

**PROACTIVE OR REACTIVE:
LESSONS LEARNED FROM
ATTEMPTS TO IMPROVE THE
EFFECTIVENESS AND EFFICIENCY
OF INTERNATIONAL SAFEGUARDS**

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Abstract

The system of nuclear safeguards implemented by the International Atomic Energy Agency (IAEA) is driven by a complex mixture of technical, institutional and political elements. Since the founding of the IAEA in 1957, those elements have evolved due to different stimuli and changing risk perceptions related to the potential for nuclear weapons proliferation. This has resulted in a number of attempts to improve the effectiveness and efficiency of safeguards. Some changes to safeguards planning, implementation and evaluation stemming from these attempts were of a legal nature, requiring the approval of the Board of Governors, while others were merely conceptual evolutions in the IAEA's internal safeguards procedures within existing legal authority. Still others were unsuccessful, resulting in no changes at all.

The paper examines notable attempts to improve the effectiveness and efficiency of safeguards and identify lessons learned from these experiences by the IAEA, its Secretariat and its Member States. The analysis in the paper focuses in particular on the proactive or reactive nature of the attempts and how this may have affected the outcome of the respective endeavours. Case studies include: Programme 93+2 and the Committee on Strengthening the Effectiveness and Improving the Efficiency of the Safeguards System (Committee 24); the development of integrated safeguards; the approval by the Board of Governors of the modified text for small quantities protocols; and the Advisory Committee on Safeguards and Verification within the Framework of the IAEA Statute (Committee 25).

The lessons learned identified in the paper are presented with a view to informing future attempts to improve the effectiveness and efficiency of safeguards as the technical, institutional and political elements that drive changes in the safeguards system continue to evolve.

1. INTRODUCTION

The safeguards system is designed to ensure that nuclear material and related activities are used exclusively for peaceful purposes and not diverted for the development of nuclear weapons. Different parts of the safeguards system evolved as a result of different stimuli, some reactions to new threats and others proactive against future threats. Early safeguards, known as item-specific safeguards, were designed to prevent States from misusing supplied nuclear technology or material. Later, comprehensive safeguards were developed to prevent States from misusing indigenously developed nuclear capabilities.

In the 1990s, a period of strengthening safeguards began with the discovery of a clandestine nuclear weapons programme in Iraq. In 1997, the Model Additional Protocol was approved by the Board of Governors as a reactive step to the discovery of Iraq's weapons programme. The period of strengthening safeguards continued into the 2000s with the development of integrated safeguards as both a reactive and proactive step, as well as the modification of the standard text for small quantities protocols as a proactive step by the Secretariat to strengthen safeguards. In the mid 2000s, a Member State worked to establish a committee to further strengthen safeguards as a proactive step.

What are the benefits of reactivity versus proactivity in safeguards evolution and what lessons can be learned from past experiences in this regard? As the paper will show, much of safeguards evolution has been reactive to external events, but proactivity can be an important aspect of safeguards evolution.

2. COMMITTEE 24 AND THE MODEL ADDITIONAL PROTOCOL

2.1. Background and Context

In the 1990s, the IAEA Member States and Secretariat set on the task of strengthening the safeguards system. Though this followed a series of recommendations that were drafted, but not formally adopted, during the 1990 Review Conference of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), the drive to strengthen safeguards was accelerated significantly due to the IAEA's experience with Iraq. In particular, the IAEA's inspection activities undertaken pursuant to United Nations Security Council resolution (UNSCR) 687 revealed that Iraq had failed to declare significant nuclear activities that were driving a nuclear weapons programme. This revelation prompted a number of steps aimed at strengthening safeguards, especially with regard to providing credible assurance of the absence of undeclared nuclear material or activities in a State.

UNSCR 687, the resolution that requested the IAEA Director General to take charge of verifying the dismantlement of Iraq's nuclear weapons programme, was adopted on 3 April 1991. In September 1991, the General Conference requested the Board of Governors and the Director General to continue efforts to strengthen safeguards and noted the Board's decision to consider related measures by February 1992 at the latest. [1] By October 1991, the Secretariat had submitted its first proposal for strengthening safeguards in document GOV/2554, which concluded that two early areas for attention were: (1) reaffirming the IAEA's right to conduct special inspections; and (2) earlier provision of facility design information. After revision based on Board consultations, the proposals were approved by the Board during its February 1992 meeting. [2]

