



Nuclear Materials and Commodities Smuggling, and International Criminal Law

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Nuclear Materials and Commodities Smuggling, and International Criminal Law

By Daniel H. Joyner

November 10, 2011

This is a report from the Nautilus Institute workshop "[Cooperation to Control Non-State Nuclear Proliferation: Extra-Territorial Jurisdiction and UN Resolutions 1540 and 1373](#)" held on April 4th and 5th in Washington DC with the Stanley Foundation and the Carnegie Endowment for International Peace. This workshop explored the theoretical options and practical pathways to extend states' control over non-state actor nuclear proliferation through the use of extra-territorial jurisdiction and international legal cooperation.

Other papers and presentations from the workshop are available [here](#).

Nautilus invites your contributions to this forum, including any responses to this report.

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I. Introduction

Daniel H. Joyner, Professor of Law, University of Alabama School of Law, argues that nuclear materials and commodities smuggling is currently established in customary international law (CIL) as an international crime, but that that crime is limited in its effectiveness by its imprecise definition and its lack of an accompanying right of universal jurisdiction over the offense. He states that "a multilateral treaty further recognizing this crime and clarifying its criteria and scope and the universality of state jurisdiction over it, would be useful in addressing the limitations of a CIL-based crime, and would create a treaty-CIL mutually reinforcing relationship of a type seen in other substantive areas of international law".

The views expressed in this report are those of the author and do not necessarily reflect the official policy or position of the Nautilus Institute. Readers should note that Nautilus seeks a diversity of views and opinions on significant topics in order to identify common ground.

II. Report by Daniel H. Joyner

- "Nuclear Materials and Commodities Smuggling, and International Criminal Law"

By Daniel H. Joyner [\[1\]](#)

It was my pleasure this past April to attend a conference sponsored by the Nautilus Institute for Security and Sustainability, and held at the Carnegie Endowment for International Peace, on the subject of the problem of nuclear materials and commodities smuggling. The conference was well attended and the problem was analyzed from a variety of disciplinary perspectives. I was one of a number of legal specialists asked to speak on the current sources and institutions of legal regulation in this area, as well as on possibilities for strengthening and adding to these sources in order to make legal regulation of nuclear materials smuggling more effective.

Before proceeding, a word of clarification regarding the goods and activities which are the subject of this discussion of nuclear materials and commodities smuggling. By nuclear materials, I mean specifically fissile materials, i.e. uranium and plutonium. By nuclear commodities, I mean a much broader array of single and dual use nuclear related materials. Single use nuclear commodities include uranium enrichment centrifuges, and certain chemical reprocessing technologies. Dual use nuclear commodities include items and technologies both tangible and intangible, which have both military and non-military application. These potentially include literally thousands of items, from aluminum tubes, to microscopes, to machine tools, to microprocessors, to maraging steel, that can be used in a variety of non-weapons endeavors, but that can also be used in a nuclear weapons development program. Finally, by smuggling, I mean the illegal cross-border trade in nuclear materials and commodities by non-state actors.

I. National Law

With those definitions out of the way, let us move on to discuss the existing frameworks of legal

regulation of cross-border trade in nuclear materials and commodities at both the national (domestic) and international level. At the domestic level, by far the majority of states that are significant suppliers of nuclear materials and commodities to the international market, have developed legal regimes regulating the export of these goods. [2] Most supplier states have some variant of an administrative licensing regime, whereunder private sellers of goods must request an export license for the international sale of goods that are included on maintained and updated control lists of sensitive items.

This list of goods is often paired with a list of regulated end users, inclusive of states and non-state actors. Export control lists of goods and end users are typically supplemented by catch-all legal provisions, which impose an additional duty upon exporters to satisfy a standard of due diligence in knowing the identity of the end user of sensitive exports, and only exporting sensitive goods to lawful end users. [3]

By reference to these lists, and to the catch-all due diligence standard, a private exporter can determine which sales to which end users must be approved by the appropriate administrative agency through the granting of an export license. Failure on the part of private exporters to follow these export control regulations can result in both civil and criminal punishment.

