

Need for National Safeguards Evaluation System to Improve National Safeguards System

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1. Introduction

There has been a major shift in the focus of the IAEA safeguards implementation, and in the way in which safeguards conclusions are drawn. Their focus is shifting from verification of nuclear material declared by a state (to the IAEA) to that of understanding and assessing the consistency of information of a state's nuclear program. This shift has resulted in a whole new way in which the IAEA operates.

The role of national safeguards inspection is also diversified because of the introduction of IAEA integrated safeguards; and this has led to changes in the national safeguards inspection scheme.

With these internal and external changes in safeguards, the role of a state level SSAC has also changed. In order to meet these changes, the national safeguards system needs to be improved. One of the ways of improving national safeguards is to develop a national safeguards evaluation system.

In this paper, the foundations needed to create a national safeguards evaluation system are analyzed.

2. Need for Systematic National Safeguards Evaluation System

2.1. Definition of National Safeguards Evaluation System

A national safeguards evaluation system can be defined as a framework in which inspection planning, implementation, information and inspection results, and evaluation take place. It is a continuous process that assesses all the information available to the SSAC concerning facility level safeguards activities.

2.2. Shift of Safeguards focus

Bases on the experiences in Iraq and in the DPRK in the early 1990s, the focus of safeguards has shifted to the verification of all the information available to the IAEA in order to assure there are no undeclared nuclear activities. This is done by evaluating and concentrating on the information concerning a state's nuclear activities.

The expanded declarations combined with the information available to the IAEA concerning a state's nuclear activities enable the IAEA to evaluate the internal consistency of that information and draw its safeguards conclusion.

This is the same in the national safeguards system. In addition to nuclear material accounting information,

data on the Additional Protocol and nuclear material movement is being utilized in national safeguards inspections. This means that information analysis is more emphasized. The process of integrated and comprehensive analysis and evaluation is required in this era of the information driven safeguards system.

2.3. Diversification of the Role of National Safeguards Inspection

Because of the expansion of information submitted to the IAEA as a result of the Additional Protocol and integrated safeguards the Korean SSAC is considering enhancing its quality assurance function in order to assure the correctness of its state's declaration. The domestic need for the SSAC to play a role in maintaining a state's nuclear materials can only be achieved by differentiating national inspections from IAEA inspections. To meet these changing requests, a national safeguards system needs an effective holistic process of planning, verification, evaluation and feedback.

2.4. Enhanced Cooperation with the IAEA

With the new IAEA integrated safeguards system, cooperation between the SSAC and the IAEA have become more important because of the extended role of the SSAC in creating better links between the IAEA and nuclear facilities. For enhanced cooperation, the SSAC should be able to possess the technical capabilities that can produce valid results and meet the level of competence required by the IAEA. There are several ways to achieve these technical abilities, such as: expansion of equipment to be used and verification techniques. If a systematic national evaluation system is introduced, it could improve the quality of national safeguards; and it could be used as an effective and efficient tool for identifying the measures needed to raise the technical capabilities of the SSAC.

2.5. Limitation of Current National Safeguards Inspection

There is both internal and external pressure for the SSAC to expand its role. Externally, the IAEA is pushing for the SSAC to contribute more to safeguards activities. Although national safeguards have worked well with regards to accounting for and control of nuclear materials, problems (i.e. loss of nuclear materials) were still found in the management of nuclear materials. In that respect, a comprehensive and

enhanced national safeguards capability is required domestically.

Unfortunately, the current national safeguards system that focuses on verification and places less emphasis on information analysis and evaluation has limitations. However, this limitation could be overcome with the development of the technical ability to analyze a broader range of information. Therefore, it is necessary to introduce a systematic national safeguards evaluation system which is driven by information relevant to safeguards.

3. Conclusions

Circumstance surrounding national safeguards is becoming more complex as matters that have to be considered and stakeholders are increasing. And the need for national safeguards evaluation system is also growing to satisfy the rationality and justification of national safeguards implementation.

When a national safeguards evaluation system is fully implemented, the performance of Korea's safeguards system is expected to improve. Through systematic national evaluation process, we can identify whether national safeguards objectives are attained or not. And the results obtained can be used as a basis for planning and improving the national safeguards implementation system.

Currently the activities of the Korean SSAC are restricted to accounting for and control of nuclear materials. Accordingly, the introduction of a new systematic national safeguards evaluation system would require a totally new working areas, responsibilities, authority and infrastructure for the SSAC. Such changes would include the introduction of a legal basis for evaluation, human resources dedicated to evaluation, acquisition of personnel with technical expertise and experience in evaluation with policy guidelines and a systematic evaluation mechanism. A phased application of a national safeguards evaluation system could be considered by taking into account current safeguards activities and structure.

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