Concurrent with the Board's discussions on special inspections and design information, the Board considered other proposals by the Director General in the document GOV/2568 on reporting and verification. Attachment 1 of GOV/2568 was a proposal to expand the reporting of nuclear material further along the fuel cycle, notably on ore processing, and to universalise such reporting to include nuclear-weapon States. Attachment 2 of the document was a proposal on reporting of the export, import and production of sensitive equipment and non-nuclear material. At its February 1993 meeting, following deliberations on the nature of such a scheme, the Board endorsed the proposal for the establishment of a Voluntary Reporting Scheme (VRS) for nuclear material, specified equipment and non-nuclear material. As a "practical measure and for reasons of convenience," the Board decided to use the list in the document INFCIRC/254/Rev.1/Part 1 as it stood at that time for the VRS, subject to update at the discretion of the Board. [3]

As the IAEA and its Member States continued to consider measures to strengthen safeguards, the Director General requested the involvement of the Standing Advisory Group on Safeguards Implementation (SAGSI) in September 1992. The Director General placed particular importance on new requirements related to undeclared material and activities, maintaining effectiveness and reducing costs. SAGSI reported to the Director General with its analysis on April of 1993, including on: (1) the use of new techniques; (2) new procedures to detect undeclared nuclear facilities; (3) increased cooperation with State systems of accounting for and control of nuclear material (SSACs); and (4) alternative approaches to safeguards that included a conceptual focus on undeclared nuclear activities, as well as on declared nuclear material and facilities. Of particular note was the suggestion to make routine use of environmental monitoring and sampling techniques. [4]

In May-June 1993, the Board considered SAGSI's many suggestions on strengthening safeguards. Most Governors on the Board, as well as the Director General himself, agreed that "SAGSI's proposals required further, action-oriented analysis on the basis of which the Secretariat would submit to the Board concrete proposals, pursuant to SAGSI's recommendations, including their legal, financial and political implications." [5] As such, the Secretariat initiated a programme to further assess, develop and test SAGSI's recommendations and other related measures, which would enjoy continued input from Member States. In this way the Development Programme for a Strengthened and More Cost-effective Safeguards System – or Programme 93+2 – was born, so named because it was established during the Board meeting of December 1993 and it had a two-year mandate. [6] There was pressure to produce results in 1995 in part due to the 1995 NPT Review and Extension Conference.

As a result of Programme 93+2's work, the Secretariat submitted document GOV/2807 for consideration during the June 1995 Board. The document contained a comprehensive set of measures for strengthening the effectiveness and efficiency of safeguards in two parts. The measures in Part 1 were those that the Secretariat felt

could be implemented under existing legal authority, while Part 2 consisted of measures for which the Secretariat recommended additional legal authority. The Board took note of the Director General's plan to implement the Part 1 measures and urged States with comprehensive safeguards agreements (CSAs) to cooperate in their implementation. Meanwhile, in intensive consultations with Member States, the Secretariat set to drafting a model protocol to operationalise the Part 2 measures. [7]

The Secretariat's draft model protocol then became the subject of deliberations by a special committee established by the Board in June 1996, known as the Committee on Strengthening the Effectiveness and Improving the Efficiency of the Safeguards System – or Committee 24. From July 1996 through April 1997, Committee 24 held four official sessions, concluding with a special session of the Board on 15 May 1997 at which the Model Protocol Additional to the Agreement(s) Between State(s) and the International Atomic Energy Agency for the Application of Safeguards – or Model Additional Protocol – was approved. [8]

Building on the work conducted over the subsequent six years, additional protocols (APs) based on the model give the IAEA more access to information and locations in States with such protocols, which allow the IAEA to draw more credible conclusions not just on the non-diversion of declared nuclear material, but also on the absence of undeclared nuclear material and activities in a State.

2.2. Analysis

The paper has taken a detailed approach to analysing the period of strengthening safeguards from 1991 to 1997 in order to demonstrate the extraordinary level of consultation between the Secretariat and Member States, as well as the support provided by the Member States for the Secretariat's activities. Indeed, the scope of strengthening safeguards in from 1991 to 1997 was unprecedented.

Returning to the primary subject of the paper, the efforts taken during this period were **reactive** rather than proactive. In addition to the discovery of Iraq's clandestine nuclear weapons programme, the IAEA and its Member States contended with undeclared nuclear activities in North Korea. As a result of these experiences, the ground was fertile for major improvements in the safeguards system.

2.2.1. Political Buy-in

The experiences with Iraq and North Korea demonstrated to IAEA Member States the need to strengthen safeguards. As discussions had already begun at the 1990 NPT Review Conferences, before Iraq and North Korea's non-compliance were discovered, it is conceivable that some measures could have been implemented in the absence of these shocks to the safeguards system. However, the weaknesses in the safeguards system that Iraq showed in glaring fashion were impossible to ignore. The IAEA's later discovery of North Korea's non-compliance in 1993 only bolstered the existing conviction that the IAEA was on the right track; it was environmental sampling – a tool the IAEA had begun using in a more regular fashion in Iraq – that provided incontrovertible evidence that North Korea had conducted undeclared reprocessing activities. The political buy-in of the Member States produced by this shock was critical to the success of efforts to strengthen safeguards in the 1990s.