Variations exist between domestic export control systems, on issues such as the identification of trigger list goods, the identities of state and non-state actors on the prohibited end user list, the scope of catch-all controls, and the precise civil and criminal sanctions imposed for violations.

However, notwithstanding these differences, the basic structure of most domestic export control regimes maintained by significant supplier states, follows the above described model of a general prohibition on the export of items included on a control list, to end users included on a prohibited end user list, subject to exception only by explicit government approval through the facility of a licensing regime, and supplemented by an additional catch-all due diligence duty. [4]

In addition to export control laws, a limited number of states have adopted unilateral financial and other sanctions measures, which target both state and non-state actors suspected of involvement in nuclear materials and commodities smuggling. These sanctions include the freezing of target assets located within the sanctioning country, prohibition of economic relations between targets and nationals of the sanctioning state, and travel bans on targets. [5] These legal sanctions could in some cases be considered extra-territorial in nature, as their purpose is to punish and prevent nuclear materials and commodities smuggling that has occurred or is occurring outside of the territory of the sanctioning state.

II. International Law

A. The Nuclear Suppliers Group

At the international level, there are a number of international legal sources that contribute to the regulation of cross border trade in nuclear materials and commodities. Specifically with regard to export controls, the Nuclear Suppliers Group (NSG) is an informal multilateral arrangement, currently comprised of 45 participant states, whose purpose is to provide a forum for standardization and harmonization of national laws and policies regarding nuclear exports. The NSG

was created in 1975 by a group of nuclear materials and commodities supplier states, who wished to clarify as among themselves the technical implications of the 1968 Nuclear Nonproliferation Treaty's (NPT) requirement in Article III.2 for the maintenance of nuclear export controls in the national law of all states parties. They intended the NSG to comprise a continuing forum for interpretation of Article III.2's broad export control provisions. For this purpose, the NSG maintains trigger lists covering both nuclear materials and single and dual use nuclear commodities. It also maintains a set of guidelines on nuclear exports, which includes agreed standards on such issues as end user requirements. Both the trigger lists and the guidelines are updated from time to time. [6]

The NSG is not a formal source or institution of international law, and it is not in any way formally connected to the NPT or endorsed by the NPT membership as a whole. It is simply a voluntary, informal group of supplier states who seek to use the NSG as a vehicle for standardization and cooperation regarding national nuclear export control laws and policies. However, notwithstanding its informality and non-universality, the NSG it is a norm-setting international regime and does have a significant influence on state behavior and on the content of national export control laws.

B. The United Nations Security Council

On April 28, 2004 the Security Council passed Resolution 1540. This resolution was passed not coincidentally shortly after the revelation in February 2004 of the existence of a long-standing clandestine nuclear materials and commodities smuggling ring headed by the father of Pakistan's gas centrifuge program, Dr. Abdul Qadeer Khan. [7] Emerging from the illicit procurement network developed by Dr. Khan and his associates in the 1970's to supply the infant Pakistani gas centrifuge program, the channels of this network eventually began to be used as a conduit for the flow of nuclear materials and single and dual use nuclear commodities out of Pakistan, and under the radar screens of both national and multilateral export control normative frameworks, including that of the NSG.

In Resolution 1540, the Security Council undertook to address a number of fundamental limitations of the existing nuclear nonproliferation treaties and regimes system, particularly with regard to export controls and the problem of non-state-actor trafficking in nuclear materials and commodities. In a sense, Resolution 1540 universalized and made binding upon states many of the principles enshrined in the NSG's foundational documents in the nuclear area, though it stopped short of explicitly referencing the NSG's trigger list or guidelines.

