

NTI GLOBAL DIALOGUE ON NUCLEAR SECURITY PRIORITIES

ELEMENTS OF AN IAEA STRATEGIC PLAN FOR NUCLEAR SECURITY

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I. Introduction

As the International Atomic Energy Agency (IAEA) has focused increasingly on nuclear security in recent years, its spending and practices in this area have come under greater scrutiny, particularly from donors to the Agency's extra budgetary Nuclear Security Fund. They have raised concerns that the Agency has not rationally prioritized its work, nor engaged in a robust strategic planning process. This paper aims to contribute to efforts to address these concerns by facilitating discussion of the elements of an appropriate strategic plan and planning process for nuclear security in the IAEA, particularly as the drafting process for the next Nuclear Security Plan will begin later this year.

II. A Brief History of Nuclear Security at the IAEA

In the nearly two decades since the September 11, 2001, terrorist attacks in the United States, the IAEA has devoted increasing attention and resources to nuclear security. While the IAEA's 1957 founding statute can be said to implicitly encompass nuclear security,¹ it does not contain an explicit reference to this role. Indeed, the Agency's activities in this area did not begin until the 1970s. In 1972, the Agency released "Recommendations for the Physical Protection of Nuclear Material," which was based on findings of a panel of experts convened by Director General Sigmund Eklund.² Two years later, the secretariat began its first discussions of an international convention on physical protection,³ ultimately concluding the 1979 Convention on the Physical Protection of Nuclear Material (CPPNM).⁴

IAEA activity in nuclear security continued to grow in the early 1990s after the breakup of the Soviet Union following increasing reports of illicit trafficking of radioactive materials.⁵ In 1997, the IAEA, prodded by member states, established a "Security of Material" program within the Department of Safeguards, aimed at managing its efforts in physical protection and combatting illicit trafficking of nuclear and other

¹The IAEA's objectives under Article II of the statute are "to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world". For more information: IAEA. The International Legal Framework for Nuclear Security. IAEA International Law Series No. 4, Vienna 2011. P. 1. https://www-pub.iaea.org/MTCD/Publications/PDF/Pub1486_web.pdn force

² Published as INFCIRC/225.

<https://www.iaea.org/sites/default/files/publications/documents/infcircs/1975/infcirc225.pdf>

³ Rainer, R. H. and Szasz, P. The Law and Practices of the International Atomic Energy Agency 1970-1980. Supplement 1 to the 1970 edition of Legal Series No. 7, Legal Series No. 7-S1, Vienna, 1993. P. 448.

⁴ <https://www.iaea.org/publications/documents/conventions/convention-physical-protection-nuclear-material>

⁵ Nilsson, A. "IAEA Activities, Experience and New Initiatives," *Nuclear Security: Global Directions for the Future. Proceedings of an International Conference*, London, 16–18 March 2005. Pp. 201-2. https://www-pub.iaea.org/MTCD/Publications/PDF/Pub1232_web.pdf.

radioactive material.⁶ However, during the 1990's nuclear security efforts faced an uphill fight in Vienna. Unlike the Agency's traditional work in safety, safeguards, and technical cooperation, the Agency statute did not directly refer to nuclear security. For many developed states, defining and promoting high standards of security are seen as fundamental to the Agency's mission.⁷ Some developing states view IAEA spending on nuclear security as competitive with the Agency's expenditures on promoting peaceful nuclear uses.⁸

The terror attacks in 2001 led to a major increase in the scope and scale of Agency efforts in nuclear security.⁹ The Agency increased the stature of nuclear security within the IAEA's administrative hierarchy. Previously located in the Department of Safeguards, the Office of Physical Protection and Material Security was renamed the Office of Nuclear Security in 2002 and transferred to the newly created Department of Nuclear Safety and Security. Further changes occurred in 2013 when the Office became the Division of Nuclear Security (NSNS) within the same department. NSNS is responsible for implementing the General Conference resolution on nuclear security, the Nuclear Security Plan, developing nuclear security requirements and guidance, and offering member states training, peer reviews, and other advisory services.

