



WNTI

WORLD NUCLEAR TRANSPORT INSTITUTE

FACT SHEET

Nuclear Liability for Transport

Dedicated to the safe, efficient and
reliable transport of radioactive materials

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NB

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The information presented in the fact sheet is valid as per 15 April 2015.

1. INTRODUCTION

The transport of nuclear materials is strictly regulated and has an outstanding safety record spanning over five decades. The industry has accumulated a large experience on packaging and transporting radioactive materials. However, this excellent record should not be taken for granted.

Early in the development of nuclear power, the need for developing an international framework for the compensation of potential victims of nuclear incidents in the event of a nuclear accident in installations has led to the negotiations for international instruments addressing the third party nuclear liability. The result was the Paris and Vienna conventions dating from the 1960s. Over the years, efforts have been made to develop further instruments or to clarify the interpretation of the international nuclear liability framework and its transcription in national laws.

The transport of nuclear material forms an integral part of the nuclear fuel cycle and as such has been covered from the beginning by the same nuclear liability conventions. The third party nuclear liability for nuclear transport activities is typically covered through a framework of national and international instruments addressing the civil nuclear activities. The basic principles of the general nuclear liability regime also apply to transport. Besides, some specific rules address the particulars of nuclear transport.

This factsheet will review the nuclear liability framework and international regimes applicable to transport, before reviewing the insurance and specificities of third party liability for nuclear transport.

2. NUCLEAR LIABILITY FRAMEWORK

a. The worldwide regime of civil nuclear liability

Two conventions and one protocol have the ambition to achieve worldwide coverage for the civil liability for nuclear damage.

i. *The Vienna Convention on Civil Liability for Nuclear Damage*

The 1963 Vienna Convention on Civil Liability for Nuclear Damage (VC) has been adopted by 40 contracting parties, mostly from Central/ Eastern Europe, with some signatory countries from Asia, Africa and South America. The Vienna Convention entered into force in 1977. The depositary of the convention is the International Atomic Energy Agency (IAEA).

The convention is applicable to transport activities, including the storage during transit, as per Art. II (1)(b) and (c).

ii. *The Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage*

The Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage entered into force in 2003. The protocol is contracted by 12 State contracting parties. The depositary of the protocol is the IAEA.

The protocol increases the amount of a nuclear operator's liability. Also the range of damages covered under the protocol is broader, and includes the reinstatement of an impaired environment. The protocol allows for compensation to more victims for a longer period before extinction of the victims' rights. In addition, in the case of maritime transport, coastal States will have more rights.

iii. *The Convention on Supplementary Compensation for Nuclear Damage*

Adopted in 1997, the Convention on Supplementary Compensation for Nuclear Damage (CSC) including its Annex is contracted by six State parties. The CSC entered into force on 15 April 2015. The depositary of the convention is the IAEA. The convention may be

adhered by States already party of the Paris or Vienna Conventions, or which should have legislation on the model of the Annex of the convention.

The articles addressing nuclear transport in the CSC are part of Art. 3 of the Annex.

b. The Regional regimes of nuclear liability

Two conventions complemented by additional protocols provide a regional cover for nuclear liability.

i. *The Paris Convention on Nuclear Third Party Liability*

The Convention on Third Party Liability in the Field of Nuclear Energy of 29 July 1960 (PC), also known as the Paris Convention (PC), was adopted under the auspices of the Nuclear Energy Agency (NEA) of the Organisation for European Economic Co-operation (OECD) and covers 16 Western European countries.

The Paris Convention on Nuclear Third Party Liability entered into force in 1968. The depositary of the convention is the Secretary-General of the OECD. The convention was amended by the Additional protocol of 28 January 1964 and the Protocol of 16 November 1982.

Article 4 provides for the transport and storage during transit of nuclear substances.

ii. *The 2004 Protocol to the Paris Convention*

The Protocol to amend the Paris Convention of 12 February 2004 is not yet in force.

The protocol increases the amount of a nuclear operator's liability. Also, the range of damages covered under the protocol is broader, and includes the reinstatement of an impaired environment. The protocol allows for compensation to more victims for a longer period before extinction of the victims' rights. In addition, in the case of maritime transport, coastal States will have more rights.