Acting under its binding authority pursuant to Chapter VII of the United Nations Charter, the Security Council in Resolution 1540 in operative paragraphs 2 & 3:

Decides also that all States, in accordance with their national procedures,

shall adopt and enforce appropriate effective laws which prohibit any non-State actor to manufacture, acquire, possess, develop, transport, transfer or use nuclear, chemical or biological weapons and their means of delivery, in particular for terrorist purposes, as well as attempts to engage in any of the foregoing activities, participate in them as an accomplice, assist or finance them;

Decides also that all States shall take and enforce effective measures to establish domestic controls to prevent the proliferation of nuclear, chemical, or

biological weapons and their means of delivery, including by establishing appropriate controls over related materials and to this end shall:

1. Develop and maintain appropriate effective measures to account for and secure such items in production, use, storage or transport;
2. Develop and maintain appropriate effective physical protection measures;
3. Develop and maintain appropriate effective border controls and law enforcement efforts to detect, deter, prevent and combat, including through international cooperation when necessary, the illicit trafficking and brokering in such items in accordance with their national legal authorities and legislation and consistent with international law;
4. Establish, develop, review and maintain appropriate effective national export and trans-shipment controls over such items, including appropriate laws and regulations to control export, transit, trans-shipment and re-export and controls on providing funds and services related to such export and trans-shipment such as financing, and transporting that would contribute to proliferation, as well as establishing end-user controls; and establishing and enforcing appropriate criminal or civil penalties for violations of such export control laws and regulations;

Thus, Security Council Resolution 1540 requires all U.N. member states, as a matter of international law, to develop and maintain an effective export control legal framework within their national law, specifically in order to prevent smuggling of nuclear, chemical, and biological weapons and related items, including nuclear materials and commodities. [8] While Resolution 1540 does not declare nuclear materials and commodities smuggling an international crime *per se*, it does serve as some evidence of the international community's determination that nuclear materials and commodities smuggling is among the class of transnational crimes which, while essentially domestic law crimes, are additionally the subject of international legal efforts to make their criminalization by states obligatory, and coordinate enforcement efforts among states. [9]

C. The Convention on the Physical Protection of Nuclear Materials

In terms of formal multilateral treaty law specifically on aspects of nuclear materials and commodities smuggling, the Convention on the Physical Protection of Nuclear Materials (CPPNM) entered into force in 1987, and currently includes 145 state parties. The CPPNM is concerned specifically with fissile materials, again including exclusively uranium and plutonium, and their safety while in domestic use and in international transit. The treaty imposes obligations on states parties to protect fissile materials and related facilities while those materials are in domestic use and storage, and also obligates both exporting and importing states to maintain adequate security for fissile materials while they are in international transit.

Most applicable to this paper's discussion of nuclear materials and commodities smuggling, however, is the CPPNM's further obligation upon all state parties to criminalize in their national law the commission by *individuals* of:

- a. an act without lawful authority which constitutes the receipt, possession, use, transfer, alteration, disposal or dispersal of nuclear material and which causes or is likely to cause death or serious injury to any person or substantial damage to property;

- b. a theft or robbery of nuclear material;
- c. an embezzlement or fraudulent obtaining of nuclear material;
- d. an act constituting a demand for nuclear material by threat or use of force or by any other form of intimidation;
- e. a threat:
 - i. to use nuclear material to cause death or serious injury to any person or substantial property damage, or
 - ii. to commit an offence described in sub-paragraph (b) in order to compel a natural or legal person, international organization or State to do or to refrain from doing any act;
- f. an attempt to commit any offence described in paragraphs (a), (b) or (c);

Thus, the CPPNM places an international legal obligation upon states to criminalize and punish smuggling activities involving fissile materials. Due to the wide subscription of states to the CPPNM as treaty parties, this obligation presents very strong evidence that the crimes outlined in the CPPNM are indeed transnational crimes. [10] It is, however, important to emphasize that the CPPNM applies only to the possession and trafficking involving nuclear materials, and does not apply to activities involving nuclear commodities.

D. The International Convention for the Suppression of Acts of Nuclear Terrorism

The International Convention for the Suppression of Acts of Nuclear Terrorism, or Nuclear Terrorism Convention, entered into force in 2007 and currently includes 76 states parties. The convention specifically makes the possession and use of radioactive material, including nuclear material, or damage to nuclear facilities, for terroristic purposes as defined in the convention, an international crime recognized by all treaty parties.