2.2.2. Technical Process

While the period from 1991 to 1997 was certainly driven by political factors, the process itself of strengthening safeguards was driven primarily by the technical aspects of the specific problems. While the IAEA is a technical organisation, it operates in an inherently political environment. The separation of political and technical issues to the extent possible was essential to the success of strengthening safeguards in this time. As observed by Hubert de La Fortelle of France during the June 1993 Board meeting, there “was a need for appropriate technical means, for considerable financial support and for unfailing political will, but the technical, financial and political aspects should be kept strictly apart from one another.”

This insulation of the technical issues from the political was particularly apparent during Committee 24, when Member State representatives were conducting a read-through of the document that became the Model Additional Protocol. Comments and suggestions made by those in the room were of a technical and legal nature, aimed to ensure that the resulting document would be a strong instrument in strengthening the effectiveness and efficiency of safeguards, while politically-driven statements were kept to a minimum. Insistence that the Model

Additional Protocol be a voluntary measure was aimed at ensuring the approval of the document rather than political objection to the document itself. Disagreements during the Committee were over the technical substance of the document, rather than related to geopolitical disagreements between States unrelated to safeguards that might have disrupted the process. Such a division between political and technical issues was essential to achieving the Model Additional Protocol.

2.2.3. *Consultations*

As detailed above, during 1991-1997, the Secretariat consulted heavily with the Member States through existing fora like the General Conference and the Board of Governors, as well as through specialised fora like Programme 93+2 and through informal consultations. The level of back-and-forth not only ensured that the Member States agreed with the direction the Secretariat was going, but also created a sense of ownership by the Member States.

It is the view of the author that political buy-in, the technical nature of the strengthening safeguards process and intensive consultations were not separate factors, but rather mutually reinforcing aspects of the atmosphere in which early strengthening safeguards occurred. That said, consultations may have been the most important in an effective reaction to the shock of the 1990s to the safeguards system.

3. INTEGRATED SAFEGUARDS

3.1. **Background and Context**

Following the approval of the Model Additional Protocol by the Board of Governors, the IAEA had two sets of safeguards measures: those available under CSAs and, for those with additional protocols, those available under the Model Additional Protocol. In the special session of the Board on 15 May 1997, during which the Model Additional Protocol was approved, several Board members observed that integrating these measures should be given high priority in the foreseeable future. [9] In November 1997, SAGSI advised that “it would be helpful to define, without delay, candidate proposals for integrated safeguards systems that embody all ideas including far-reaching changes in the way of implementing safeguards. Candidate proposals should cover the spectrum of State-as-a-whole and generic facility-type approaches that take account of all safeguards measures available to the Agency.” [10]

During the period 1991-1997, aside from the task itself of strengthening safeguards, Member State representatives prioritised cost savings. In particular, many States noted that the April 1993 SAGSI report did not provide for concrete ways to improve safeguards efficiency among its proposals. As a result, improved efficiency in safeguards, as well as effectiveness, became one key driver for the development of integrated safeguards. In the Director General’s annual report to the General Conference on safeguards in 1998, reference was already made to the “relaxation of certain traditional measures on less sensitive material and thus a reduction in the costs associated with such activities” as a result of integrating safeguards measures. [11]

Set to the task of developing integrated safeguards, the Secretariat, together with external experts, SAGSI and assistance from Member State Support Programmes (MSSPs), started to develop a conceptual framework for integrated safeguards: what conditions would be present for the IAEA to be able to apply integrated safeguards in a State, how they would function and what that would mean for the safeguards conclusions the IAEA would draw. According to Jill Cooley, then the Director of the Division of Concepts and Planning in the Department of Safeguards, the “concept being developed involves a State-level approach, which combines integrated safeguards approaches for specific facility types that take into account a State’s nuclear fuel cycle, the implementation of measures of its additional protocol, and other State-specific features.” [12] These aspects of integrated safeguards would later continue to inform the development of the State-level concept, a term that was coined later, but the principle of taking into account all safeguards-relevant information about a State when planning, implementing and evaluating safeguards for that State dates back to the 1990s.

Importantly, for the IAEA to be able to apply integrated safeguards in a State it was not enough for that State to simply conclude an AP. Once the AP had been concluded, the IAEA would also need to draw both the conclusion that there had been no diversion of declared nuclear material and that there were no indications of the presence of undeclared nuclear material or activities – a combination that, over the years, became known as the

broader conclusion. While the core of safeguards implementation would still be nuclear material accountancy, particularly for the purpose of drawing conclusions about declared nuclear material, State-specific features and acquisition path analysis would inform the technical measures chosen to provide credible assurance on the absence of undeclared activities and ultimately to achieve the broader conclusion.