States are currently considering amending their national laws in order to ratify the 2004 Protocol.

iii. *The Brussels Supplementary Convention to the Paris Convention*

The Convention Supplementary to the Paris Convention of 29 July 1960, also known as the Brussels Supplementary Convention (BSC), was adopted to provide additional funds to compensate damage as a result of a nuclear incident where Paris Convention funds proved to be insufficient. It also increases the solidarity between signatories of the convention. The Brussels Supplementary Convention to the Paris Convention, entered into force in 1974. The convention is contracted by 12 State parties. The depositary of the convention is the Secretary-General of the OECD.

c. **National Legislations**

States party to conventions will also have their own national legal instruments, which may implement the provisions of the international instruments and may complement them with specific national provisions.

Additionally, it should be noted that several key nuclear countries are not currently part to any active conventions. This is notably the case in particular of Canada, China and India. Canada signed the CSC but has not yet ratified it. National legislations provide the regime applicable in the territory of these States, including their territorial waters.

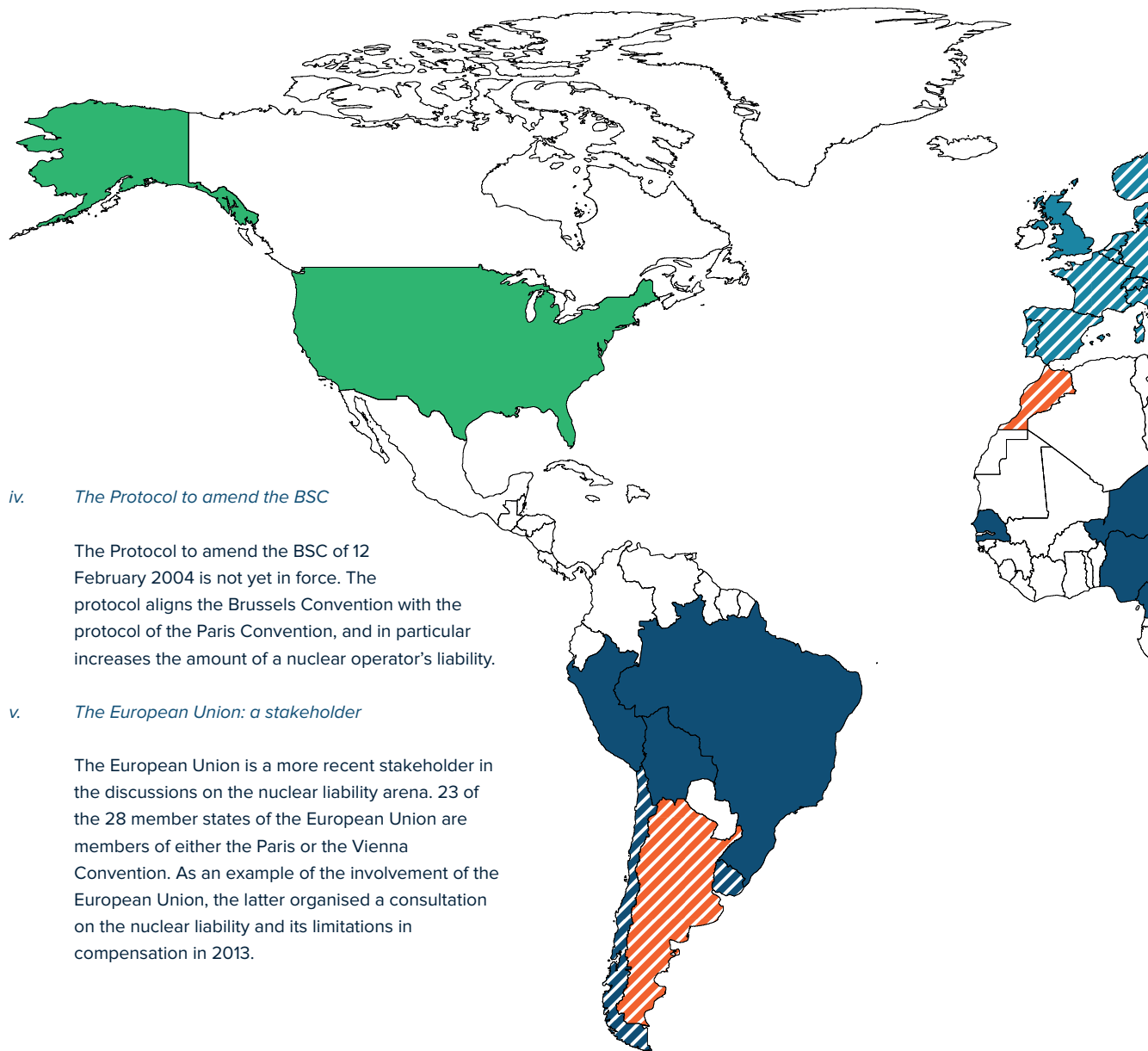


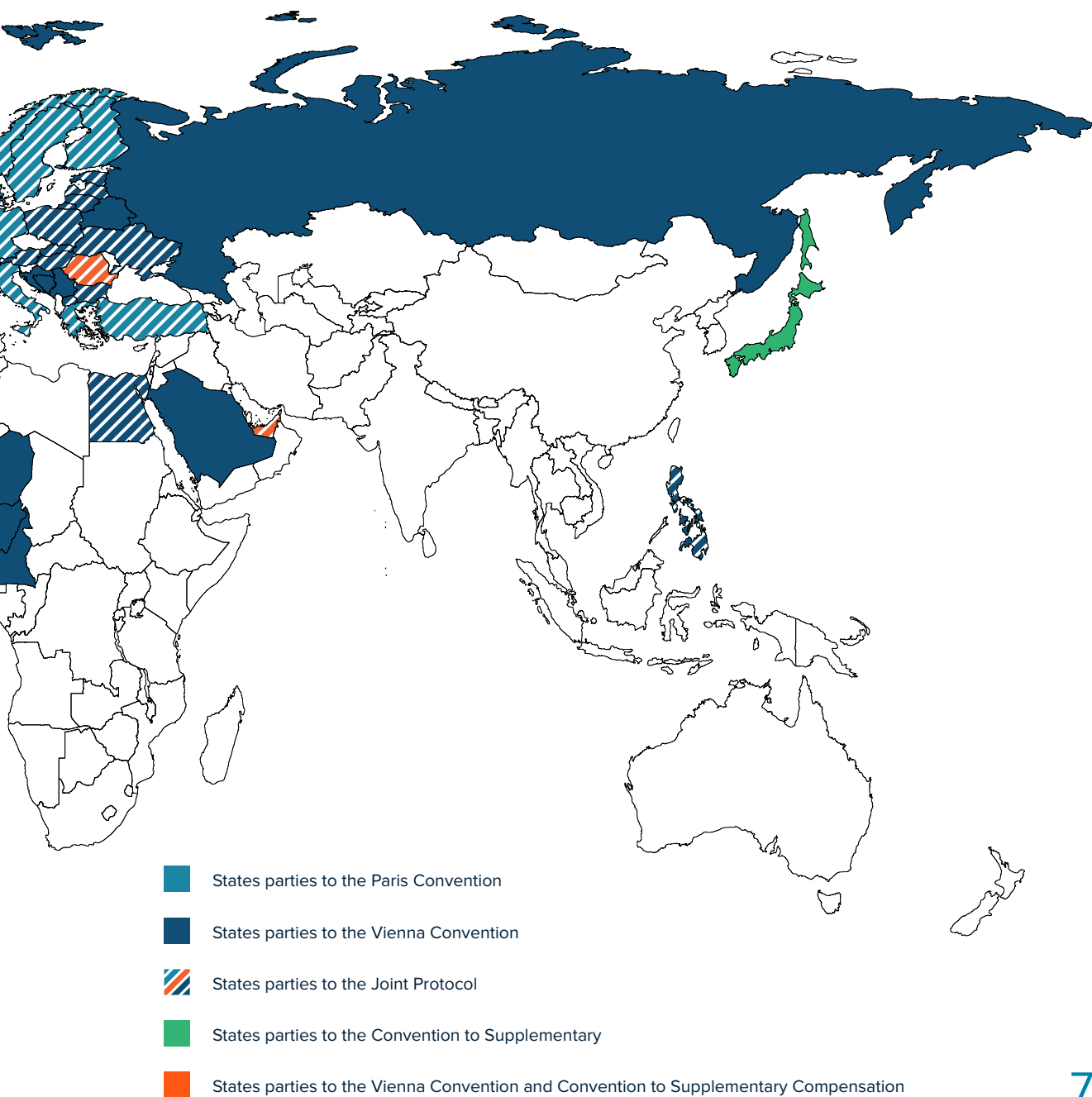
Figure 1. - Map of the countries and their adherence to the various conventions.

