Preliminary Study on the Revision of Nuclear Safety Policy Statement

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1. Introduction

Nuclear safety policy in Korea is currently declared in the Nuclear Safety Charter as the highest tier document and safety principles and directions are announced in the Nuclear Safety Policy Statement. As the circumstances affecting on the nuclear safety policy change, it needs to revise the Statement.

This study aims to develop the revised Nuclear Safety Policy Statement to declare that securing safety is a prerequisite to the utilization of nuclear energy, and that all workers in nuclear industry and regulatory body must adhere to the principle of priority to safety.

As a result, two different types of revision are being prepared as of August. One is based on the spirit of Nuclear Safety Charter as well as the direction of future-oriented safety policies including the changes in the environment after declaration of the Statement. The other is to declare the fundamental safety objective and safety principles as the top philosophy of national nuclear safety policy by adopting the "10 Safety Principles in IAEA Safety Fundamental" instead of the current Charter.

Both versions of revision are subject to further in-depth discussion. However once the revision is finalized and declared, it would be useful to accomplish effectively the organizational responsibilities and to enhance the public confidence in nuclear safety by performing the regulatory activities in a planned and systematic manner and promulgating the government's dedication to priority to safety .

2. Current Status and Needs for Revision

Within the hierarchy of nuclear safety policy, the nuclear safety policy in Korea is declared in the Nuclear Safety Charter as the top tier document and safety principles and directions are announced in the Nuclear Safety Policy Statement as shown in Fig. 1.

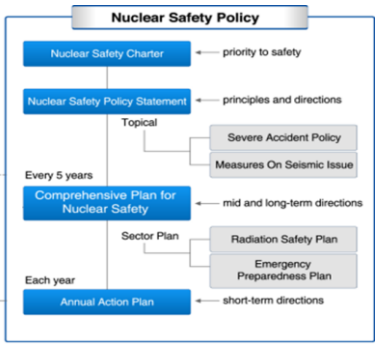

Fig. 1. Hierarchy of Nuclear Safety Policy

The Korean government established and announced the Nuclear Safety Charter through a resolution by the Nuclear Safety Committee (NSC) in December 2001. Through the Charter, the government aimed to clarify that the nuclear safety is the top priority over the implementation of nuclear power projects, to inspire a sense of duty and responsibility to personnel working in the nuclear power-related fields for securing the nuclear safety and public confidence in the nuclear safety. In September 1994, the government issued the Nuclear Safety Policy Statement containing 5 principles of nuclear safety regulation to secure consistency, adequacy, and rationality of regulatory activities, and 11 directions of nuclear safety regulation policy to concretely implement those principles [1].

However, after the declaration of the Statement, the international norms on nuclear safety, such as the Convention on Nuclear Safety, have been continuously formed, and international cooperation regarding nuclear safety regulation has been further promoted. Under these circumstances, in 2005, the KINS has performed a study to revise the Nuclear Safety Policy Statement on the basis of the spirit of the Nuclear Safety Charter as well as the direction of future-oriented safety policies including the changes in the environment after the declaration of the Statement [2]. Though this study had not been connected to the official revision by the government, recent change in governmental re-organization related to nuclear safety regulation as well as Fukushima accident have motivated the government to revise the Statement.

3. Procedures and Considering Factors

The revision of the Nuclear Safety Policy Statement was preceded in two ways with many differences in its stature of safety policy hierarchy and contents of the Statement. One is on the basis of the spirit of the Nuclear Safety Charter as well as the direction of future-oriented safety policies including the changes in the environment after declaration of the Statement. The other is to adopt safety principles in the IAEA's Fundamental Safety Principles as the Korean nuclear safety principles instead of the current Charter [3].

Nonetheless, most of basic principles remain as declared in the original Statement: it is incorporated in the revised drafts that securing safety is a prerequisite to the development and utilization of nuclear energy; all workers engaged in nuclear activities must adhere to the principle of priority to safety; the ultimate responsibility for nuclear safety rests with the operating organizations

of nuclear installations and is in no way diluted by the separate activities and responsibilities of designers, suppliers, constructors, or regulators; and the government shall fulfill its overall responsibility to protect the public and the environment from radiation hazards that might accompany the development and utilization of nuclear energy.

