

Strengthening the International Legal Framework for Nuclear Security: Means and Methods to Facilitate Compliance and Enhance Transparency

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Abstract. The international legal framework for nuclear security must strike a particular balance. On the one hand, there is a recognized need to enact a set of harmonized international standards in order to prevent illicit, malicious acts involving nuclear or radiological materials and related facilities. On the other hand, the relevant materials and facilities are of high national sensitivity, which impacts the extent to which States are willing to enter into legally binding agreements. At the same time, the legal framework must possess sufficient evolutive capacity so as to allow for adaptation in the face of changing circumstances. The development of the legal framework has reflected these specific characteristics. The *strength* of the framework, however, is a function of three primary elements of effectiveness. First, States must become party to the relevant instruments. Second, they must also act in accordance with the rules and norms established in those instruments. Third, the legal framework must be adequate to achieve the objectives for which it was established. Strengthening the framework for nuclear security will consequently involve efforts aimed at supporting these elements of effectiveness. This can be done by means of outreach activities, such as legislative assistance programmes, by utilizing mechanisms already existing under the international legal instruments and related institutional arrangements, as well as by looking beyond the current structure. The most expedient measures, due in part to political realities, will be those based on commitments already made by States under the various instruments. Such efforts should be aimed at building confidence in the effectiveness of the existing legal framework through creating a platform for information sharing and regular interaction to enable coordination and cooperation. Where possible, though, the expansion of the framework should also be considered. Through these actions, the continued viability of the legal framework will be ensured.

1. INTRODUCTION

The international legal framework for nuclear security is characterized by a limitation in scope of and adherence to the legally binding obligations, supplemented to a certain extent by a body of non-legally binding instruments – soft law – developed under the auspices of the IAEA. The structure reflects the need to establish uniform standards while retaining enough flexibility to adapt to changing circumstances. Put another way, the legal framework must possess sufficient evolutive capacity so as to deal with changes in economic situations, technology, security relationships and the relevant actors. At the same time, this mix of hard and soft law stems from the fact that the national security sensitivities surrounding the relevant materials and facilities impact the extent to which States are willing to enter into legally binding agreements [1]. For this reason, any discussion of strengthening the international legal framework must temper “ideal world” scenarios with acknowledgement of what is politically feasible.¹

At the heart of the strength of a legal framework is its effectiveness. Strengthening a legal framework, therefore, involves seeking ways to enhance its effectiveness. While difficult to measure, there are at least three elements that clearly factor into the effectiveness of international law. The first is that States become party to the relevant instruments. In the case of nuclear security, this means promoting universality. The second is compliance. Not only is it in the general interest that States become party to the instruments, but having done so they must also act in accordance with the agreed rules and norms.² In other words, strengthening the international legal framework for nuclear security will involve determining means to facilitate compliance with existing rules and norms. States will be less likely to enter into agreements that require the implementation of stringent rules and regulations, as in the case of nuclear security, if they are not convinced by prospects for compliance by other States

¹ Drawn from national statements and records of State practice, where available.

² Including compliance with the domestic implementing measures which give effect to international commitments.

Parties [2]. It is important, therefore, that there is a mechanism through which compliance can be demonstrated. The resulting transparency will help build trust among States Parties and confidence in the legal framework as a whole. The third element of effectiveness is adequacy. The framework itself must be adequate, both in terms of scope and clarity, to achieve the goals for which it was adopted and thereby to induce compliance.

This paper begins by outlining the development of the current legal framework. Such an exercise will illustrate the reasoning behind how the framework was set up and will highlight relevant aspects of its scope, including the object and purpose. From there, a number of options will be discussed for strengthening the framework, including making use of existing mechanisms and looking beyond the current structure. The paper concludes by summing up the findings in light of the political reality. In the end, the measures described in this paper will serve both national and international security interests by supporting the continued viability of the international legal framework.