As the Secretariat continued to develop integrated safeguards, it kept the Member States abreast of developments, including through extensive consultation, reports to the General Conference and papers submitted to professional organisations, such as the Institute of Nuclear Materials Management. In 2002 the Secretariat presented to the Board a document entitled the “Conceptual Framework for Integrated Safeguards” (GOV/2002/8), which outlined in detail how integrated safeguards would be (and were already being) implemented, including approaches for individual facility types and “State-specific features” that would help determine technical objectives and measures to be implemented. With relatively minimal discussion, the Board accepted the Secretariat’s recommendation to: (1) take note of the conceptual framework; (2) note that the Director General would implement integrated safeguards on the basis of that document; and (3) request the Director General to proceed further with such implementation as new APs entered into force and new safeguards conclusions were drawn.

In comparison with the Model Additional Protocol, integrated safeguards represented a conceptual evolution to safeguards rather than a legal one. Moreover, when compared to the process that led to the achievement of the Model Additional Protocol, the development of integrated safeguards was a far less laborious process. While it certainly benefited from Member State involvement, integrated safeguards were not something addressed at every Board meeting as the Model Additional Protocol was.

3.2. Analysis

While the period of strengthening safeguards from 1991 to 1997 was decidedly a **reaction** to the discovery of Iraq’s clandestine nuclear weapons programme, the period of 1998 to 2002 when integrated safeguards were developed is less certain. There were reactive elements to it, including the comments made at the special session of the Board in 1997 that approved the Model Additional Protocol in which several Board members commented on the need to integrate safeguards under CSAs and APs. SAGSI, ultimately meant to be a Member State-driven voice to the Director General, also recommended the development of an integrated safeguards system.

However, it is the view of the author that integrated safeguards were also the result of **proactivity** from the Secretariat, which immediately recognised that, particularly bearing in mind Member States’ emphasis on efficiency as well as effectiveness, that not to integrate these measures would be unsustainable in practice. In this sense, integrated safeguards are unique in the evolution of the system as something that the Secretariat and the Member States were separately driven towards doing.

3.2.1. *Emphasis on Cost Efficiencies*

As noted in the previous section, one of the priorities outlined by the Member States in the 1990s was a strengthened safeguards system that also remained cost-effective. While the 1993 SAGSI report echoed this sentiment, Member States noted that it had failed to include any concrete proposals on how efficiencies would be maintained. As integrated safeguards were developed, cost efficiencies remained one of its key drivers. The Secretariat did this in large by building flexibility into the elements of integrated safeguards, namely that acquisition path analysis and State-specific features and characteristics would inform the different technical measures to ensure that safeguards objectives were met in different facility types. By putting efficiencies at the front of the discussion on integrated safeguards, it is likely that this initiative was viewed inherently favourably by the Member States at the time.

3.2.2. *Utilising Momentum*

Another, perhaps more significant factor that led to the success of integrated safeguards was that they were developed on the tailwinds of the Model Additional Protocol, when the majority of States were actively invested in the strengthening of the safeguards system. Taking advantage of the momentum created by the 1990s certainly would not have been enough by itself – after all, the Model Additional Protocol remained voluntary despite pushes to the contrary by some Member States. However integrating the safeguards system was a process markedly eased,

simply put, by the shared understanding that it was the necessary and logical next step in the process created by the 1990s.

3.2.3. Consultations

As with the approval of the Model Additional Protocol, the development of integrated safeguards was successful and uncontroversial because of close consultation with the Member States. In particular, the Secretariat was able to facilitate a balanced understanding among Member States of the equal parts that the principle of non-discrimination in safeguards implementation, information review and evaluation, acquisition path analysis and State-specific features and fuel cycle characteristics, and nuclear material accountancy would play in integrated safeguards. Before the Board took note of the conceptual framework and intention of the Director General to proceed with integrated safeguards on that basis, discussions during Board meetings were characterised by States reiterating parts of the document rather than arguing with its substance. As a result of consultations, it was also understood that the conceptual framework did not represent the end of the process, but rather a framework through which strengthening safeguards would continue. As noted above, the issue of how to achieve cost savings or even cost neutrality was prevalent in this consultations, but did not prevent concurrence on the conceptual framework.

4. SMALL QUANTITIES PROTOCOLS AND THE 2005 UPDATE

4.1. Background and Context

A small quantities protocol (SQP) is a legal instrument available to States with little to no nuclear material or activities, but which are required by the NPT to conclude safeguards agreements with the IAEA. For States with an SQP to their safeguards agreements, many of the inspection and reporting requirements under the agreement are suspended or “held in abeyance” for as long as the State continues to be eligible for the protocol.