The Nuclear Terrorism Convention is thus the only international legal instrument to explicitly declare some aspect of nuclear materials and commodities smuggling to be an international crime, as distinct from a transnational crime. This distinction may sound quite technical, but its primary implication is that the Nuclear Terrorism Convention, by declaring that its covered activities are international crimes, presumptively establishes a justification for all states parties to claim a right of universal jurisdiction over any perpetrator of these crimes. [11] The convention spells out the agreed jurisdictional framework over perpetrators in its Article 9, but leaves open the possibility that states parties may additionally claim a right of universal jurisdiction over perpetrators, pursuant to customary international law.

The Nuclear Terrorism Convention thus importantly adds to the character of legal prohibitions of some aspects of nuclear materials and commodities smuggling. However, the convention itself is quite limited in its exclusive application to the discrete circumstance of possession and use of radioactive materials for terroristic purposes.

III. Review of Existing Legal Sources, and Proposals for Strengthening

So in summary, the problem of nuclear materials and commodities trafficking by non-state actors is currently addressed by sources of law at both the national and international level. At the national

level, there is significant commonality with regard to the basic structure of export control laws regulating smuggling in nuclear materials and commodities, although there is also significant remaining variation with regard to the details of those laws. There are also unilateral legal efforts by states to target specific traffickers with sanctions of various forms, some of which have an extraterritorial legal character.

At the international level, in terms of formal international law, the U.N. Security Council's Resolution 1540 does obligate all U.N. members to maintain export controls prohibiting trafficking in nuclear materials and commodities. However, Resolution 1540 does not itself make such activities crimes, and it does not provide much in the way of details regarding requirements for compliance with its terms.

The CPPNM is a multilateral treaty which importantly recognizes possession and trafficking involving nuclear materials to be a transnational crime, and obligates states to criminalize this activity and coordinate enforcement efforts. However, again, the CPPNM does not make nuclear materials smuggling an international crime *per se*, and it is importantly limited in its application to nuclear materials and not to nuclear commodities.

The Nuclear Terrorism Convention does establish its covered activities as international crimes properly so called, and includes a presumptive justification for the grounding of universal jurisdiction claims by states over perpetrators of those crimes. However, the convention itself is quite limited in its exclusive application to the discrete circumstance of possession and use of radioactive materials for terroristic purposes.

Thus, while these sources of international law already do provide for important obligations upon states and individuals in the area of nuclear materials smuggling, the most glaring gap in the current international legal framework is that there is no formal international legal prohibition on non-state actor trafficking in nuclear commodities.

This realization in particular proved a fruitful starting point for discussion at the conference in April, and drew the comments of many to the question of how the current international legal framework could be added to and strengthened in order to provide for effective regulation of the problem of nuclear commodities smuggling in particular. A number of commentators focused on the possibility of increased use of domestic law in an extraterritorial fashion through targeted sanctions. Others expressed support for the idea of increased use of the United Nations Security Council's Chapter VII powers to pass both targeted sanctions resolutions, as well as more general legislative resolutions similar to Resolution 1540, discussed above.

My own view is that the use of domestic legal sources in an extraterritorial manner, and the use of the Security Council's powers in this area, are both useful and supportable to a limited extent, and that the limits of their usefulness are to be found in both law and strategy. [\[12\]](#) While these may be necessary short term efforts to address the problem of nuclear materials and commodities smuggling, in the long run the clarification, harmonization and strengthening of the underlying international legal sources prohibiting nuclear materials and commodities smuggling will be of the most utility for increasing the effectiveness of the international legal regulation of this activity.

IV. Nuclear Materials and Commodities Smuggling, and International Criminal Law

In this vein, for the remainder of this paper I would like to explore the possibility that, in addition to the international legal sources already discussed above, there is already currently in existence yet more international law on the subject of nuclear materials and commodities smuggling, and that these rules are to be found in customary international law. And I would like to consider how the creation of a multilateral treaty establishing nuclear materials and commodities smuggling as an international crime could complement and supplement these existing customary rules.

First, a word on customary international law. Customary international law (CIL) is one of the two primary sources of international law, along with treaties, listed in the Statute of the International Court of Justice, Article 38(1). Treaties and CIL are hierarchically equal in juridical weight. CIL is formed through the consistent and uniform practice of states, undertaken out of a sense of legal obligation. This sense of legal obligation is often referred to by the Latin term *opinio juris*. Once a practice of states has been confirmed as a rule of CIL, it is binding upon the entire community of states. At that moment, it changes from the descriptive to the normative, and becomes a rule of law.