When nuclear security was elevated to an Office in 2002, the IAEA recognized the need for additional funding to support the increased activities in a zero-real growth budget environment. In 2002, in response to a \$1 million contribution from the Nuclear Threat Initiative, Director General Mohamed ElBaradei created the Nuclear Security Fund (NSF), an extra budgetary funding mechanism to which member states were encouraged to contribute to in order to support nuclear security activities. With the establishment of the NSF, the IAEA Board of Governors approved a four-year Nuclear Security Plan which laid out how contributions to the NSF would be used to implement nuclear security activities. The Nuclear Security Plan contained eight activity areas: (1) physical protection of nuclear material and nuclear facilities; (2) detection of malicious activities involving nuclear and other radioactive materials; (3) state systems for nuclear material accountancy and control; (4) security of radioactive material other than nuclear material; (5) assessment of safety/security-related vulnerability of nuclear facilities; (6) response to malicious acts or threats; (7) adherence to and implementation of international agreements, guidelines, and

⁶ IAEA. General Conference (GC). Measures against Illicit Trafficking in Nuclear Material. GC(38)/RES/15, Vienna, 1994. Paras. 1-2. https://www-legacy.iaea.org/About/Policy/GC/GC38/GC38Resolutions/English/gc38res-15_en.pdf.

⁷ See IAEA. GC. *Plenary, Record of the Second Meeting*. GC(62)/OR.2. Vienna, 2018. Para. 31. https://www-legacy.iaea.org/About/Policy/GC/GC62/GC62Records/English/gc62or-2_en.pdf; and IAEA. GC. *Plenary, Record of the Fourth Meeting*. GC(62)/OR.4. Vienna, 2018. Paras. 146 and 167. https://www-legacy.iaea.org/About/Policy/GC/GC62/GC62Records/English/gc62or-4_en.pdf.

⁸ For example, IAEA. GC. *Plenary, Record of the First Meeting on 18 September 2017*. GC(61)/OR.1. Vienna, 2017. Para. 191. https://www-legacy.iaea.org/About/Policy/GC/GC61/GC61Records/English/gc61or-1_en.pdf; IAEA. GC. *Plenary, Record of the Fourth Meeting on 19 September 2017*. GC(61)/OR.4. Vienna, 2017. Para. 15, *Plenary, Record of the Second Meeting on 17 September 2018*. GC(62)/OR.2. Vienna, 2019. Para. 128. https://www-legacy.iaea.org/About/Policy/GC/GC62/GC62Records/English/gc62or-2_en.pdf.

⁹ The battle is as much about resources as focus. Both nuclear security and technical cooperation continue to depend primarily on extra-budgetary contributions. For example, regular budget funding only provides 22 percent of the Division of Nuclear Security funds and only around 30 percent of Technical Cooperation funding.

recommendations; and (8) nuclear security coordination and information management. Subsequently, the Board has approved four more such Nuclear Security Plans, including the current one which spans 2018-2021. Specific projects are detailed in the Agency's biennial Programme and Budget.

III. Challenges for Today

Unfortunately, the growth in the resources and bureaucratic and legal infrastructure devoted to nuclear security at the IAEA has not been carried out strategically. The short-term planning documents that guide NSNS focus on the provision of assistance "upon request" of member states. The Agency has interpreted this mandate as one that prohibits strategic planning by the IAEA but demands only responsive programming. The practical result of this position is that the Agency's nuclear security activities are effectively carried out on an ad hoc basis. As an official from NSNS told investigators from the U.S. Congress's Government Accountability Office (GAO):¹⁰

...they use the criteria in the [Programme & Budget] as broad expectations set by member states for the nuclear security program, noting that they do not prioritize among activities because member states do not agree on priorities. Instead of actively prioritizing activities, [NSNS] officials said they respond to requests from member states as those requests come in and to the extent that resources are available, taking into account conditions on funding.