For reference, the national laws for these States are:

- The Canadian Nuclear Liability Act (1985);
- The Chinese Guo Han (1986);
- The Indian Nuclear Liability Act (2010);
- The South Korean Act No. 2094 on compensation for nuclear damage and Act No. 2764 on indemnification agreements for the compensation of nuclear damage (latest amendments 2011.)

As a consequence, States can be grouped in three categories:

1. States party to one or more conventions;
2. States non-party to any nuclear liability convention, with national legislation;
3. States non-party to any nuclear liability convention, without national legislation.



DIVERSITY OF NUCLEAR LIABILITY REGIMES

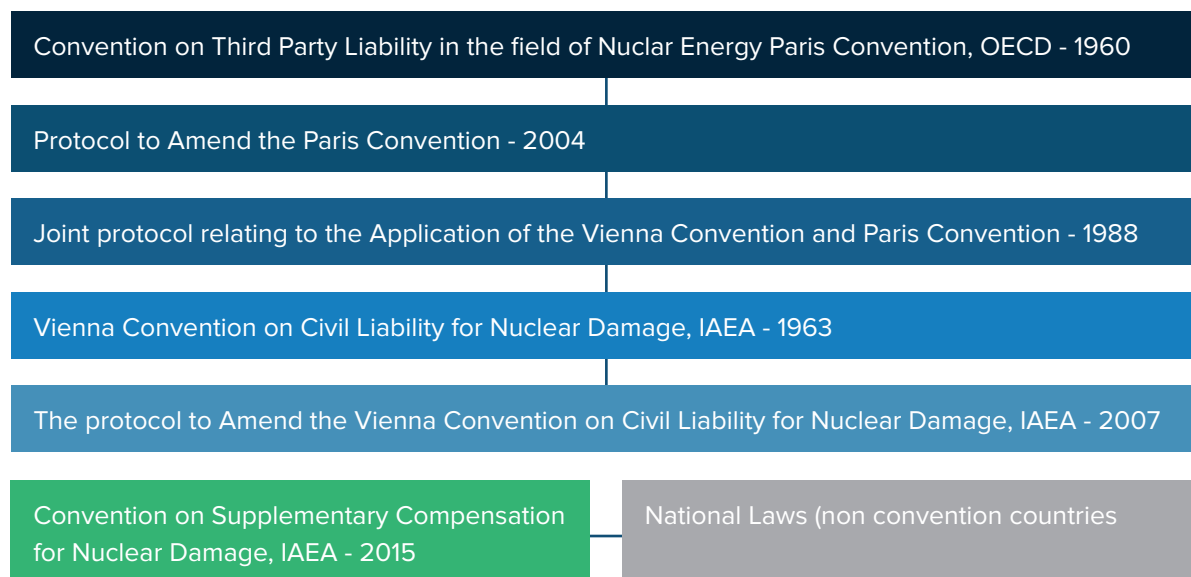


Figure 2. - A Schema of the various international legal instruments addressing international third party nuclear liability

d. The international bridging instruments

Some legal instruments have been developed with the aim to link the conventions and prevent the potential for overlap and conflict. Two instruments should be noted to this effect.