The Secretariat began approving SQPs for eligible States in 1971 in tandem with the approval of such States’ safeguards agreements. In 1974, the SQP model text was published in GOV/INF/276/Annex B. [13] The eligibility requirements outlined in that document were that the State have no nuclear material in a facility as defined in INFCIRC/153 and that total quantities of nuclear material in the State remain below the thresholds defined in paragraph 37 of INFCIRC/153. Those thresholds are: (1) one kilogram of special fissionable material; (2) 10 metric tons of natural or depleted uranium above 0.5%; (3) 20 metric tons of depleted uranium with an enrichment below 0.5%; and (4) 20 metric tons of thorium.

Of the important provisions of the safeguards agreement held in abeyance under the 1974 model text were the right of the IAEA to conduct inspections and the obligation of the State to submit an initial report on holdings of nuclear material. As such, the IAEA was not able to verify that States with SQPs based on that model had initially met the eligibility requirements, and it lacked tools to verify that they continued to do so. In effect, this also meant that a State could have quantities of nuclear material under the thresholds defined in paragraph 37 of INFCIRC/153 without the Secretariat’s knowledge – quantities that the Iraq case proved to be useful in potential weaponization activities.

The prospect that the 1974 SQP text was a weakness in the safeguards system was informally discussed by the Secretariat internally during Programme 93+2, but it was not until the Safeguards Implementation Report for 2003 that the matter was formally brought to the Board’s attention. In May 2005, after informal consultations, the Director General submitted a report to the Board that focused on ways to strengthen safeguards in SQP States. Two possible solutions were outlined. First, the Board could decide that it will no longer authorise the conclusion of SQPs and that States with operational SQPs should be encouraged to rescind them. Second was the prospect of the Board approving a modification of the 1974 text to ameliorate the identified weaknesses. [14] In June 2005, the Board considered the options outlined by the Director General and concluded that the 1974 text, indeed, represented a weakness in the safeguards system, but the Board did not decide on either solution at that time.

Further consultations on this matter included informal discussions at the request of the Chairperson of the Board, as well as a seminar hosted by the Secretariat in early September 2005. The financial implications of each option were considered, as well as “the advisability of taking such a decision strictly on the grounds of the Secretariat’s identification of a structural weakness in the system, rather than waiting for a country-specific

problem to appear.” [15] However, the Board ultimately decided at its September 2005 meeting to proceed with the modified text for the SQP suggested by the Director General, now reproduced in GOV/INF/276/Mod.1, and to call on States with operational SQPs based on the 1974 text to amend to the new text or rescind their SQPs if they no longer qualified.

SQPs based on the text approved in 2005, referred to as ModSQPs, retain a number of important inspection and reporting requirements under CSAs, notably the requirement for States to submit an initial report of their nuclear holdings and the right of the IAEA to conduct inspections in the State. The eligibility requirements also changed; ModSQPs become non-operational when the State concerned takes the decision to construct a nuclear facility or authorise its construction, as opposed to when nuclear material is introduced into a facility. The thresholds outlined in paragraph 37 of INFCIRC/153 were retained.

The Secretariat, Member States and groups of States continue outreach on both SQP amendment and rescission, as well as CSA and AP universalisation. As of the time of writing, 26 States have yet to amend or rescind operational SQPs based on the 1974 text.

4.2. Analysis

As compared to the achievement of the Model Additional Protocol, the modification of the standard text for SQPs was a clear-cut **proactive** step on the part of the Secretariat. The uncontroversial nature of the decision to modify the text, as well as the speed with which it was taken by the Board, is attributable to several factors: the provision of a concrete, actionable set of alternative proposals by the Director General to fix a well explained weakness in safeguards and, as with previous initiatives, the all important role of extensive consultations with the Member States.

4.2.1. Preparation and Clarity

As noted above, the weakness in the safeguards system presented by the 1974 SQP text was well understood by the Secretariat by the time the issue was formally presented to the Board. When the issue was ultimately brought to the Board’s attention, the Director General and the Head of the Department of Safeguards had a clear description of the problem and how to solve it prepared for the Board to consider. Preceding the May 2005 report, the Secretariat warned the Board that such a proposal was coming, and in crafting it had already included consideration of the implications for States with the 1974 model SQPs. The soundness of the Secretariat’s argument and the consideration of the Board’s reaction to it were likely the key drivers that led to the modification of the SQP text.

4.2.2. Consultations

As with the Model Additional Protocol and the conceptual framework for integrated safeguards, consultations played a major role in the adoption of the ModSQP text. In this case, a much of the consultations were conducted by the vice-chairperson of the Board Jacek Bylica at the request of the presiding Board chairperson. Though the modification of the 1974 text was a Secretariat initiative, involving the chairperson and vice-chairperson in this way helped to foster Member State buy-in in the process. A September 2005 seminar convened by the Secretariat helped assuage potential concerns of Member States about costs, not only related to the IAEA’s budget but also to the impact on Member States that had not set up their SSACs or otherwise worried about their capacity to fulfil their obligations under the ModSQP. With the Director General’s request that the Board treat this as a matter of urgency, by the time the September 2005 Board meeting came around, the decision to adopt the modified text was an easy one.