Most important change compared with the original Statement is on the nuclear safety culture policy. As the importance of developing the nuclear safety culture is getting more emphasized, the government started a study to draft a "Nuclear Safety Culture Policy Statement," which is expected to include concept, traits and policy direction on safety culture. Accordingly, the policy direction on nuclear safety culture is to be excluded in the revision of the Statement.

The procedures of revising Statement in Fig. 2 are as follows; the changes of environmental circumstances in nuclear field and effects of these changes on the nuclear regulatory system are analyzed. Major key-words in the nuclear safety are driven and the nuclear safety policy directions are focused on these key words. The first draft of revision is open for review and review comments from advisory group are reflected in the Statement.

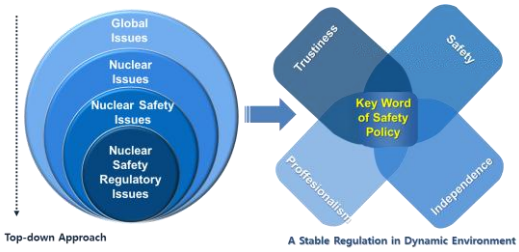

Fig. 2. Procedure of Revision

In the step of analysis on the changes of environment and discussion of policy direction, such important issues as the countermeasures of severe accident after Fukushima accident, strengthening the regulatory independence through the governmental reorganization of nuclear regulatory system, and the results from the Integrated Regulatory Review Service (IRRS) mission by IAEA are considered.

4. Results and Conclusions

Two kinds of revision draft are developed, with a common aim to declare that securing safety is a prerequisite to the development and utilization of nuclear energy, and that all workers engaged in nuclear activities must adhere to the principle of priority to safety. Both drafts define the nuclear safety objective in the Statement as "protecting the health and property of the people as well as the environment from radiation hazards that may accompany the development and utilization of nuclear energy." Two drafts state the five principles of nuclear safety regulation based on the NRC's principles of good regulation. Draft A describes the background of Statement, needs of revision, and changes of circumstance in the nuclear field, while Draft B explains the feasibility of adoption of IAEA SF-1 as the main safety principles in the preambles. Direction of nuclear safety policy is declared in terms of safety, professionalism and trust in the Draft A, while 10 safety principles are provided in the Draft B. In the safety policy hierarchy, the Draft A is laid under the Charter and based on the spirit of the Charter, while Draft B replaces the Charter and accordingly has the stature as the highest tier document of nuclear safety policy. The specific contents are compared in Table 1.

Table 1. Comparison of Drafts

Draft A	Draft B
Preambles · Background of Statement, · Changes of circumstance · Needs of revision	**Preambles** Feasibility of adopting IAEA Safety Principles
	Nuclear Safety Objective
Policy Direction of Nuclear Safety · Strengthening Nuclear Safety and Securing Global Leadership · Development of Nuclear Safety Standards and Enhancement of Professionalism · Participation of Stakeholders and Providing the Trust to Public	**Principles of Nuclear Safety** · Responsibility for safety · Role of government · Leadership and management for safety · Justification of facilities and activities · Optimization of protection · Limitation of risks to individuals · Protection of present and future generations · Prevention of accidents · Emergency preparedness and response · Protective actions to reduce existing or unregulated radiation risks
Principles of Nuclear Safety Regulation Independence, Openness, Clarity, Efficiency, Reliability	**Principles of Nuclear Safety Regulation** Independence, Openness, Clarity, Efficiency, Reliability
Conclusion	**Conclusion**

The drafts suggested in this study need to be further discussed in depth and modified according to review comments. However, once the revision is finalized and declared, it would be useful to accomplish effectively the organizational responsibilities and to enhance the public confidence in nuclear safety by performing the regulatory activities in a planned and systematic manner and promulgating the government's dedication to priority to safety.

Acknowledgement

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REFERENCES

[1] Ministry of Science and Technology, Nuclear Safety Policy Statement, 1994
[2] H.J.Kim, et al., Study on the Safety related Policies Implementation and New Nuclear Safety Policy Statement, 2005
[3] IAEA, Fundamental Safety Principles (No. SF-1), 2006