

Cooperation between SSACs/RSACs and the IAEA Under the State-Level Concept: An Evolving Process

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ABSTRACT

The introduction of the State-Level Concept will affect the role of the State and Regional Systems for the Accounting and Control of nuclear materials (SSACs/RSACs). The State-Level Concept seeks to tailor safeguards activities in a specific state accordingly. In order to effectively implement the concept and to further establish the State-Level Concept, collaboration between SSACs/RSACs and the IAEA is extremely important. The implementation of such a concept is a process that will require effort from all parties involved. The cultivation of an optimal relationship between operators and national/governmental authorities and also between SSACs/RSACs and the IAEA is an evolving process. Benefits of the State-Level Concept as well as the roles and responsibilities must be made clear to all parties involved. Acknowledging the uniqueness and diversity of SSACs/RSACs is a first step, followed by the implementation of confidence-building measures that result from an efficient communication process, and finally building a transparent technical cooperation program.

This paper analyses various aspects of the complex relationship among all parties involved in the implementation of the State-Level Concept: operators, national authorities, government agencies, SSACs/RSACs, and the IAEA. The authors analyze the intricate network of possibilities to improve cooperation and discuss issues involving the provision of additional and voluntary information by SSACs/RSACs to the IAEA.

INTRODUCTION

The State-Level Concept (SLC) brings a holistic approach to international safeguards. It builds upon the concept of Integrated Safeguards, which uses the optimal combination of safeguards measures available under both Comprehensive Safeguards Agreements (CSA)[1] and Additional Protocols (AP)[2]. The prospect of new facilities in newcomer states and elsewhere, combined with the zero-growth budget of the International Atomic Energy Agency (IAEA) Department of Safeguards, calls for a more efficient way of conducting safeguards verification activities. Additionally, member states have expressed their desire to not increase safeguards measures. Within this new SLC, the IAEA will use state factors that are relevant to safeguards to implement objectives based safeguards approaches. The implementation of safeguards has been based on criteria that are applied to all SSACs/RSACs; the criteria are used for determining the

actual number, intensity, duration, timing, and mode of routine inspections, as determined in Paragraph 81 of INFCIRC/153 [1]. The IAEA is moving from this criteria-based safeguards approach to a more objectives based system. This should enable the IAEA to put more effort where the highest proliferation concerns exist. Both criteria- and objective-based approaches rely strongly on the effectiveness of the SSAC and/or RSACs.

The international community has acknowledged that the detection of diversion of nuclear material to nonpeaceful uses based solely on verification of declared material and facilities by the state is not sufficient. Currently, the safeguards system relies on declarations and other information provided by member states and on independent verification by the IAEA. In the framework of Integrated Safeguards, additional information, beyond what the requirements of INFCIRC/153 [1] and INFCIRC/540 [2], is expected to be exchanged with the IAEA in the following forms:

- expanded declarations and/or mailbox or advance facility information
- support for the development of more effective and efficient safeguards is expected to be exchanged. This includes information and activities such as: hosting field trials, and facilitation of implementation of more effective and efficient safeguards, which might include: agreeing with unannounced and short notice random inspections,
- use of unattended and remote monitoring systems,
- joint use of equipment, and
- implementation of safeguards by design for new or modified facilities.

The SLC adds an additional layer of information that is derived from state factors. These state factors are determined by a state's unique characteristics.

Cooperation and coordination of safeguards activities between the SSACs/RSACs and the IAEA are essential for effective safeguards implementation. Managing such a relationship has proven to be challenging. Promoting cooperation and communication can be a difficult process. The SLC provides the opportunity to reassess and improve the existing relationship by strengthening and revisiting communication and exchanging information between SSACs/RSACs and the IAEA. However, this concept is still young, and it remains difficult to draw many conclusions about its effectiveness. A few issues must be taken into consideration by the IAEA with regard to the impact that implementing of the SLC will have on SSACs/RSACs. These potential impacts include:

- an increased burden on the SSAC/RSAC,
- an overwhelming amount of information that needs to be analyzed and delivered to the proper agency,
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- and the need for strengthened cooperation and communication between the IAEA and the SSACs/RSACs.