5. COMMITTEE 25 AND THE KITCHEN SINK

5.1. Background and Context

On 4 February 2004, Abdul Qadeer (A.Q.) Khan made a televised address in which he admitted to having run an illicit trafficking network for nuclear weapons technology. In response to the realisation that nuclear proliferation could take place not just as the result of actions by States, but also individuals, the international community looked into ways to prevent such proliferation from occurring in the future. On 11 February of the same year, US President George W. Bush announced a series of steps the United States would take in pursuit of

this goal, one of which was a proposal to create a special committee of the board that would “focus intensely on safeguards and verification.” According to Bush’s proposal, the committee would be “made up of governments in good standing with the IAEA.” [16]

At the March 2005 session of the Board, the United States presented its proposal for the creation of such a committee as described in GOV/2005/38. After extensive discussion and revision, the proposal was again discussed at the June 2005 Board session. The Board approved the creation of the committee on 17 June with caveats from many Member States, among them that: it would not duplicate the work of SAGSI; it would not interfere with or duplicate the work of the Department of Safeguards; no measures would be adopted that would increase reluctance of States to conclude APs; all interested Member States could take part (rather than those “in good standing”); and that decisions made during Committee 24 would be neither reopened nor revoked.

The mandate was limited to two years and to making recommendations for the Board’s consideration rather than as an autonomous decision-making body. On the committee’s substantive mandate, different views were expressed. Whereas some Member States viewed the committee’s broad mandate as an opportunity to recommend meaningful strengthening measures, others were of the view that the mandate was unclear and that this was a challenge. [17]

Thus the Advisory Committee on Safeguards and Verification within the Framework of the IAEA Statute – or Committee 25 – was established. At its opening session on the morning of 11 November 2005, the Director General outlined four areas that the Secretariat would like Committee 25 to provide recommendations for strengthening: uniformity of legal authority; human and financial resources; use of new technologies/enhanced analytical capabilities; and availability/provision of information. [18] During the first meeting, Member States primarily offered congratulations to the Chairperson of the Committee and reiterated positions they had expressed during the 17 June Board meeting. Some Member States also noted that meetings should take place with relative frequency in order for the Committee’s mandate be fulfilled within two years.

The second meeting on the afternoon of 11 November 2005 closed with a promise by the Chairperson to consult with delegations with a view to reaching agreement on the priority issues to be taken up by the Committee. [19] Proposals by the Secretariat were distributed to Member States shortly before the third meeting of Committee 25, which took place on 17 January 2006 (one month and a day after the agenda for the second meeting had been issued following consultations on the priority issues). Many Member States complained that their delegations had not had sufficient time to consider them before the meeting, something they wished the Secretariat would avoid in future meetings.

The proposals addressed three areas, including environmental sampling, satellite imagery and information on nuclear procurement and supply:

- On environmental sampling, the Secretariat proposed that Member States support improving the capability of Seibersdorf Analytical Laboratory’s (SAL) to process and analyse environmental samples and expanding the Network of Analytical Laboratories (NWAL) by qualifying additional laboratories and by increasing the capabilities and contract capacities of current NWAL laboratories.
- On satellite imagery, the Secretariat proposed that Member States voluntarily grant increased Agency access to imagery and extend privileges for sensor programming and scheduling, voluntarily provide more specialised training to Agency staff in imagery analysis and explore the possibility of the Agency acquiring a system to allow direct acquisition of imagery from ground stations that receive data from satellite sensors.
- On procurement and supply, the Secretariat proposed that Member States arrange on a voluntary basis for provision to the Agency of safeguards-relevant information on procurement inquiries and export denials, consult bilaterally with the Agency to identify ways to share procurement-related information and review and assess the need to amend Annexes I and II of the Model Additional Protocol.

These proposals were met with mixed reactions by Committee 25. Concerns of Member States were primarily focused on the budgetary implications of any given proposal, especially on support for SAL and NWAL which was discussed at great length. While support was expressed by some and concerns by others, the meeting adjourned without a decision on action for any of the Secretariat’s proposals.