2. DEVELOPMENT OF THE CURRENT LEGAL FRAMEWORK³

2.1 Non-proliferation and the physical protection of nuclear material

Nuclear security, in the form of measures aimed at the physical protection of nuclear material, began as an extension of the non-proliferation regime. Article III of the 1968 Treaty on the Non-Proliferation of Nuclear Weapons (NPT) obliges non-nuclear-weapon States Parties to conclude an agreement with the IAEA under the Agency's safeguards system with a view to preventing diversion of nuclear material to non-peaceful purposes. The IAEA consequently developed INFCIRC/153 [3], which is formatted as the model agreement for States to fulfil their NPT Article III obligations and is based on the concept of nuclear material accountancy. It was recognized that physical protection of nuclear material and nuclear facilities from acts such as theft and sabotage was also highly important to both non-proliferation and radiation safety. Such measures were not obligated under the safeguards agreements, though, and the Agency was given no responsibility with respect to a State's physical protection system. Acknowledging the need for some guidance to assist States in developing physical protection systems, "Recommendations for the Physical Protection of Nuclear Material" were developed in 1972, and were subsequently revised in 1975 and published as INFCIRC/225.⁴

These original guidelines, and its revisions, although non-legally binding, have been of fundamental importance to the development of the international legal framework for nuclear security, prompting further consideration of ways to support international cooperation in addressing physical protection issues [4].⁵ At the first NPT Review Conference in 1975, all States were called upon to 'enter into such international agreements and arrangements as may be necessary to ensure' the physical protection of nuclear material in use, storage and transit [5].⁶ In addition, following the formulation of

³ There are a number of instruments not covered in this paper that also contain provisions of relevance to the legal framework for nuclear security, including the 1997 *International Convention for the Suppression of Terrorist Bombings*, the 2005 Protocol to the *Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation* and the 2005 Protocol for the *Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf*, the 1986 *Convention on Early Notification of a Nuclear Accident* and the 1986 *Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency*. Those described in the body of this paper, however, can be considered the primary instruments for nuclear security.

⁴ Entitled: *The Physical Protection of Nuclear Material*. The 1972 Recommendations were revised upon review by a group of experts in order to reflect progress in physical protection as well as challenges posed by increasing use of nuclear material for peaceful purposes.

⁵ Resolution GC(XIX)/RES/328 mentions 'problems of the physical protection of nuclear facilities and materials which are common to Member States, such as those relating to the international transfer of nuclear materials.'

⁶ Such arrangements were to include 'principles relating to the responsibility of States, with a view to ensuring a uniform, minimum level of effective protection for such material,' and State were to 'give the earliest possible effective application to the IAEA's recommendations' in the framework of domestic physical protections systems.

the guidelines, provisions related to physical protection began to be included, and therefore made legally binding, in a number of bilateral and trilateral agreements involving the application of Agency safeguards to material and/or equipment [6].⁷ This practice has continued, often directly referencing the most recent revision of INFCIRC/225 or more generally the “recommendations and guidelines” produced by the IAEA, in project and supply agreements and revised supplementary agreements for the provision of technical assistance by the IAEA. INFCIRC/225, by virtue of its non-legally binding form and the relatively easy way it can be amended or replaced, provides much more flexibility to meet contemporary challenges. INFCIRC/225 has subsequently been revised a number of times, the most recent being Revision 5 adopted in 2011, to take into account new developments and instruments in the area of nuclear security.

2.2 Convention on the Physical Protection of Nuclear Material (CPPNM)

Consultations between the IAEA and its Member States as well as the work of an Advisory Group on Physical Protection of Nuclear Material indicated a growing recognition that there was a need for an international legally binding instrument on physical protection. Following the circulation, in June 1977, of a draft “Convention on Physical Protection of Nuclear Facilities, Material and Transports”, the IAEA General Conference endorsed efforts by the Director-General to facilitate development of this legal instrument. Its aim was ensuring adequate protection of physical material through strengthened international cooperation, while still taking into account that physical protection is primarily a national responsibility [7]. Negotiations on a legally binding instrument commenced toward the end of 1977 and continued for two years.

While States, and the European Atomic Energy Community agreed on the necessity of adopting legally binding obligations with respect to physical protection, there was substantial disagreement as to the scope of the eventual treaty. The objectives of the draft convention included, for instance, obtaining commitment from states to implement adequate physical protection for civilian nuclear material *domestically* [8].⁸ While a number of States shared the opinion that the scope should extend to domestic use, storage and transport of nuclear material and even to the protection of nuclear facilities, several other States wanted to limit the scope to nuclear material in international transport. They claimed that legal, security and technical differences from State to State would cause serious difficulties. Another issue raised was whether the scope should be explicitly confined to nuclear material for peaceful uses, but extending the physical protection requirements to non-civilian (military) materials gained little support.