WILL THE STATE-LEVEL CONCEPT PUT MORE BURDEN ON SSACS AND RSACS?

Implementation of effective safeguards relies heavily on information declared by SSACs/RSACs to the IAEA and on the coordination of inspection activities with the IAEA. Comprehensive Safeguards Agreements (CSAs) establish several levels of coordination for the implementation of safeguards: from the coordination of inspection activities, to the more conceptual and policy-based discussions conducted in the framework of sub-liaison and liaison committees.

The SLC requires expanded use of state factors and structured acquisition path analysis to define and prioritize State-specific technical objectives and in-field activities required to meet state-specific technical objectives. The identification and selection of safeguards activities are formalized in the annual implementation plan (AIP). The AIP is reviewed on an annual basis as part of the state evaluation process. These AIPs are traditionally a period of extensive negotiations. The state-level approach will incorporate subjective, non-quantifiable metrics to this negotiation process. With the introduction of these new metrics, we must consider that all negotiating parties will approach these metrics from different perspectives, using them to bargain for their desired outcome. This will only make the negotiation process more time consuming and difficult. The result will be an increased effort from the part of SSACs/RSACs to be able to implement changes in the inspection program. For many SSACs/RSACs frequent changes are complicated by the negotiation process. For some facilities, the negotiation of inspection activities between the IAEA and SSACs/RSACS can take months, even years, to reach common agreement. It is important for the development of AIP is conducted in close coordination with SSACs/RSACs to minimize implementation issues. At the same time, the IAEA must clearly articulate its needs to SSACs/RSACs so that common understanding is reached. After all, the goals of SSACs/RSACs and the IAEA are the same as soon as a state implements its CSA and AP. Moreover, during the implementation of the SLC, it is the IAEA's responsibility to articulate the formula for cooperation so that SSACs/RSACs can support the implementation of state-level approaches.

Additionally, continuous safeguards evaluation will also inevitably increase the burden on SSACs and RSACs in terms of education and human capital development. Effective safeguarding relies heavily on having adequate personnel and resources [3]. One must consider that there will be an increased need for qualified personnel. Because most SSACs are government funded organizations, there is a reality of limited funding and resources. Additionally, the hiring process can be somewhat tedious and even time consuming, usually involving a state administered exam. This increased demand for human capital, and in turn funding, could be met with resistance from the state government. In many states, with already

struggling domestic revenues, any increases in expenses could pose a significant problem. This additional burden on the state must not be underestimated.

THE RISK OF TOO MUCH INFORMATION

Another question that must be considered during this transition is: how much information will be sufficient? In international safeguards, careful consideration should be given to the information that is needed to apply safeguards and to reach broad, independent conclusions but not to information that is desired just for the sake of having additional information. The SLC combines information acquired through integrated safeguards; voluntary offers, such as field trials, expanded declarations, and implementation of remote monitoring systems; and the use of state-specific factors, a structure acquisition path, and prioritized technical safeguards objectives [4].

In this world of international safeguards, the availability, quality, and security of information are significant concerns. The volume of information can become unmanageable, hence the need for the IAEA to implement an information and knowledge management system to address not only the issue of information overload but also to determine the quality of information received and how this information is to be stored.

Although a large amount of the information is quantifiable, state-factors are usually not able to be evaluated in a numerical fashion. Questions then arise as to whether or not the safeguards community is ready to embrace these new metrics and value them just as much as the old metrics. State specific factors include a state's nonproliferation undertakings, its state's nuclear profile, the cooperation between a state and its SSAC, their level of cooperation with the IAEA, and other factors including, but not limited to, geopolitical, economic, and historical facts. One must consider how the IAEA will verify these factors in an impartial way. Also, it is reasonable to consider if any factor should carry more weight or value than another or if this is a dangerous way of thinking that could lead to a discriminatory system.