By the fourth meeting in January 2006, Member State representatives began to protest that there still had not been a programme of work established for the Committee. In response to requests from the Committee, the Secretariat then prepared two notes with proposals for the Committee's review. The first focused on the implementation of previous measures to improve the effectiveness and efficiency of the safeguards system since 1991 and contained 11 specific proposals for further doing so. The second focused specifically on enhancing the IAEA's capabilities concerning satellite imagery and contained six proposals. [20]

As the Committee began to consider these proposals in the fifth and sixth meetings, the Chairperson and some Member States suggested that the work of the Committee might be more effective if some of the more technical issues were discussed in working groups rather than in main sessions. The establishment of working groups was supported by some Member States, but ultimately blocked by others. In order to aid the process of the deliberations (including in the absence of working groups), the Committee requested that the Secretariat "recast" the proposals offered up to that point into one list, organised by those based on existing legal obligations or within the existing legal framework, those regarding voluntary actions and those regarding a potential expansion of the IAEA's technical capabilities. The proposals were unchanged from previous documents (though one proposal concerning SAL and NWAL was split into two at the Committee's suggestion).

The "recast" proposals were the subject of debate throughout the rest of the Committee, including in its eighth, ninth and tenth meetings. Finally, in the eleventh meeting of Committee 25 on 14 February 2007, the Chairperson began by saying that, "[unfortunately], the Committee had been unable to agree on the language to be used in any of those recommendations" and that a report would be issued in a final twelfth meeting to summarise the activities of the Committee and the proposals considered.

In her closing summary from that meeting, the Chairperson wrote that "while acknowledging that the Committee's work did not result in the formulation of any specific recommendations to be submitted to the Board, the Committee considered that the documents prepared by the Secretariat had been particularly helpful in furthering a better understanding of the current key issues for strengthening safeguards and that there had been an interesting and useful exchange of views within the Committee." [21]

5.2. Analysis

Committee 25, as an initiative of a Member State, was a **proactive** attempt to further strengthen safeguards. It is a pity that over the course of six, two-day sessions of Committee 25 that not a single recommendation could be agreed. There are three factors that contributed to this. First, although the IAEA is a technical organisation with a technical mandate, it is working in an inherently political environment. During the period when the Committee was active, the geopolitical environment was marked by rapid change and growing frustration in the NPT context. Second, Committee 25 was meant to be a technical process designed to provide recommendations to the Board for consideration, but was ultimately politicised from inception, in no small part due to the US invasion of Iraq. Third, the lack of specificity in the Committee's mandate that some had regarded as a potential asset led to unfocused discussions and enabled political grandstanding in the place of goal-oriented negotiations.

5.2.1. *Changing Geopolitical Landscape*

Committee 25 was established in June 2005, directly after the 2005 NPT Review Conference, which had taken place in May. The 2005 NPT Review Conference was deeply contentious, in no small part because of non-nuclear-weapon States' frustration with the pace of nuclear disarmament. Also in this period, the Vienna chapter of the Non-Aligned Movement (NAM), of which many developing countries were members, became markedly more active. As a result of these factors, and ignorance of some States to the effect they might have on Committee 25's deliberations, any proposal that was viewed as placing further obligations on developing countries was met with immediate resistance. Statements during Committee 25 made on behalf of NAM repeatedly remarked that there should be no budgetary implications of any decision taken by the Committee and that the political, technical and budgetary implications of such decisions would need to be carefully considered.

It is not clear from the oral reports of Committee 25 whether the United States or other nuclear-weapon States attempted to allay NAM's concerns in this regard. What is clear is that NAM countries maintained these concerns, and their frustration in the NPT context, until the end of Committee 25 and that this was one factor that prevented the Committee from agreeing to submit any of the Secretariat's proposals to the Board for consideration.

5.2.2. *Politicisation of the Process*

Another factor that led to Committee 25's unsuccessful outcome was that the process, meant to be purely technical in nature, was politicised from the very beginning. This is evident in the oral reports in several ways, not least because many meetings began with prepared statements from recognised political groupings, such as NAM, the European Union and the Group of Latin American Countries. While this is common practice in political bodies, it did not bode well for the atmosphere of Committee 25.

During these statements, developing countries often repeated that verification activities shouldn't be carried out at the expense of technical cooperation. In particular, in the first several meetings, NAM repeated in statements that it rejected unilateralism and favoured multilateralism. Middle Eastern countries regularly mentioned the nuclear status of Israel in statements, sentiments likely stoked by the contention in the NPT Review Conference about a lack of progress on a zone free of weapons of mass destruction in the Middle East.

In short, while Committee 25 was founded with ostensibly good intentions, it was not founded on fertile ground and suffered from a highly politicised environment.

5.2.3. *Lack of Focus*

The third factor that prevented Committee 25 from agreeing on any proposals for Board consideration was related to the composition and mandate of the Committee itself. The vague mandate of the Committee compounded the effect of the changing geopolitical landscape and politicisation. Further, this was amplified by the fact that Committee 25 – ostensibly separated from the Board – continued to operate as if it was the Board. Working groups could never be established to discuss complex technical matters or reach working-level agreement on substantive issues. It is notable that even in the final substantive meeting of Committee 25, delegates continued to note the need to establish a programme of work.