i. *The Joint Protocol relating to the Application of the Vienna Convention and Paris Convention*

The Joint Protocol relating to the Application of the Vienna Convention and Paris Convention between the 1960 Vienna Convention amended and the 1963 Paris Convention amended on 21 September 1988 entered into force on 27 April 1992. It is contracted by 28 State parties. The Joint Protocol extends the benefits of both instruments to States party to either the Paris Convention or the Vienna Convention, providing these States are also party to the Joint Protocol.

ii. *The Convention for Supplementary Compensation*

The Convention for Supplementary Compensation (CSC) aims at creating a relationship between the PC and the VC, as explained in the exposé des motifs of the convention:

“RECOGNIZING the importance of the measures provided in the Vienna Convention on Civil Liability for Nuclear Damage and the Paris Convention on Third Party Liability in the Field of Nuclear Energy as well as in national legislation on compensation for nuclear damage consistent with the principles of these Conventions;”

e. Prevalence of nuclear law over transport liability

Nuclear transport is an activity at the crossing of the transport and the nuclear sectors; therefore the question of the prevalence of the international laws became a concern from the early stage.

In respect to maritime transport, in 1971, the International Maritime Organization (IMO), the International Atomic Energy Agency (IAEA), and the Nuclear Energy Agency of the Organization for Economic Co-operation and Development (OECD) convened a Conference and adopted the Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material (NUCLEAR).

The convention was adopted on 17 December 1971 and entered into force on 15 July 1975. The number of contracting state parties to the convention is 17, representing 18.88% of the world tonnage. The depositary for the convention is the International Maritime Organization (IMO).

This convention is aimed at resolving conflicts between the transport liability and the nuclear liability international legal instruments. This 1971 Convention declared the primacy of nuclear law over the transport liability convention in the context of maritime transport. As a matter of consequence, a person liable for damage caused in a nuclear incident shall be exonerated for liability if the operator is liable for the same damage through the Paris and Vienna Conventions.

3. BASIC PRINCIPLES OF THE NUCLEAR LIABILITY CONVENTIONS

a. What do they cover?

Nuclear liability exclusively addresses the exceptional situation of a nuclear accident. As described in the Paris Convention:

“A nuclear incident” means any occurrence or succession of occurrences having the same origin which causes damage, provided that such occurrence or succession of occurrences, or any of the damage caused, arises out of or results either from the radioactive properties, or a combination of radioactive properties with toxic, explosive, or other hazardous properties of nuclear fuel or radioactive products or waste or with any of them, or from ionizing radiations emitted by any source of radiation inside a nuclear installation.

The accident must have occurred at a nuclear installation or during the transport of nuclear substances.

iii. *Operator’s compulsory financial security*

Liability funds need to be available when they are needed.

iv. *Limitation in amount*

The liability funds can be limited in amount. It should be noted that this principle has recently been challenged, for instance in Europe, where some States consider unlimited nuclear liability.

v. *Limitation in time*

There is a time limitation associated with the claims.

vi. *Unity of jurisdiction*

The courts with jurisdiction are typically the courts where the liable operator’s installation is located.

vii. *Non-discrimination of victims*

No discrimination of the victims based on nationality, residence or domicile.

b. Principles of nuclear liability regimes and their application to transport

The main principles on which the third party nuclear liability instruments are based are as follows:

i. *Operator’s strict liability*

The victims do not need to prove the fault or negligence of the operator. This greatly facilitates the bringing of claims of the victims of a nuclear incident.

Differences in the application of these principles in the third party nuclear liability international instruments will have an impact on the interpretation of the law for the nuclear transport operations.

viii. *Geographic scope*

The geographic scope of the convention is limited by the conventions.

ii. *Operator’s exclusive liability*

All third party nuclear liability is channelled to the operator, excluding any other party potentially liable under tort law, and limiting the liability of the operator to the conditions as set in the conventions.

4. INSURANCE FOR TRANSPORT

General insurance policies typically have exclusion clauses regarding accidents caused with nuclear damage. Therefore there is a need for a specific mechanism to address the insurance of nuclear operations.