As the negotiations continued, the discussion became more about comprehensiveness of the scope versus attaining the broadest reach (universality) among States. It was decided that physical protection of nuclear material in international transport was the most urgent issue and therefore should be the focus of the convention. Still, physical protection during domestic use, storage and transport was undoubtedly important and would thus be referenced in the Preamble. Various States expressed their agreement with the limitation on the scope, some with the caveat that a review procedure would leave room for extending the Convention’s aims. Others, however, cautioned that the Convention should not be considered a first step toward a broader convention aimed at physical protection of national material and facilities.

The CPPNM, which was opened for signature in 1980 and which entered into force in 1987, requires States Parties to implement benchmark levels of physical protection measures, as laid down in the annexes, with respect to nuclear material used for peaceful purposes while in international transport. In addition, the CPPNM obliges States Parties to make the commission, the threat or attempt to commit and participation in certain offenses punishable under national law. Punishment must be

⁷ Starting with INFCIRC/237, *The Text of the Safeguards Agreement of 26 February 1976 between the Agency, Brazil and the Federal Republic of Germany*.

⁸ U.S. Statement, CPNM/15.

commensurate with the grave nature of said offenses.⁹ The CPPNM, thirdly, contains provisions for international cooperation involving, *inter alia*, information exchange¹⁰ and coordination of recovery and response operations. The CPPNM remains the only multilateral treaty dealing with the physical protection of nuclear material.

2.3 International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT)

Following increasing concern that terrorists could obtain and seek to use radioactive materials, particularly in the wake of the end of the Cold War and subsequent reports of unaccounted radioactive material, a draft Convention on the Suppression of Acts of Nuclear Terrorism was introduced under the auspices of the Ad Hoc Committee UN General Assembly Resolution 51/210. The 2005 ICSANT refers to all radioactive material, not only to nuclear material and not only to material used for peaceful purposes. It also requires States Parties to ‘make every effort to adopt appropriate measures’ with respect to physical protection, leaving substantial State discretion in terms of actions to be taken. In determining such appropriate measures, however, account should be taken of recommendations and functions of the IAEA. ICSANT further adds offenses involving activities with radioactive material other than nuclear material to the list of international crimes, as long as they are accompanied by the requisite intent to cause death or serious bodily injury or substantial damage to property or to the environment.¹¹ It also lays out rules for handling radioactive material that is seized or taken control of by States following commission of one of the offenses, referring to physical protection recommendations of the IAEA and including provisions related to cooperation among States and with the IAEA. There was much discussion in negotiating ICSANT about avoiding conflict or significant overlap with the CPPNM. Some delegations even proposed formulating ICSANT as a protocol or amendment to the CPPNM in order to prevent derogation from or duplication of the CPPNM, while the authors of the draft ICSANT emphasized its strictly anti-terrorism object and purpose [9].

2.4 Amending the CPPNM

Around the same time that ICSANT was being discussed, a number of States began to express a concern that the CPPNM was incomplete. The IAEA Director-General convened an Expert Meeting in 1999 to examine whether the CPPNM should be revised. The Expert Meeting established an open-ended Working Group to assess the relevant issues, and in 2001 the Working Group’s Final Report identified a need to strengthen the international physical protection regime by means of, *inter alia*, an amendment to the CPPNM. Shortly thereafter, the terrorist attacks of 11 September 2001 (9/11 attacks) in the U.S. demonstrated an aim and capability of terrorists to inflict mass casualties across international borders and increased the concern that these groups would attempt to do so using weapons of mass destruction. This changing threat perception underlined the urgency of securing nuclear and other radioactive materials. Following requests to convene an amendment conference by a majority of CPPNM States Parties, as required under Article 20 of the CPPNM, such a meeting was held in 2005. While even States that had been hesitant to support the development of international legal obligations covering domestic use, storage and transit of nuclear material and nuclear facilities recognized the need to strengthen the legal framework, there remained significant aversion to certain measures such as requiring regular reports by States Parties on the implementation of the Convention or including provisions for mandatory peer review of the level of physical protection applied in a State Party [10]. The resulting CPPNM Amendment, which has not yet entered into force, comprises a general broadening of the scope of the CPPNM. It includes the commitment to apply physical protection measures to nuclear material in domestic use, storage or transport and to nuclear facilities.

