

Direction of Shift in National Safeguards Inspection due to the IAEA Integrated Safeguards

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1. Introduction

The Korea government has a plan to introduce a IAEA's Integrated Safeguards system through IAEA's broader conclusion in order to enhance transparency of nuclear activity in the ROK. In addition, government is organizing independent nuclear control institute to make national nuclear control system be more strong and systematic.

According to these changes in external/internal circumstance, necessity to change the roles and measure of national safeguards inspection is arising.

Therefore, this paper considered need to change and basic principles for national safeguards inspection and proposed direction of shift in national safeguards inspection that is the most suitable to the integrated safeguards system.

2. Need to change

2.1. Introduction of the Integrated Safeguards

Under the Integrated safeguards, timeless detection goal is extended to one year and new safeguards elements such as trigger mode remote monitoring and short random notice inspections is introduced. Due to these changes, IAEA's inspection frequency and intensity are reduced slightly. However, State is not allowed to know the IAEA's inspection schedules and can't share the information such as remote monitoring data with the IAEA.

If government follows the same way of IAEA inspection, it is difficult to schedule national safeguards inspection and can't reach an independent safeguards conclusion because government has a limitation in using safeguards information.

Therefore, under integrated safeguards, it is unavoidable that government should change the way of national safeguards inspection that is currently conducted simultaneously in the same day according to the IAEA inspection schedule for nuclear facility's convenience.

2.2. Strengthening of the SSAC

Recently, the Korea established nuclear control team under the Ministry of Science and Technology that is fully responsible for the nuclear safeguards and export control and amended the Atomic Energy Act to lay down ground for incorporation of an independent nuclear control institute to possess non-proliferation

policy and implementation capacity suitable to stature of 6th nuclear activity country.

2.2.1. Independence of safeguards implementation institute

Physical full independence of safeguards implementation institute from the other body means that the inspection system is converted from IAEA lead safeguards system to the government lead inspection system going further from the level that SSAC just meets the international safeguards obligation. That is, government is going to take the lead the changes of safeguards environment of the Korea from negative implementation to positive implementation.

2.2.2. Shift in the role of safeguards implementation institute

Independence of safeguards implementation makes the background that enable SSAC to evaluate and draw the safeguards conclusion independently. This change to the positive implementation could make positive effect to the enhanced cooperation with the IAEA.

3. Direction of national safeguards inspection change

3.1. Basic principles

In considering the changes in national safeguards inspection, there are two kinds of basic principles.

One is that national safeguards inspection system should be maintained continuously. Together with the SSAC system, national safeguards inspection system is a legal system that strongly expresses the nation's non-proliferation willpower.

The other is that SSAC itself should be able to evaluate the national inspection results and draw the safeguards conclusion. Because SSAC should prepare countermeasure to the problems that derived from the national safeguards conclusion in order to coincide with the positive implementation.

3.2. Basic principles

Under the integrated safeguards system, cooperation between the IAEA and the SSAC becomes more important. Role of SSAC as a linker between the IAEA and nuclear facility will be expanded. For this, SSAC should carry out the function that maintains and guarantees the correctness and completeness of the

information submitted to the IAEA as a one of requirements of the continuous application of integrated safeguards system.

In this case, national safeguards inspection should reinforce the quality assurance function that guarantees the correctness of the information and should develop standard inspection and evaluation guidelines that utilize the overall nuclear relevant information like the IAEA evaluation system.

Followings are simple analyses that consider the two kinds of national safeguards inspection change.

3.2.1. Maintaining current national safeguards inspection system

This way is that the way of current national safeguards inspection is being maintained together with the IAEA integrated safeguards system.

In this case, it is not available that national safeguards inspection is conducted in the same day with the IAEA inspection for nuclear facility's convenience. Because it is very difficult to fit national safeguards inspection schedule into the IAEA inspection schedule due to short notice inspection and random inspection of the IAEA.

And, in facility point of view, it could be happen to take same inspection twice. One is for the national safeguards inspection and the other is for the IAEA inspection. This may result in the increased burden to both the facility and the SSAC.

Though this way has no problems in fulfilling the internal/external safeguards obligation, it leaves something insufficient in meeting the national policy that lead safeguards inspection through strengthening SSAC.

3.2.2. The same way with the integrated safeguards

This way is that SSAC just follows the IAEA inspection according to the integrated safeguards approach. In this case, SSAC also should receive same information from the trigger mode remote monitoring and unattended monitoring system and so on that is expected to be applied by the IAEA under the integrated safeguards system. However, this kind of information sharing is another story because government needs another discussion on information sharing arrangement with the IAEA.

And, in legal aspects, notice of the Ministry of Science and Technology should be amended to reflect modified frequency and notification time according to the kinds of inspection.

Under these circumstances, it is difficult to maintain independent national safeguards inspection and evaluation system so this way doesn't meet the basic principles and direction of national safeguards inspection previously mentioned.

4. Conclusion

Above simple analysis shows that coping passively with the changes in external safeguards environment could not meet the national nuclear control policy and only with the active development of national safeguards inspection measure that could manage the expanded information systematically and evaluate the national safeguards inspection results can satisfy the role of SSAC required by the IAEA and the government

Going further, it is expected that new national safeguards inspection measure could eliminate the limitations in conducting nuclear activity that government needs.

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