The national legislations describe the scope for liability for the nuclear operators, based on the stipulations of the nuclear liability conventions. Insurance policies must comply with the national regulations.

a. Nuclear pools and other insurance providers

The insurance for third party nuclear liability is handled through nuclear insurance pools or mutual insurance associations.

An insurance pool is a relatively common mechanism in the insurance sector where insurers associate themselves to jointly ensure a particular risk, sharing the risk, as the risk cannot be assumed by one insurer only.

The first nuclear insurance pools date back from the 1950s. There are currently 26 active nuclear pools of insurance. As nuclear pools have cross-border agreements, there is a need for a comprehensive infrastructure.

A mutual insurance association is set up by the industry itself. Mutual insurance associations are mainly based in the USA and Europe.

b. Certificate of Financial Security

The international conventions stipulate the need for a nuclear operator to present a Certificate of Financial Security (COFS) to the carrier, as for instance is required by article 4(c) of the Paris Convention.

The certificate shall mention a certain number of information linked to the shipment including;

- The details of the operator,
- The amount, type and duration of the liability,
- The nuclear substances and the carriage,
- A declaration from the competent authority of the operator confirming the name of the operator.

5. REVIEW OF CERTAIN SPECIFICITIES OF TRANSPORT

a. Transfer of liability

The carriage of nuclear substances can potentially involve many operators. In a shipment where the nuclear substance belongs only to one operator, also called a single shipment, this means that at least two operators can typically be identified, the sending operator and the receiving operator.

The transfer of liability between operators can be covered in a contractual agreement between the parties. It is expressed under Article 4 in the Paris Convention, under Article II in the Vienna Convention and under Article 3 of the Annex to the Convention on Supplementary Compensation.

Article 4 (a) of the Paris Convention, Article II (b) of the Vienna Convention and Article 3 (1)(b) of the Convention on Supplementary Compensation concern the channelling of the liability during the carriage of nuclear material to the sending operator. The conventions rely on the principle that the operator shall be liable for the nuclear material this operator is sending until such time as liability is passed to another operator. This transfer of nuclear liability can be made through a written agreement. The sending operator is then liable, where a nuclear damage is proven to have been caused by a nuclear incident during the course of carriage, outside the nuclear installation of the nuclear operator, until the liability is passed to another operator, according to the terms of a contract. Under the 2004 protocol to amend the Paris Convention, this will be conditioned to the fact that the other operator has a direct economic interest in the concerned nuclear substances. In the absence of a written agreement, the sending operator will be liable until another operator has taken charge of the nuclear substances.

Article 4 (b) of the Paris Convention, Article II (c) of the Vienna Convention and Article 3 (1)(c) of the Annex to the CSC are intended to mirror the provisions in Article A (a) of the PC, Article II (b) of the VC and Article 3 (1)(b) of the CSC, from a receiving operator's perspective.

b. Transport between convention and non-convention countries

Article 4 (a)(iv) of the PC, Article II (1)(b)(iv) of the VC and Article 3 (1)(b)(iv) of the Annex to the CSC address the event where the nuclear substances have been sent to an operator within the territory of a non-Contracting State to a given convention by an operator from a State party to the same given conventions. In this case, the third party nuclear liability is carried by the sending operator of the given convention State until the nuclear substances are unloaded from the means of transport in the territory of the given non-contracting State.

Symmetrically, Article 4 (b)(iv) of the PC, Article II (1)(c)(iv) of the VC and Article 3 (1)(c)(iv) of the Annex to the CSC address the event where nuclear substances have been received by an operator from a State party to a given convention, from an operator within a territory of a non-contracting State to this given convention. In this case, the third party nuclear liability is carried by the receiving operator of the given convention State after the nuclear substances have been unloaded on the means of carriage.