⁹ CPPNM, Article 7. The offenses are not confined to activities involving nuclear material in international transport, but rather also extend to nuclear material used for peaceful purposes in domestic use, storage and transport.

¹⁰ Namely with respect to national central authorities or points of contact with responsibility for physical protection of nuclear material.

¹¹ This element of intent plus the scope related to all radioactive materials differentiates the criminalization provisions of ICSANT from those contained in the CPPNM.

It also lays out fundamental principles of physical protection, mandates increased international cooperation and adds the criminal offense of sabotage of nuclear material or a nuclear facility.

2.5 The UN collective security system

Also reflecting the changing dimensions of the perceived terrorist threat following the 9/11 attacks, the UN collective security system has taken a role in addressing the issue of WMD terrorism. In 2004, the UN Security Council unanimously adopted Resolution 1540 which labels, *inter alia*, the proliferation of nuclear weapons and their means of delivery, as well as illicit trafficking in nuclear weapons, their means of delivery and related materials, as a threat to international peace and security. Adopted under Chapter VII of the UN Charter, Resolution 1540 is binding on all Member States of the UN. It requires States, among other actions, to develop and maintain appropriate effective measures to account for and secure relevant items in production, use and storage as well as appropriate and effective physical protection measures, border controls and export controls. Though the phrase “appropriate effective” is not further defined, it would seem logical to refer to the guidelines established under the IAEA where applicable. The scope of Resolution 1540 is limited to nuclear, chemical and biological weapons, their means of delivery and ‘related materials’.¹² Radioactive sources, however, are not covered.

In the years following the adoption of Resolution 1540, the Security Council has reaffirmed on a number of occasions the measures foreseen therein. Each of the subsequent resolutions¹³ mandates the 1540 Committee, established to oversee implementation of that Resolution, to intensify efforts to promote implementation. Each also continues to call upon States not having done so to provide a first report on steps they have taken or intend to take to implement Resolution 1540. This illustrates persistent difficulties in ensuring that the terms of Resolution 1540 are given effect in national systems. Resolution 1977 goes into more detail in terms of implementation assistance activities to be carried out by the 1540 Committee in cooperation with States, international, regional and sub-regional organizations. It also makes direct reference to transparency in terms of measures and activities instituted by the 1540 Committee and further supports the Committee’s outreach activities.

2.6 Radioactive source security

Aside from the above-described relevant provisions of ICSANT, the security of radioactive sources remains, at the international level, founded in non-legally binding measures. A conference held in Dijon, France, in 1998 was the first to be devoted to the safety of radioactive sources and the security of radioactive materials following a number of radiological incidents. The IAEA General Conference subsequently requested that the Director-General prepare a report for consideration by the Board of Governors on, *inter alia*, ‘whether international undertakings concerned with the effective operation of such systems and attracting broad adherence could be formulated’ [11]. One of the recommendations arising out of the Director-General’s report was the possible need for an “international undertaking”, such as a convention or other instrument, aimed at the safety and security of radioactive sources and attracting the broad adherence of States [12]. An exploratory discussion on such an international undertaking was then initiated upon request by the Board of Governors in which some members expressed the viewpoint that undertaking should take the form of a code of practice or conduct, as a convention was thought of as too ambitious at the time [13]. The result was the Code of Conduct on the Safety and Security of Radioactive Sources (Code of Conduct), first adopted in 2000.

Again, in the wake of the 9/11 attacks, there was a desire to strengthen the Code of Conduct to deal with concerns regarding deliberate and malicious use of radioactive sources. This issue was addressed in an open-ended meeting in 2002 of technical experts tasked with considering the effectiveness of the

¹² Related materials are defined as ‘materials, equipment and technology covered by relevant multilateral treaties and arrangements, or included on national control lists, which could be used for the design, development, production or use of nuclear, chemical and biological weapons and their means of delivery’.

