

## A Suggestion on Improvement of Nuclear Safety Legislation

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### 1. Introduction

This is the 60<sup>th</sup> year after atomic energy has been introduced in Korea, and 61 years have passed since the *Atomic Energy Act* (Act No.483, 1958.3), which has played an important role in nuclear-related activities, was enacted. The current nuclear-related legislation, including 26 times of partial amendments of the *Atomic Energy Act*, has been assessed to lack uniformity of laws and not organized due to a number of inconsistent enactments and revision processes that were done as necessary and the enactment of new individual laws.

In July 2011, with the establishment of the Nuclear Safety & Security Commission (NSSC), an independent nuclear regulatory agency, the *Atomic Energy Act* was divided into laws such as *Nuclear Energy Promotion Act*, *Nuclear Safety Act*, and *Act on the Establishment and Operation of the NSSC* and has been changed into a plurality of legal systems. But at the time, it focused not on the reform of the overall legislative system but only on the mechanical separation between clauses of promotion and regulation. So, there is room for improvement and supplement of the legislative system. At the beginning of the NSSC, internal discussions were conducted to improve the legislative system, but discussions were no longer carried out due to the prioritization of nuclear safety issues.

Nuclear safety regulation is based on the *Nuclear Safety Act*. However, as the *Act on Physical Protection and Radiation Emergency* and the *Act on Protective Action Guideline against Radiation in the Natural Environment* are enacted as individual laws, the need for adjustment has increased in the event of discord among the laws. Also, leading to legal issues such as litigation filed by environmental groups regarding the licensing process of nuclear power plants, there is a need to revise the regulations that are not obvious.

Meanwhile, since the current nuclear safety regulations have succeeded the safety regulations of the *Atomic Energy Act* based on the utilization and promotion of atomic energy, the basic safety principles such as the primary safety responsibilities of the operators and the role of the regulatory authorities are not reflected in the current *Nuclear Safety Act*. So there are difficulties in promoting consistent policies for the safety of the people and the environment.

In addition, due to the growth and specialization of usage patterns of the nuclear and radiation-related industries, there has been a limit in comprehensive management through the current *Nuclear Safety Act*.

Furthermore, radiation protection standards are stipulated as the subordinate law, which makes it

difficult to ensure consistency of safety standards. In particular, since various ministries are dealing with radiation-related tasks according to their roles, there is a need for consideration about establishing a cooperative system among ministries and enacting the *Act on Standards for Protection against Radiation* that oversees national radiation safety.

Supplementation of the nuclear damage compensation system reflecting the experiences of the Fukushima nuclear accident is required.

### 2. The Necessity for Enactment of the Framework Act

In order to ensure a comprehensive and long-term implementation of nuclear safety policies, the *Framework Act* should be enacted to complete the legal system related to atomic energy, and establish trust in the people by declaring that safety is the first priority in the use of atomic energy.

Assuming peaceful use of atomic energy, it is necessary to reasonably define its relationship with national obligations, such as the *right to pursuit of happiness*, *the right to know*, *right to a healthy and pleasant environment*, and *the restriction of rights for disaster prevention and security of the people*.

Reflecting international treaties and norms related to nuclear safety in national legislation system, the role of regulators under the IAEA's *Convention on Nuclear Safety* (article 8), the responsibilities of the operators (article 9) and safety-first principles (article 10) should be stated by law. Also, the IAEA *Fundamental Safety Principles* such as safety responsibilities, the role of government, safety management and leadership, justification of conduct, optimization of protection, limitations of personal risks, protection of current and future generations, accident prevention, emergency response, and radiation protection of existing and non-regulated radiation hazards need to be established as the top priority safety policy.

In addition, by specifying the responsibilities and roles regarding the safety management of atomic energy, the responsibilities and roles of NSSC, which was established as an independent regulatory body for safe management of atomic energy, should be specified as well. Also, by establishing the relationship with each ministry's role, it is necessary to prevent conflict of interests in advance. While NSSC is in charge of overall management of nuclear safety, including the establishment of standards regarding nuclear safety, each ministry should perform its duties under the proposed standards and relevant laws.

On the other hand, it is necessary to establish the basic principles concerning nuclear safety and seek the relationship between safety and security, and the harmonization of the benefits and regulations of radiation use by presenting the criteria for adjustment in the event of inconsistency among ministries.

### 3. Measures to improve the Nuclear Safety Regulation

By referring to the *Framework Act* of other laws in Korea and the nuclear-related legislative system in major nuclear-advanced countries, it is desirable to reorganize the current *Nuclear Safety Act* into the *Framework Act* and several individual laws. Having this as the principle, it is beneficial to have main issues regarding policies of management of nuclear safety, and safety principles regulated in the *Framework Act*, and reorganize them as individual laws according to the object of regulation and their respective characteristics.

#### 3.1 Direction for the enactment of the Framework Act

The *Framework Act* should clearly contain the purpose of the Act, the basic concepts and safety principles. This Act clarifies the basic concepts in the use of atomic energy including the principle for the peaceful use of atomic energy, the principle for securing safety, democratic policy decisions, and international cooperation for the prevention of nuclear proliferation. It is necessary that the *Framework Act on Management of Nuclear Safety* comprehensively defines nuclear and radiation safety.

In addition, the *Framework Act* should provide the legislative purpose and basic principles of individual laws. Regarding the details, it should have links with individual laws, thereby strengthening overall harmony and uniformity.

It is essential to clearly define the status of the NSSC (responsibility, authority, duty, etc.) by stipulating the basis for the establishment and mission of the NSSC in the *Framework Act*. Meanwhile, stipulating matters related to the review board for role sharing and coordination among relevant other ministries are needed.

#### 3.2 Direction for the enactment of individual laws

Considering the merits and demerits of the single and plural legal systems by reviewing the nuclear-related legislative system of major nuclear-advanced countries and the *Framework Act* of other laws in Korea, the contents and objects to be promoted in individual laws should be selected. But in this process, it should be considered that too many individual laws can lead to difficulties in the integration of laws and generate conflict among laws.

Division of laws should be done according to management objects such as nuclear facilities, radiation

use, and radiation in the natural environment. Also, the law should be divided according to organization, functions and roles of the Act.

#### 3.3 Improvement Measures

Based on the principles set forth above, separation of the *Nuclear Safety Act* into several Acts could be considered. For instance, it could be tentatively divided into 5 Acts, which are the *Framework Act on Management of Nuclear Safety*, the *Act on Standards for Protection against Radiation*, the *Act on Nuclear Safety Regulation* that regulates nuclear facilities and fuel-cycle facilities, the *Act on Radiation Safety Regulation* that regulates radiation use, and the *Act on Nuclear Non-proliferation*, which includes safeguards, export control, physical protection and cyber security. The integration of the nuclear damage compensation system, which prescribes compensation for nuclear damage and indemnity agreements for nuclear liability, into the *Act on the Nuclear Liability and Compensation* could be taken into account. It would also be better to revise the *Act on Physical Protection and Radiation Emergency* to the *Act on Emergency Preparedness and Response*, which deals with nuclear disaster prevention countermeasures. Matters regarding technical support organizations for nuclear safety regulations, such as KINS, KINAC and KoFONS, could also be included in the *Act on the Establishment and Operation of the NSSC, etc.*

### 4. Conclusion

The process of improving the regulatory framework, including amending or enacting laws, is a long-term process and requires sufficient preparation and reviews. As the 60<sup>th</sup> anniversary of the introduction of atomic energy in Korea, it is the time for nuclear experts to pay more attention to improve the nuclear safety regulation system.

### REFERENCES

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