International criminal law, or the establishment of individual international legal liability for the commission of certain heinous crimes, found its origins in CIL during the Nuremberg and Tokyo war crimes trials following World War II. Since that time, CIL has remained an important source of international criminal liability, though it has been supplemented by treaty law establishing crimes and their definitions. Such treaties include the 1948 Genocide Convention, and the Statute of the International Criminal Court.

When an act is established as an international crime - e.g. genocide, crimes against humanity, war crimes, piracy, aggression - it also presumptively becomes a crime to which universal jurisdiction attaches. Universal jurisdiction is the principle that any state may prosecute a perpetrator of an international crime that is in its custody, regardless of whether the crime took place within that state's territorial jurisdiction. [\[13\]](#) Indeed, the international legal principle of obligations erga omnes makes the prosecution of such criminals the duty of every state in the international community.

It is likely also the case, however, that universal jurisdiction does not attach to all international crimes, and need not be established as a prerequisite element for the establishment of an international crime. An example of an international crime that is arguably not the basis for claims of universal jurisdiction is the crime of cruel, inhuman or degrading treatment, as defined in the 1984 Convention Against Torture. Another example may be found in certain less-heinous war crimes established in the 1949 Geneva Conventions. [\[14\]](#)

With this background in international criminal law and universal jurisdiction law, we can now move on to discuss the possibility that there is already in existence a rule of customary international law establishing smuggling of nuclear materials and commodities as an international crime, at least at a core substantive level.

As noted above, in order to establish that an international crime has been created through customary international law, one must find both largely uniform and consistent state practice, and the requisite *opinio juris*, or sense of legal obligation accompanying that practice. I think it is

arguable that national export control laws regulating nuclear materials and commodities smuggling, which as noted above are widely established in the national laws of most states and particularly in the national laws of almost all supplier states, satisfy the customary international law requirement for uniform and consistent state practice in establishing an international crime. [15]

This raises the obvious question of the precise definition of that crime. As noted above, while there is considerable variation in the details of national export control legal frameworks, there is at the same time widespread commonality in the basic structure of these legal frameworks. This structure, again, is a general prohibition on the export of items included on a control list, to end users included on a prohibited end user list, subject to exception only by explicit government approval through the facility of a licensing regime, and supplemented by an additional catch-all due diligence duty.

I think it can be argued, therefore, that there is sufficient state practice to establish as an international crime any intentional, knowing, or negligent cross-border transfer of nuclear materials and commodities by a non-state-actor, without the approval of competent national authorities of the exporting state, expressed through the granting of an export license. The breadth of the *mens rea* requirement to cover intent, knowledge, and negligence, is in my view established through the catch all provisions of national export control laws.

This formulation of the international crime of nuclear materials and commodities smuggling is quite practical and in some ways elegant in dealing with variations in the details of national export control legal frameworks on issues such as the identification of trigger list items and the identification of prohibited end users. Under this formulation, where an individual exports from a state that has an export control legal framework in place, a violation of that national export control law, whatever its provisions, would constitute both a domestic law crime and an international law crime. This would remove the need for international agreement on divisive issues such as trigger list items and identification of prohibited end users.

For individuals exporting from a state without an established national export control legal framework, any export of nuclear materials or commodities would be an international crime under this formulation. This realization should serve as a potent incentive, expressed by businesses and individuals to their national governments, to establish a satisfactory national export control legal framework.