¹³ 1673 (2006), 1810 (2008) and 1977 (2011).

Code of Conduct [14]. The Code of Conduct was thereafter revised to better address security of radioactive sources, including reference to the need to protect facilities where sources are managed in addition to securing the sources themselves. It is notable that the technical experts actually considered at the time whether the status of the Code of Conduct should be enhanced to that of a binding instrument in the interest of encouraging broad adherence, though consensus was not reached on this point. General support for the principles and norms as contained in the Code of Conduct has been expressed in a number of different forums, including under the auspices of the G8 and the Global Initiative to Combat Nuclear Terrorism (GICNT).

3. MEANS AND METHODS FOR STRENGTHENING THE LEGAL FRAMEWORK

In light of the foregoing, it is possible to identify areas where measures aimed at strengthening the international legal framework for nuclear security would be most achievable and have a direct impact on its effectiveness. These include working to increase the number of States Parties to the legally binding instruments, building confidence through the use of the information sharing, consultation and review conference mechanisms available under the treaties, and focusing on radioactive source security.¹⁴ These measures mirror the elements of effectiveness described in the introduction.

3.1 Supporting adherence to legal instruments

To begin with, emphasis should be placed on increasing the number of States Parties to the relevant legal instruments and, when States become party, on ensuring that the legal instruments are given effect in domestic legislation. This includes trying to acquire the necessary commitments for entry into force of the CPPNM Amendment, which will strengthen the international legal framework by greatly expanding the scope of the CPPNM, and increasing the number of States Parties to ICSANT. This can be achieved partly through highlighting incentives¹⁵ and partly through outreach programmes in the case that limited capacity or resources impedes adherence to the instruments. The UNODC's Global Project on Strengthening the Legal Regime against Terrorism is an example of such a legal-assistance and capacity-building programme, and the IAEA has a strong legislative assistance programme under which a number of tools have been developed including a *Handbook on Nuclear Law* and the *Handbook on Nuclear Law: Implementing Legislation*. The European Union is also involved in providing legislative assistance under the auspices of its CBRN Centres of Excellence initiative. As elements of the international legal framework fall under the responsibility of various organizations aside from UNODC and the IAEA, including for example the International Maritime Organization (IMO),¹⁶ coordination and exploration of synergies in terms of outreach is important. The outreach, assistance and cooperation activities of the 1540 Committee should also be taken into account to avoid duplication of activities.

3.2 Utilizing existing provisions in legal instruments

Because a chain is only as strong as its weakest link, every state has an interest in knowing whether sufficient standards are being applied in every other state.¹⁷ To this end, a step that can be taken immediately is to highlight the legal requirement laid down in Article 14(1) of the CPPNM. This provision requires that States inform the IAEA, as depositary, of its law and regulations that give effect to the Convention. The IAEA is then mandated to communicate this information periodically to

¹⁴ For instance, determining ways to facilitate and demonstrate compliance with the non-legally binding Code of Conduct or considering taking steps toward establishing legally binding commitments.

¹⁵ Such as the need for nuclear security measures in order to benefit from the peaceful use of nuclear material as well as the ability upon becoming a State Party to invoke the provisions for cooperation as foreseen in Article 5 of the CPPNM and Article 7 of ICSANT.

¹⁶ With respect to the 2005 Protocol to the *Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation* and the 2005 Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf.

¹⁷ States not only have to commit to international norms and rules but also have to implement those norms and rules in national systems.

States. Article 14(1) is an obligation of notification, leaving the amount of detail to be provided up to the discretion of the State Party. Nevertheless, the process can serve to build trust and confidence in compliance with the terms of the Convention. To this point very few States Parties have provided this requisite information,¹⁸ but it is an existing obligation and thus necessitates no additional agreement to bind States that are party to the CPPNM. The way in which the provision is formulated means that sharing information regarding national implementation measures is not necessarily meant to be a one-time action. Laws and regulations giving effect to the CPPNM will clearly need to be updated in light of changing circumstances, such as becoming party to the CPPNM Amendment,¹⁹ and that information should be provided accordingly. The result of having this institutionalized mechanism for information sharing in place, even if the information shared is very basic without much additional detail, is enhanced transparency among States Parties and with the IAEA, which serves the function of both building confidence and pressuring Parties into compliance [15]. It can also enable a certain level of coordination among States Parties without compromising confidentiality, as decisions on how much information to share remains in the hands of the State itself.