IV. Models of Strategic Plans and Best Practices

Though the Agency has been reluctant to prioritize its nuclear security tasks, member states, particularly NSF donors, have started to call for greater planning within NSNS. Agency officials often cite the difficulty of operating as the secretariat for a diverse and politically fractious set of 171 member states. While there is little doubt that the challenge of pleasing dozens of difficult and conflicting bosses is significant, there are models, particularly within other departments of the Agency, which demonstrate that better strategic planning is possible even within these constraints.

Significant work has already been done on identifying best practices in developing strategic plans for governmental organizations. This includes several studies conducted by the GAO, and recent academic research such as one by Ryan Federo and Angel Saz-Carranza which explore the otherwise largely unstudied question of how to appropriately apply strategic planning principles to international organizations.¹¹ There are also many examples from outside organizations and the other departments within the IAEA that can provide guidance for the development of an IAEA strategic plan for nuclear security.¹²

¹⁰ Id. at p. 19.

¹¹ Federo, Ryan & Saz-Carranza, Angel. (2015). *Strategic Planning in Intergovernmental Organizations*. https://www.researchgate.net/publication/279212481_Strategic_Planning_in_Intergovernmental_Organizations/citation/download.

¹² In preparation of this paper the following IAEA strategic plans were reviewed: 1) IAEA Safeguards Long-Term Strategic Plan, 2012 – 2023, SG-SGCP-2109; 2) IAEA Department of Safeguards Long-Term R&D Plan, 2012 – 2013, S TR – 375, Vienna, January 2013; 3) IAEA's Medium Term Strategies for the periods 2001 to 2005, 2006 to 2011,

Successful strategic plans and planning processes for governmental bodies involve three basic steps according to another GAO report:¹³

1. Define mission and desired outcomes
2. Measure performance
3. Use performance information for improvements

Each of these steps, in turn, involves certain general practices. To begin with, government organizations should involve stakeholders, assess the policy environment, and align activities, core processes, and resources to meet desired goals. They should then produce a limited set of vital performance measures that assesses and prioritize results and identify performance gaps. These results can be then be used to hold organizations accountable and provide incentives for good performance.

Applying this methodology to international organizations is challenging. Federo and Saz-Carranza argue that when choosing strategic planning approaches, international organization leaders should keep in mind what they call “organizational design” features: for the IAEA’s nuclear security efforts these features include its unusual combination of large membership and consensus-based control (which argue for “member-driven strategies”) and the highly technical nature of its work (which argues for “results-driven strategies”).¹⁴ As a result, a hybrid approach combining a member-driven strategy for broad priority setting along with a results-driven strategy for particular technical measures seems most appropriate in the IAEA’s case.

Of particular relevance is a planning process they term “logical incrementalism,” which they say “is well-suited to those IGOs with a multi-dimensional (or matrix) design, with strong hierarchical functional lines combined with an additional strong horizontal dimension, such as sector divisions or geographical units. Strategic planning systems can provide an overall framework for IGOs to follow, whereas logical incrementalism can supplement the system with appropriate smaller strategies that are easily modifiable for immediate needs.”¹⁵

This appears to be an apt description of the planning process already employed by the IAEA Department of Safeguards, which we believe could provide a highly useful starting point for drawing up a strategic plan for nuclear security at the Agency. The foundation of this process is a Safeguards Long-Term Strategic Plan

2012 to 2017 and 2018 to 2023; and IAEA Nuclear Security Short Term Plans for 2010-2013, 2014-2017, 2018. For best practices in strategic planning useful references include U.S.GAO, Executive Guide: Effectively Implementing the Government Performance and Results Act, June 1996, <https://www.gao.gov/assets/80/76262.pdf> and The Project Management Institute, *The Standard for Program Management*, Fourth Edition, 2017 which as noted by GAO is utilized worldwide by corporations, governments, and others for guidance on how to manage various aspects of projects, programs, and portfolios. The benefits of proper planning and project management processes to government is detailed further in another Project Management Institute publication: Jill Owen et al, *Developing Government Policy Capability*, 2017.