If this is correct, and there is indeed sufficient state practice to establish nuclear materials and commodities smuggling as an international crime, one would still need to establish the requisite *opinio juris* of states as the second necessary criterion for the successful creation of an international crime through CIL. Again, the *opinio juris* criterion looks to the sense of legal obligation that state officials have that motivates or accompanies their state practice. Malcolm Shaw explains this principle well:

One has to treat the matter in terms of a process whereby states behave in a certain way in the belief that such behaviour is law or is becoming law. It will then depend upon how other states react as to whether this process of legislation is accepted or rejected. [16]

I think that a strong argument can be made that most states' national export control laws have been created and maintained not just out of a sense of domestic or international policy priority, but also because there is an understanding on the part of national officials in most states that the maintenance of such national export control legal frameworks is required under current international law. The most obvious place to find such an international legal obligation to maintain national export control laws regulating nuclear materials and commodities smuggling is U.N. Security Council Resolution 1540, which by its terms creates exactly such an obligation. Regarding nuclear materials smuggling, there are additionally the obligations imposed upon all 145 states parties to the CPPNM. Thus, these formal international legal sources, as well as the informal international norms generated by the NSG, would appear to provide ample reference for national officials' understanding that the maintenance of domestic criminal laws prohibiting nuclear materials and commodities smuggling is an existing and maturing obligation of international law. If this is correct, then the *opinio juris* element has also been satisfied.

I am personally convinced that this analysis is correct, and that therefore there is currently established in customary international law an international crime of nuclear materials and commodities smuggling. I think that this international crime may be defined as follows: it is an international crime for any person to intentionally, knowingly, or negligently transfer nuclear materials and commodities across international borders, without the approval of competent national authorities of the exporting state, expressed through the granting of an export license.

The establishment of this crime in CIL is of course significant and important. However, even if one assumes that this crime has indeed been created in CIL, important limitations to its effectiveness remain. First, this crime, as all crimes established in CIL, is not clearly defined as to its scope and elements. This is primarily due to the relative vagueness and imprecision which necessarily attends all rules of CIL, due to the criteria of CIL creation.

Second, since domestic export control laws tend not to include assertions of universal jurisdiction, it is likely that the international crime of nuclear materials and commodities smuggling as it currently exists in CIL is not a crime to which universal jurisdiction attaches. This is of course a significant limitation, as one of the chief utilities of the establishment of an international crime is to establish a justification for national law enforcement authorities to base a claim of universal jurisdiction upon that crime, to enable them to prosecute any alleged perpetrator in their custody, no matter where the crime was actually committed.

So, to briefly summarize, I argue that there is currently established in customary international law an international crime of nuclear materials and commodities smuggling, but that that crime is limited in its effectiveness by its imprecise definition and its lack of an accompanying right of universal jurisdiction over the offense.

I think that both the existence of this crime in CIL, and the limitations of this crime so described, have implications for the adoption of a multilateral treaty in this area. First, the existence of such a crime in CIL evidences that this is an area on which there is already broad agreement among states, at least as to the core principles to be established in a multilateral treaty. Thus, the treaty would not be *sui generis*, but would be better understood as a complementary and supplementary legal source to already existing and established international legal sources. Treaties are frequently used precisely in this way to codify already existing rules of CIL, including CIL-based crimes like crimes against

humanity and the crime of torture. This understanding of the context of such a treaty might facilitate its negotiation and adoption.

Second, the limitations of this crime as currently existent in CIL evidence the significant contributions that a multilateral treaty could make in clarifying and in legally strengthening this crime, to make it more effective as a legal framework for combating the problem of nuclear materials and commodities smuggling. Treaties codifying international crimes, as with treaties codifying other rules of CIL, will by definition bring clarity and certainty to the definition of those crimes, for the simple reason that a treaty consists of an agreed, written text. A multilateral treaty would thus provide an important means of clarifying and detailing the scope and criteria associated with the crime of nuclear materials and commodities smuggling.

A treaty could also importantly establish that universal jurisdiction does attach to the crime of nuclear materials and commodities smuggling, at least as among treaty parties. This would in turn establish that there is an obligation *erga omnes* for all states to prosecute the perpetrators of this crime wherever they are found. As noted above, this would be a very significant aid to law enforcement officials in treaty parties.

