International Convention on Nuclear Damage Compensation

2.3.1. Paris Convention

The Paris Convention was drafted by OECD / NEA and is the first agreement in this area. The purpose of the Paris Convention was to unify the Nuclear Damage Compensation Laws in the substantive legal aspects and to establish the principles of judicial jurisdiction, governing law and the enforcement of foreign judgments in terms of international judiciary. The Paris Convention is supplemented by the Brussels Supplementary Convention.

2.3.2. Vienna Convention

The Vienna Convention, which was drafted by the IAEA as its center, was adopted on May 21, 1963, and entered into force on November 12, 1977. The Vienna Convention is not a regional treaty like the Paris Convention, which is centered on the OECD, but is a convention of a global nature. The revision of the Vienna Convention was led by the Standing Committee of the IAEA on Nuclear Damage Compensation, and the revised Protocol was adopted at a diplomatic meeting convened by the IAEA on September 12, 1997.

2.3.3. Joint protocol

In order to avoid conflicts arising from the simultaneous application of both conventions in the mutual application between the Paris Convention and the Vienna Convention, "Joint Protocol Relating to the

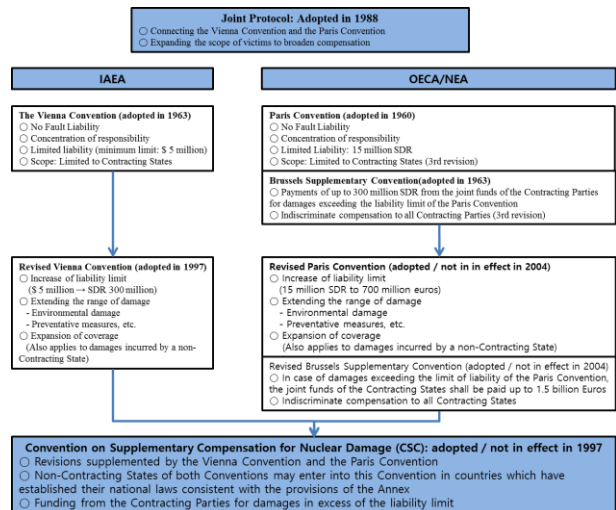
Application of the Vienna Convention and the Paris Convention" was adopted on September 21, 1988, which entered into force on April 27, 1992.

2.3.4. Supplementary Fund Convention

Convention on Supplementary Compensation for Nuclear Damage; CSC was adopted on September 12, 1997, in parallel with the revision of the Vienna Convention due to the need to expand and strengthen the international nuclear damages system, following the Chernobyl nuclear accident in April 1986.

Even if there is a system of liability with certain contents, such as strict liability for nuclear damage, and a system to secure the fulfillment of its responsibilities, if CSC cannot afford nuclear damage, this Convention contains additional supplementary compensation by the appearance of a Contracting State.

Figure 2. Outline of International Convention on Compensation for Nuclear Damage



3. Conclusions

In all countries that have nuclear power plants, have adopted the Nuclear Damage Compensation Legislation which concentrates all liability claims to nuclear power companies. In the wake of the Chernobyl nuclear accident in 1986, the revised Paris Convention and the revised Vienna Convention were chosen to secure sufficient compensation resources for victims.

As described above, the amount of nuclear power damages caused by the Fukushima nuclear power plant accident that occurred in Japan on March 11, 2011, reached 10 trillion yen or more. Tokyo Electric Power Co., a nuclear power company, was unable to cope. Thus, post-legislation was enacted to finance the necessary compensation for damages.

As a result of the Chernobyl nuclear accident and the Fukushima nuclear accident, the core task of the domestic and international nuclear damage

compensation system is to secure sufficient compensation resources for victims.

The real problem is that the government needs the nuclear industry to find its solution, and the nuclear industry says it is the problem that the government must find a solution.

The governments of operating nuclear power plants are urged to increase the liability and extend the range of damage, while private insurance markets refuse to provide sufficient collateral for new nuclear risks. This situation has led nuclear operators to seek alternative means of compensation.

In this regard, the three Northeast Asian countries (Korea, China and Japan) are among the most densely populated areas, and Korea, located in the western part of China, is likely to suffer direct damage if a major nuclear accident occurs in China because of Westerly wind. Since the density of nuclear power plants in Korea is much higher than those of China and Japan compared to the Land area of the country, it is necessary to strengthen the regional cooperation system of the three countries in relation to nuclear energy damages.

Finally, Nuclear damages in Northeast Asia may include sharp diplomatic problems in each country. It will require a great deal of diplomatic effort. Therefore, the Nuclear Safety&Security Commission, which is in charge of nuclear safety, is also required to maintain close cooperation with the Ministry of Foreign Affairs in order to strengthen nuclear safety.

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