In addition, treaties will often include in the text various methods for facilitating treaty evolution, in particular when said treaties are meant to be of unlimited duration. These methods can include amendment procedures and provisions for review conferences, such as in Article 16 of the CPPNM. The purpose of the review conference mechanism outlined in Article 16 is to review implementation of the Convention, as well as its adequacy ‘as concerns the preamble, the whole of the operative part and the annexes in light of the then prevailing situation.’ Using the phrase “the then prevailing situation” would seem to indicate an implicit acknowledgement that changing circumstances could impact the adequacy of the Convention and ostensibly necessitate amendment. The prevailing situation could have to do with technological or scientific developments, or could even reflect changing dynamics among States. The need to test the adequacy of the Convention against the current circumstances would indicate a concern that the Convention might no longer be suitable to fulfill its object and purpose, a potential problem that no doubt extends beyond the first interval of five years after which review was mandatory.²⁰ Though there is no requirement to have more than one such review conference, according to Article 16(2) a majority of States Parties may obtain the convening of further conferences, at intervals of no less than five years, by submitting a proposal to the IAEA.

Initiating periodic review conferences could serve several functions²¹ aimed at strengthening the legal framework, and a number of States Parties to the CPPNM already seem to support making use of the review conference provision. Outcomes of such review conferences could, if so agreed by the Parties, include anything from initiating voluntary measures to share additional information to adopting common understandings or making efforts at clarification of certain provisions. States Parties could agree, for instance, to interpret Article 14(1) as a *periodic* obligation for providing information. Furthermore, a regular CPPNM review conference would provide an institutional basis for a continuing discussion of matters related to the Convention, such as encouraging adherence, promoting compliance and facilitating cooperation.

Building confidence in compliance with the CPPNM could also be facilitated by means of cooperation and consultation pursuant to Article 5(3) of the Convention, or Article 5(4) of the CPPNM as amended. This provision is formulated to support the harmonization of physical protection

¹⁸ To the best of the author’s knowledge, around 20 of the 148 States Parties have provided the information required under Article 14(1).

¹⁹ Providing information on laws and regulations giving effect to the CPPNM as amended will become a legal obligation upon entry into force of the Amendment.

²⁰ A single review conference was held in 1992, five years after entry into force.

²¹ The Biological and Toxin Weapons Convention (BTWC) review conference process, for instance, resulted in the States Parties to the BTWC coming to an agreement on a method of data exchange, referred to as confidence-building measures (CBMs), aimed at supporting compliance through transparency in the absence of a formal supervisory mechanism. One can refer similarly to the quinquennial review conferences of the NPT and the Chemical Weapons Convention, though these treaty regimes each have specific systems of institutional supervision.

measures for nuclear material in international transport. These bilateral interactions have a narrower scope than the review conference process but nonetheless provide a platform for coordination. Once the CPPNM Amendment enters into force, Article 5(5) will provide a mechanism for States Parties similarly to consult and cooperate in obtaining guidance for physical protection measures related to nuclear material in domestic use, storage and transport and to nuclear facilities. Reflecting the increased sensitivities of domestic measures in comparison with measures aimed at international transport, Article 5(5) of the CPPNM Amendment uses the word “may” instead of “shall”, meaning that such cooperation and consultation is not a legal obligation but rather a voluntary action. A regular review conference process could also serve to encourage these types of interactions.

None of these mechanisms, however, entirely fulfils the role of verification. Verification is meant to produce clear and convincing evidence of compliance or non-compliance. This means that information is not only collected, but also that it is reviewed and evaluated for conformity with the rules. Such a process is often overseen by a supervisory body, such as the IAEA in the case of the safeguards system or the Organization for the Prohibition of Chemical Weapons for the Chemical Weapons Convention. Under the CPPNM, the IAEA is tasked with collecting and distributing information on national laws and regulations giving effect to the Treaty, but it has no mandate to review and evaluate the information. Each CPPNM State Party not only must provide information but is to receive communication regarding the information provided by other States Parties pursuant to Article 14(1). This information should form the basis for discussing issues of adequacy and implementation of the Convention during review conferences. The Conference of Parties to a CPPNM review conference could also decide to request the IAEA to review and evaluate the information provided pursuant to Article 14(1) in accordance with Agency (confidentiality) procedures.