In this context, it is important to understand the interrelationship which exists between CIL and treaties created on the same principles of international law. Such parallel treaty and CIL sources exist in many substantive areas of international law, e.g. the law of the sea, use of force law, treaty interpretation law. As already discussed, treaties codifying rules of CIL, including CIL-based crimes, add clarity and certainty to the scope and definition of those rules. Treaties can also provide a normative locus to evidence continuing state practice and *opinio juris* among its parties, which contribute as fundamental criteria to the maintenance and strengthening of the parallel rule of CIL. For its part, CIL contributes a universally binding legal effect to the principles enshrined in a parallel treaty, so that the treaty rules become or remain binding upon all states, and not just upon state parties to the treaty. The creation of a multilateral treaty recognizing nuclear materials and commodities smuggling as a crime would harness the full mutually reinforcing effects of this interrelationship between international legal sources.

In summary then, while there likely already is a crime of nuclear materials and commodities smuggling established through CIL, a multilateral treaty further recognizing this crime and clarifying its criteria and scope and the universality of state jurisdiction over it, would be useful in addressing the limitations of a CIL-based crime, and would create a treaty-CIL mutually reinforcing relationship of a type seen in other substantive areas of international law.

Conclusion

In this paper I have reviewed the legal sources at both the national and international level regulating nuclear materials and commodities smuggling. I have also considered proposals for strengthening these legal sources, in order to make legal regulation of this problem more effective. I have argued that, while the increased use of domestic law in an extra-territorial fashion, and the increased use of the powers of the U.N Security Council are useful, though limited, short term legal means for strengthening this legal framework, in the long run the clarification, harmonization and strengthening of the underlying international legal sources prohibiting nuclear materials and

commodities smuggling will be of the most utility for increasing the effectiveness of the international legal regulation of this activity.

To this end, I have explored the possibility that, in addition to the international legal sources already reviewed, there is currently in existence yet more international law on the subject of nuclear materials and commodities smuggling, and that these rules are to be found in customary international law. I have concluded that there is in fact currently established in customary international law an international crime of nuclear materials and commodities smuggling. This international crime may be defined as follows: it is an international crime for any person to intentionally, knowingly, or negligently transfer nuclear materials and commodities across international borders, without the approval of competent national authorities of the exporting state, expressed through the granting of an export license.

However, recognizing the limitations inherent in a CIL-based international crime, I have argued that the complementary establishment of a multilateral treaty recognizing nuclear materials and commodities smuggling as an international crime could make a number of significant contributions to strengthening the effectiveness of the international legal regulation of nuclear materials and commodities smuggling. These contributions include clarification of the scope and criteria of this crime, as well as establishing the universal jurisdiction of states over perpetrators of this crime. They further include harnessing the full mutually reinforcing effects of the interrelationship between a treaty and CIL on the same subject of international legal regulation.

III. References

[1] I would like to thank Anthony Colangelo and Sonja Starr for their insight and advice.

[2] For a review of a number of such domestic export control legal frameworks, see Yann Aubin & Arnaud Idiart, *EXPORT CONTROL LAW AND REGULATIONS HANDBOOK: A PRACTICAL GUIDE TO MILITARY AND DUAL USE GOODS TRADE RESTRICTIONS AND COMPLIANCE* (2007).

[3] See Daniel H. Joyner, *The Enhanced Proliferation Control Initiative: National Security Necessity or Unconstitutionally vague?*, 32 *GEORGIA JOURNAL OF INTERNATIONAL & COMPARATIVE LAW* 107 (2004).

[4] See Michael Beck, et al., *TO SUPPLY OR TO DENY: COMPARING NONPROLIFERATION EXPORT CONTROLS IN FIVE KEY COUNTRIES* (2003).

[5] See, e.g., Jay Solomon & Charles Levinson, "Sanctions Slow Iran's Warhead Capability," *Wall Street Journal*, Jan. 8-9, 2011, at A1.

[6] Daniel H. Joyner, *The Nuclear Suppliers Group: History and Functioning*, *INTERNATIONAL TRADE LAW & REGULATION* 11(2), 33-42 (2005).

[7] See D. Joyner, "International Legal Responses to WMD Proliferation" in Hughes & Devetak

(eds.), *The GLOBALIZATION OF POLITICAL VIOLENCE* (2007).