One can contrast this experience with Committee 24, which was established with a clear mandate and a document to serve as a basis for negotiation and was itself the result of years of consultation. Another symptom of the lack of focus was the lengthy discussion within Committee 25 of how to fund its activities, a subject that took up a notable amount of time in the early meetings. Ultimately, though the Secretariat provided detailed notes for the Committee's consideration, the Committee's mandate remained vague and, at moments, a subject of contestation.

Committee 25 never found the balance so critical to safeguards diplomacy between the technical and political aspects of nuclear governance. In the words of the Committee Chairperson in during the fourth meeting, for "the sake of the Committee's credibility, it would be important to focus on very substantive matters and avoid meetings where only generalities were voiced." [22]

6. CONCLUSIONS AND LESSONS LEARNED

The evolution of the safeguards ecosystem has been driven by both reactive and proactive elements. Programme 93+2 and Committee 24 were reactions driven by the discovery of clandestine nuclear weapons activities and resulted in, inter alia, the understanding that safeguards had to be strengthened in order to solve a specific problem. Integrated safeguards resulted both reactively and proactively to ensure that CSAs and APs would be implemented both effectively and efficiently. The modification of the standard text for SQPs was a proactive step, one which was approved by the Board of Governors with seemingly no contention. Committee 25, an initiative of a Member State and proactive in nature, was founded on unstable grounds, hopelessly politicised and never found a clear programme of work. An analysis of these experiences yields several lessons, which can be useful for future attempts to strengthen safeguards.

- **Effective and Frequent Consultations.** The role of consultations cannot be overstated, both between the Secretariat and the Member States, as well as among Member States. One of the biggest reasons that Committee 24 was successful in producing the Model Additional Protocol was that all stakeholders were kept informed and their considerations on the implications of increasing the IAEA's authority were taken into account. Conversely, if the Member States – members of the Board in particular – are caught by surprise by an initiative (especially one with potential budgetary

implications), the initiative is likely to be unsuccessful. It is important to note that the obligation to consult does not just lie with the Secretariat, but also with the Member States. The experience of Committee 25 demonstrates that the political buy-in was not sufficient with enough Member States for it to have achieved consensus on actionable recommendations. What past cases have shown is that effective and frequent consultations are critical to building such political buy-in.

- **The Technical-Political Balance.** While the IAEA is a technical organisation, the role of the political landscape affects its ability to make progress in implementing effective and efficient safeguards. Any initiative aimed at strengthening safeguards must be founded on fertile political ground, but be insulated as much as possible from politics. Fertile ground means that there is inherent interest by Member States in the goal of an initiative or, conversely, that political factors would not doom an initiative from its inception. This was clear from the experience with Committee 25. The difference between a technically driven process and a politically driven process is easily demonstrated by comparing Committee 24 and Committee 25. Whereas Committee 24 oral reports show Member States working together to identify the best modalities for achieving a common aim, the deliberations during Committee 25 clearly reflected political statements made in the NPT context or were otherwise reflective of geopolitical disagreements.
- **Strategic Timing.** It is notable how uncontentious integrated safeguards were in the period between 1998 and 2002. This is because the drive to establish them was already under consideration when the Model Additional Protocol was being negotiated by Committee 24 and Member States were already looking at ways to use the new instrument most effectively and efficiently. Similarly, the revised text for SQPs was approved, in hindsight, at the end of the period of strengthening safeguards. While it is not necessary to have a new element to react to in order to strengthen safeguards, connecting a strengthening safeguards initiative to an occasion that has produced momentum is helpful in this regard.
- **Clarity of Purpose.** Finally, whether an initiative comes from the Secretariat or from a Member State, and whether it is a reaction to an exploited weakness or proactive in order to prevent such a situation, the goal of strengthening a particular part of safeguards must be clear. Committee 25 did not fail purely because it was an initiative by a nuclear-weapon State or because it followed the 2005 Review Conference. Committee 25 failed because there was never a clear purpose for the Committee's existence or a clear problem to solve. Future efforts to strengthen safeguards will have to establish this early, ideally before an initiative like a committee of the Board is ever established, and utilise the knowledge of the Secretariat to commission notes and items for consideration ahead of time rather than once a committee is already established.

The safeguards system is and should be an evolving system, reacting to current threats and proactively changing to mitigate new ones. As the international security environment continues to change, the IAEA and its Member States will need to keep pace, acting both reactively and proactively to ensure the most effective and efficient safeguards system possible. A healthy eye on past attempts to strengthen safeguards can assist the IAEA and Member States to pursue new initiatives wisely, incorporating the best practices possible for a positive result.

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