¹³ U.S.GAO, Executive Guide: Effectively Implementing the Government Performance and Results Act June 1996, <https://www.gao.gov/assets/80/76262.pdf>.

¹⁴ Federo, Ryan & Saz-Carranza, Angel. (2015). Strategic Planning in Intergovernmental Organizations.

¹⁵ Ibid.

(LTSP) with an 11-year scope, provisions for update, and a comprehensive approach, supported by parallel plans that address specific topics such as research and development. Both the main plan and these parallel plans are updated halfway through their lifetime, concurrent with the release of the IAEA's Medium-Term Strategy which probes how external technological and other factors can be anticipated to affect the Agency's key strategic goals over six-year periods. Every two years, the Safeguards department releases a new Development and Implementation Support Programme for Nuclear Verification detailing specific projects that the department plans to carry out during that period paralleling the Agency's budget cycle. Specifically, the Safeguards LTSP is a useful model for a long-term strategic plan for nuclear security. It is anticipated that after development of a long-term nuclear security plan, medium-term plans should be developed for subject matter areas such as physical protection of nuclear facilities, detection and response to nuclear and other radioactive materials out of regulatory control, etc. (see Appendix B)

V. Best practices for developing strategic plans

A review of the IAEA Safeguards strategic plans reveals several best practices.

Characteristics of a Strategic Plan: In the model of "logical incrementalism", the horizon of the long-term strategic plan should not be too long, nor too short. Although no one can predict the future, the 11-year length of the Safeguards LTSP, or a plan of about a decade in length, seems optimal. A long-term plan should be reasonably general and set forth strategic objectives and delineate a firm legal basis for the proposed work. It would then be supported by shorter-term plans, perhaps three to five years in duration, in which the specific objectives can be developed in more detail to support the long-term plan. Finally, the plan should contain justifications for the elements of the plan and have a well-organized, easily readable structure.

Stakeholder Support: As "member-driven strategies" suggest, a significant amount of time should be devoted to the preparation of a long-term plan and a wide range of stakeholders should be involved. The Safeguards LTSP was developed over at least a two-year period. It was developed using workshops in which member states and experts participated. Involving member states made it more likely that the plan would be politically palatable as well as technically accurate and useful. The Agency must seek similar levels of buy-in and support from member states in order to develop a strategic plan for nuclear security that would be acceptable to the Board of Governors.

Adequate Personnel: The development of the Safeguards LTSP and the more detailed medium-term supporting plans involved a significant number of Department of Safeguards personnel and, as noted, the work was done over a significant period. Creating a strategic plan for the IAEA in nuclear security would require a similar staff commitment from what is now a thinly staffed NSNS if it is to be successful.

Consistency with Other Documents: Finally, the development of strategic plans should be consistent with the content and definitions of underlying documents. For example, a strategic plan for nuclear security should be consistent with the Nuclear Security Series and strategic objectives should be consistent with the Fundamental Principles set out in the Fundamentals of Nuclear Security document.

VI. Identification of characteristics and standard elements of IAEA strategic plans

The purpose of a long-term strategic plan is perhaps best described by the introduction to the first (and to this date only) Safeguards LTSP developed under the guidance of then Deputy Director General for Safeguards, Olli Heinonen. The plan is described as follows:¹⁶

This document presents the plan of the Department of Safeguards for the 2012-2023 period, in pursuit of the departmental strategic objectives. It summarizes the various issues facing the Department and outlines the Department's overall approach and nine detailed strategies to address them. The plan considers various elements of the IAEA's verification work, including the ***conceptual approach, legal authority, technical capabilities, human and financial resources, and the importance of the IAEA's stakeholders***. The plan seeks also to improve the way the Department works. (emphasis added)

The elements emphasized in the description are, with appropriate modification, applicable to a long-term strategic plan for nuclear security.