3.3 Institutional arrangements supporting compliance

Non-legally binding instruments have played and will continue to play a central role in the international legal framework. The non-legally binding instruments²² already contribute to the normative structure of the legal framework while not constituting legal norms themselves. These instruments allow for relatively rapid adoption of highly detailed standards and methods for realizing security objectives. As such, the non-legally binding instruments can fill in gaps or indeterminacy in the language of the legally binding instruments and support adherence to the legal framework by providing further guidance to States on how to act in accordance with international obligations. INFCIRC/225/Rev.5, for example, is intended to help States with implementing a comprehensive physical protection regime for nuclear material and nuclear facilities. It thereby serves to fulfil relevant obligations flowing from the international legal instruments in the area of nuclear security [16].

Non-legally binding instruments in general lack the inherent compliance pull of treaties due to the form and negotiation process and the absence of, for instance, binding dispute resolution mechanisms. An option to support compliance specifically with non-legally binding instruments is to make use of institutional arrangements aimed at, *inter alia*, assurances and verification. The IAEA has the expertise and legitimacy to facilitate relevant arrangements. IPPAS missions, for instance, review a State’s physical protection system in light of guidelines contained in INFCIRC/225 and recognized best practices and, as such, provide added support for compliance with these standards. More broadly, International Nuclear Security Advisory Service (INSServ) missions examine, among other things, a State’s legislative and regulatory framework for nuclear security as well as physical protection of nuclear and other radioactive material. The Integrated Regulatory Review Service (IRRS) looks at ways to enhance a State’s regulatory system for nuclear, radiation, radioactive waste and transport safety and security of radioactive sources. Many institutional arrangements exist. As States voluntarily undergo such reviews, including follow-up missions to assess progress, the more the institutional relationship in this area develops, thereby supporting transparency and strengthening the pull of compliance with the non-binding norms.

²² E.g. *Nuclear Security Series* documents.

Specifically for radioactive sources, an institutional arrangement in the form of a formalized process periodic exchange of information and lessons learned was established in 2006. It is in part an evaluation of progress made by States towards implementing the provisions' of the Code of Conduct and the associated Guidance on the Import and Export of Radioactive Sources [17]. The mechanism created, and subsequently endorsed by the Board of Governors, is voluntary and comprises triennial dedicated international meetings to be organized by the IAEA Secretariat and regional meetings scheduled on an ad hoc basis to be organized by participants.²³ The objectives in promoting information exchange include, *inter alia*, assisting States in implementation of the Code of Conduct and Guidance on the Import and Export of Radioactive Sources and inviting and encouraging more States to implement and politically commit to the two instruments [18]. This process, partially because it is not a formalized review procedure as often foreseen in legally binding instruments, allows for greater flexibility, particularly in the broader participation including both IAEA Member States and non-Member States and those that have not yet made political commitments to the Code of Conduct and Guidance on the Import and Export of Radioactive Sources. Reinforcing such a process can serve both to increase the sense of obligation among States that have already committed to one or both of the instruments, thereby strengthening the compliance pull, and to incentivize those States that have yet to commit to do so.

3.3 Role of non-State actors

Another opportunity presented by substantial reliance on non-legally binding instruments, not typically foreseen as part of traditional international law-making, has to do with the potential for greater participation of non-State actors, such as industry, in the development process. The IMO, for example, has recognized the potential of an approach allowing active participation by non-State actors in decision-making. As 'the primary forum for technical matters of all kinds affecting international shipping and related legal matters' and aiming to enhance its effectiveness, the IMO has decided to 'actively engage the various stakeholders (...) to ensure a more inclusive approach' [19]. Through participation the rules gain legitimacy and become more acceptable to the relevant non-State actors. Participation of industry, for instance, can be expected to enhance internalization of the rules, in part simply by means of involvement in rule-making.²⁴