It is expected that the IAEA safeguards department will make full use of information obtained from the work conducted with member states through other IAEA departments to feed into the State-Level Concept. Information can also be obtained through the channels of technical cooperation. Member states share information in several additional ways: (e.g., through support programs to the IAEA safeguards (MSSPs), bilateral technical agreements between two or more member states, consultancies, conferences, seminars, etc). Technical cooperation is perhaps one of the most transparent ways to have access to state factors that can impact the implementation of safeguards in a given state. Making full use of the results of technical cooperation is a challenge, especially if the object of the collaboration does not seem to have immediate use for the IAEA. Through the technical cooperation process, exchanges of state factors take place in a fluid and transparent way. Also cooperation, especially if it addresses a state's safeguards needs, should not be disregarded by the IAEA.

The reality is that most of these questions remain without answers. It remains uncertain whether the safeguards community is ready to accept assess and use state-level factors to help draw safeguards conclusions. It is just too soon to see results.

STRENGTHENING COOPERATION THROUGH ENHANCED COMMUNICATION BETWEEN THE IAEA AND SSACS/RSACS

The art of communication relies on a sender and a receiver. The role of the sender is to transmit information in a clear and understandable way so that the receiver can decode it. Collaboration implies two or more subjects, and its implementation is also a two way street, where both subjects engage in the exchange of information, ideally in a transparent way.

SSACs and RSACs maintain that in order to strengthen cooperation with the IAEA, the IAEA must make full use of the findings of such systems of accounting for and control of nuclear materials and should avoid unnecessary duplication of safeguards activities, as established in Paragraph 31 of INFCIRC/153 [1]. For effective implementation of state-level approaches, a solid communication system must be implemented and information should flow in both directions. Through the means of a Member State Support Program, bilateral agreements could benefit all parties involved. These arrangements ensure the timely flow of information and an increased level of cooperation between parties. However, because these Support Programs rely on state funding, some states are going to have more resources to utilize, while others do not.

Perhaps there is a need to revisit the objectives and scope of the IAEA's SSAC Advisory Service (ISSAS), which was created in 2005 in an effort to support and assist member states. These ISSAS missions often indicate the shortcomings in communication and cooperation of an SSAC. The process should not stop there. These ISSAS missions are the optimal opportunity to form bilateral agreements that will encourage the best practices by the SSAC. These bilateral agreements can aid a struggling or overwhelmed SSAC organize information and provide it to the IAEA in a timely, useful manner. state factors can come out of such collaboration. These ISSAS missions are the optimal vehicle for bilateral arrangements because the funding and resources generally come from an outside party.

Additionally, the role of the RSACs must be carefully considered under this concept. If efficiency is one of the desired outcomes of the state-level approach then perhaps it is only rational to have the RSACs applying different safeguarding measures than the IAEA. This diversification will ensure that neither the IAEA nor the RSACs are wasting scarce resources collecting common information. Instead, through the means of collaboration and cooperation, these two parties will ensure that security is of paramount importance while wasting minimal resources during the safeguards process.

CONCLUSIONS

International safeguards are evolving. The 21st Century has demanded that safeguarding approaches modernize. While this modern State-Level Concept seems to be a more efficient, complete way of detecting of the diversion of nuclear material for non-peaceful uses in both declared and undeclared facilities, the international community must consider the implications of such an approach. The three most important issues to consider during this period of change are: the potential for an increased burden on SSACs/RSACs, an influx of information that was not previously accounted for, and the continual need for strengthened relationships between all parties involved in the safeguarding process.

Effective safeguards are essential to global security. The state level approach, while still young, offers many promising improvements from the previous era of international safeguards. This so called evolution, from traditional safeguards to the State-Level Concept, is slow and presents various challenges. In spite of these challenges, the nonproliferation community should press on toward developing a sustainable and efficient safeguarding system. While such progress will require the utmost cooperation and collaboration, it is essential in today's world. Political leaders and technological thinkers must join efforts in further developing and strengthening this State-Level Concept.

REFERENCES:

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