[8] On Resolution 1540 and problems with its legality, see Daniel H. Joyner, *INTERNATIONAL LAW AND THE PROLIFERATION OF WEAPONS OF MASS DESTRUCTION*, Chapter 4 (2009).

[9] See Sonja Starr, *Extraordinary Crimes at Ordinary Times: International Justice Beyond Crisis Situations*, *NORTHWESTERN UNIVERSITY LAW REVIEW*, Vol. 101, no. 3 (2007): Pgs. 1257-1314, at Pg. 1263, Fn. 28.

[10] In 2005, the states parties to the CPPNM adopted an amendment to the convention, which would increase the scope of the CPPNM to include protection of nuclear facilities, and provide for expanded cooperation between states in enforcing the convention. However, the 2005 amendment has yet to come into force.

[11] See generally Anthony Colangelo, *The Legal Limits of Universal Jurisdiction*, *VIRGINIA JOURNAL OF INTERNATIONAL LAW*, VOL. 47, NO. 1, 2005.

[12] See, e.g., see Daniel H. Joyner, *INTERNATIONAL LAW AND THE PROLIFERATION OF WEAPONS OF MASS DESTRUCTION*, Chapter 4 (2009); Anthony Colangelo, *A Unified Approach to Extraterritoriality*, 97 *VIRGINIA LAW REVIEW* (2011).

[13] See generally Anthony Colangelo, *The Legal Limits of Universal Jurisdiction*, *VIRGINIA JOURNAL OF INTERNATIONAL LAW*, VOL. 47, NO. 1, 2005.

[14] See *id.* at Pgs. 191-194. “The most legally sound and practically responsible exercise of universal jurisdiction over war crimes limits the doctrine to “grave breaches” of the Geneva Conventions. A colorable legal argument can be made that “the general obligations to enforce, which include the specific obligations to prevent and repress ‘grave breaches’ of the 1949 Geneva Conventions and Protocol I, allow states to expand their jurisdiction to include the theory of universality.” To the extent that the Conventions condition the existence of a “grave breach” on a willful violation of the relevant provision(s), this high mens rea prerequisite creates a needed threshold for prosecutions that protects against baseless assertions of universal jurisdiction over marginal cases rooted only in political or sensationalist motives. The relevant articles outlining “grave breaches” in the Conventions are: Article 50 common in the 1949 Geneva Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field and the 1949 Geneva Convention for the Amelioration of the Condition of Wounded, Sick and Shipwrecked Members of Armed Forces at Sea which have 195 states party respectively; Article 130 of the 1949 Geneva Convention Relative to the *194 Treatment of Prisoners of War, which has 195 states party; Article 147 of the 1949 Geneva Convention Relative to the Protection of Civilian Persons in Time of War, which has 195 states party, and Articles 11 and 85 of the 1977 Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts, which has 182 states party.

[15] There is a principle of international law which provides that states “whose interests are specially affected” by an issue which is the subject of CIL development, should have a special and

disproportionate influence in the creation of CIL in that area. See *North Sea Continental Shelf, Judgment*, ICJ Reports 1969, pg. 3 para. 74. A classic example of this is the special influence of the state practice and *opinio juris* of coastal states, as contrasted with landlocked states, in the creation of customary law in the issue area of the law of the sea. For this principle generally, see See Hugh Thirlway, "The Sources of International Law," in Malcolm Evans, ed., INTERNATIONAL LAW, pg. 123 (2nd ed. 2006); Malcolm Shaw, INTERNATIONAL LAW, Pg. 75-76 (5th ed. 2003). In the context of nuclear materials and commodities smuggling, it is arguable that supplier states comprise such a group of states "whose interests are specially affected" by this problem.

[16] Malcolm Shaw, INTERNATIONAL LAW, Pg. 83 (5th ed., 2003).

IV. Nautilus invites your responses

The Northeast Asia Peace and Security Network invites your responses to this report. Please send responses to: bscott@nautilus.org. Responses will be considered for redistribution to the network only if they include the author's name, affiliation, and explicit consent.

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Nautilus Institute

608 San Miguel Ave., Berkeley, CA 94707-1535 | Phone: (510) 423-0372 | Email:

nautilus@nautilus.org