3.4 Legally binding instrument for radioactive sources

Perhaps the most ambitious course of action at this time to strengthen the international legal framework is to develop a legally binding instrument aimed at the security of high-activity radioactive sources. States have previously indicated an interest in working toward such an instrument. For instance, a proposal was put forward during the 2005 CPPNM Amendment conference to further enlarge the scope of the CPPNM to cover all radioactive materials and facilities, though the proposal was later withdrawn after making a determination that the particular Amendment conference was not the proper forum for such a discussion as it would too fundamentally alter the scope of the CPPNM. Regardless, a number of delegations continued to express their readiness to cooperate in the development of a legally binding instrument on the safety and security of radioactive sources, and some conveyed a hope that the question of such a legally binding instrument would be taken up in due course [20]. Others, however, were not convinced that a new convention was necessary, expressing scepticism that national regulatory bodies would be pleased with having to comply with international rules for physical protection for a range of sources used widely in medicine, agriculture, industry and research. More recently, it was acknowledged that, regardless of satisfaction with the non-legally binding status of the Code of Conduct, States may eventually wish to consider developing a legal instrument covering radioactive sources [21]. In any case, viewpoints remain mixed, making the

²³ Though these could also be scheduled in conjunction with IAEA meetings in the various technical cooperation areas or meetings of other relevant regional organizations.

²⁴ An example would be to have industry representatives in national delegations to the Nuclear Security Guidance Committee (NSGC).

political feasibility of pursuing a new legally binding instrument for radioactive source security questionable. Nevertheless, such an approach does present clear gains particularly for the overall strength of the international legal framework and thus deserves consideration. Such an instrument could, *inter alia*, provide the legal basis for binding commitments to establish national registers of radioactive sources and to cooperate on recovery of lost, missing or stolen sources.

4. CONCLUSION

The international legal framework for nuclear security has developed in a fragmented way, in part reflecting the need to adapt according to changing circumstances such as the end of the Cold war, evolving perceptions of the terrorist threat and the spread of related materials and technologies. More significantly, the fact the nuclear security touches upon domestic law enforcement, national defence and intelligence activities and energy production, among other sensitive sectors, means that it impacts fundamental aspects of national sovereignty. Nonetheless, as evidenced by the development of the current framework, States have determined that it is in their interests to coordinate and cooperate with each other on certain areas of nuclear security. More recently, as demonstrated by initiatives such as GICNT, the G8 Global Partnership against the Spread of Weapons and Materials of Mass Destruction, the Nuclear Security Summit and, of course, the IAEA International Conference on Nuclear Security, there is clearly recognition of a compelling need for greater international uniformity in applied standards and for closer interaction among relevant actors.

Compliance is key to the strengthening the international legal framework. The framework that has been developed for nuclear security is made up of a mix of legally binding and non-legally binding instruments. Treaties, by virtue of their legally binding form, create more of a compliance pull than non-legally binding instruments, including with respect to States' expectations of other States' compliance. This occasionally results in a process by which non-legally binding instruments serve as precursors to legally binding obligations.²⁵ On the other hand, the underpinning in legally binding obligations will duly support related non-legally binding recommendations and guidelines. In essence, this means that legally binding and non-legally binding instruments can be mutually reinforcing as long as compliance with commitments, whether political or legal, is facilitated and demonstrated. Taking into account political realities, the focus should therefore be in the first instance on means and methods of strengthening the international legal framework that are founded in already existing treaties or institutional arrangements and that aim to establish trust and compel compliance. This would include: 1) supporting outreach and legislative assistance activities, 2) expanding use of the review conference and consultation and cooperation provisions under existing instruments, and 3) encouraging broader use of institutional arrangements and, where possible, a greater role for relevant non-State actors. In taking these measures, the effectiveness of the existing legal framework will be enhanced, and the resulting convergence of State behaviour could further support the expansion of the framework in the form of additional (legally binding) commitments. This is not to say that an additional legal instrument, such as with respect to radioactive sources, is dependent on first taking the other steps mentioned, and it should duly be considered as an additional means to enhance effectiveness. By boosting confidence in the effectiveness of the legal framework, States will be more willing to broaden and deepen cooperation.

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