For example, the Safeguards Long-Term Strategic Plan sets forth the Safeguards Department's strategic objectives:¹⁷

- *Deter the proliferation of nuclear weapons, by detecting early the misuse of nuclear material or technology, and by providing credible assurances that States are honouring their safeguards obligations;*
- *Contribute to nuclear arms control and disarmament, by responding to requests for verification and other technical assistance associated with related agreements and arrangements; and*
- *Continually improve and optimize departmental operations and capabilities to effectively carry out the IAEA's verification mission.*

There does not yet appear to be any defined strategic objectives for nuclear security. Agreeing upon strategic objectives would be a necessary initial step in the development of a long-term strategic plan for nuclear security.

VII. Conclusion

Over the past few decades, nuclear security has become an increasingly important part of the IAEA's work as reflected in IAEA resources—financial and personnel—and its status within the IAEA bureaucratic hierarchy. Yet strategic planning processes for nuclear security at the Agency have lagged far behind. This paper has examined other strategic planning processes—including within the Agency's Department of Safeguards—as potential models for an IAEA nuclear security strategic plan and related planning processes. Should member states wish to undertake such a process they might consider including the potential elements listed in Appendix A.

¹⁶ IAEA Safeguards Long-Term Strategic Plan, 2012 – 2023, SG-SGCP-2109 at p. 1.

¹⁷ Id. at p. 8.

APPENDIX A: Potential elements that could be included in the IAEA's strategic plan for nuclear security

- a. *Scope of Work:* A description of the IAEA's nuclear security activities
- b. *Organization and coordination of nuclear security activities at the IAEA:* A discussion of how different policy structures within the IAEA, organize themselves and coordinate, as well as possible ways to strengthen coordination. This would include existing nuclear security structures such as the Director General's Advisory Group on Nuclear Security, the Nuclear Security Guidance Committee, and the various sections of NSNS, as well as other parts of the IAEA such as the Director General's Office for Coordination, the Incident and Emergency Center, the Departments of Technical Cooperation, Nuclear Energy, and Nuclear Applications.
- c. *Prioritization:* Prioritization of activities and the linkage and relationship between those priorities and other IAEA planning documents (e.g., Nuclear Security Plan, Programme and Budget, General Conference nuclear security resolution, Director General's Nuclear Security Report).
- d. *External Coordination:* A description of how the IAEA coordinates with other international organizations, non-government organizations, and governments.
- e. *Outreach:* How the IAEA currently promotes nuclear security work to the public and to other governments and possibilities for further outreach.
- f. *Budget and resources.* How different priorities and activities are funded (e.g., by the regular budget or Nuclear Security Fund) and description of human resource needs and succession planning.
- g. *Performance assessment:* Identification of how performance will be assessed.

APPENDIX B: Key Elements of the Safeguards Long Term R&D Plan

As noted, the Safeguards Long-Term R&D plan is extremely detailed and specific, and it provides a prioritization scheme for the various elements of the plan. Specific elements are ranked as either high, medium, or low priority. As such it offers a potential template for medium-term strategic plans aimed at specific aspects of nuclear security such as nuclear forensics or physical protection.

The Safeguards R&D plan outlines the “technical capabilities for which member state R&D support is or may be needed,” including:¹⁸

1. Concepts and approaches;
2. Detection of undeclared nuclear material and activities;
3. Safeguards equipment and communication;
4. Information technology, collection, analysis and security;
5. Analytical services;
6. New mandates; and
7. Training

As described in the R&D plan, “[e]ach capability is then broken down into more detailed key milestones, the completion of which will contribute to the full realization of the capability. The perceived urgency [priority] for each milestone is defined as high, medium and low.”¹⁹

These capabilities that the Department of Safeguards needs to achieve are then detailed in a table of capabilities, milestones, and urgencies.²⁰

Although the Nuclear Security Plan addresses some of these issues, they are not addressed with the same rigor or specificity, and are not prioritized in the same manner, as the Safeguards R&D Plan. The format and level of detail in that plan can serve as a model for medium-term plans in specific areas of nuclear security in support of a long-term strategic plan.

¹⁸ IAEA Department of Safeguards Long-Term R&D Plan, 2012 – 2013, S TR – 375, Vienna, January 2013 at p. 4.

¹⁹ Id.

²⁰ Id.