Therefore, in the case of transport between a contracting State party to a nuclear liability convention and a non-contracting State to the same convention, the transfer of liability between the sending and the receiving nuclear operators must be clearly and formally expressed in a written agreement.

c. Transfer of liability to a carrier

Article 4 (d) of the Paris Convention consents for a carrier to substitute a nuclear operator provided that the contracting party has provided legislation that, given that the carrier meets the provisions of Article 10 (a) on insurance and financial security, "a carrier may, at his request and with the consent of an operator of a nuclear installation situated in his territory, by decision of the competent public authority, be liable in accordance with" the Paris Convention. In this instance, the carrier substitutes the nuclear operator liable for the transport.

Considering the person liable, and the possibility of a carrier to undertake the third party nuclear liability for a transport instead of a nuclear operator, all IAEA Conventions have identical rules. Article II (2) stipulates that the “Installation State may provide by legislation that, in accordance with such terms as may be specified herein, a carrier of nuclear material or a person handling radioactive waste may, at his request and with the consent of the operator concerned, be designated or recognized as operator in the place of that operator in respect of such nuclear material or radioactive waste respectively. In this case such carrier or such person shall be considered, for all purposes of” the Vienna Convention, “as an operator of a nuclear installation situated within the territory of that State.” This means that there should be a written provision within the legislation of the Installation State designing the carrier as the operator, given that it comes at the request of the carrier and gets the written consent of the nuclear operator.

d. Temporary storage

The transit during the transport of nuclear material is covered by Article 5 (b) of the Paris Convention. In a similar way, all IAEA conventions have comparable rules concerning the liability of the operator during temporary storage of nuclear in a facility.

Article 3 of the Vienna Convention and Article 3 of the Annex to the CSC exonerate the operator of the facility where nuclear material is stored only incidentally to its carriage, from liability, as these facilities are excluded from the definition of “nuclear installation”. Liability may therefore be carried by the sending or receiving operator. Where facilities are covered by the definition of “nuclear installation”, the liability of the operator of the given installation is removed only if another operator is liable (the sending or receiving one).

e. Mixed loads

This is to address the circumstance in which there is more than one operator involved in the transport of nuclear substances. Article 5 (d) of the Paris Convention states that if a “nuclear damage gives rise to liability of more than one operator in accordance with” the Paris Convention “liability shall be joint and several, provided that where such liability arises as a result of damage caused by a nuclear incident involving nuclear substances in the course of carriage in one and the same means of transport, or which were stored (incidentally to the carriage) in one and the same nuclear installation, the maximum total amount for which such operators shall be liable shall be the highest amount established with respect to any of them and provided that in no case shall any one operator be required, in respect of a nuclear incident, to pay more than the amount established with respect to him pursuant to Article 7.”

The IAEA Conventions, for instance in Article II (3)(a) of the Vienna Convention, address the liability of more than one nuclear operator “where nuclear damage engages the liability of more than one operator, the operators involved shall, in so far as the damage attributable to each operator is not reasonably separable, be jointly and severally liable.” Article II (3)(b) of the Vienna Convention then provides for “when a nuclear incident occurs in the course of carriage of nuclear material, either in one and the same means of transport, or, in the case of storage incidental to the carriage, in one or the same nuclear installation, and causes nuclear damage which engages the liability of more than one operator, the total liability shall not exceed the highest amount applicable with respect to any one of them pursuant to Article V.”

At first, these provisions appear to be in opposition with the principle of exclusive liability channelled to the nuclear operator. The way these provisions are reconciled with the exclusive liability principle is that, for the Vienna Convention, while victims can sue any of the operators involved, the total liability amount should not exceed the highest amount applicable to any of them.

6. CONCLUSIONS

In conclusion, when organising a nuclear transport, the following points will need to be addressed:

- Confirm that the nature of the nuclear materials transported are governed by the relevant international conventions;
- Establish liability of the nuclear operator;
- It is important to verify the applicability of the nuclear liability regimes along the route chosen, the sending state, the receiving state, transit states and specific zones, such as Suez Canal or Panama Canal;
- Ensure the contractual transfer of Nuclear Third Party liabilities between the two sending and the receiving nuclear operators.

7. REFERENCES

Vienna Convention on Civil Liability for Nuclear Damage, www.iaea.org/publications/documents/conventions/vienna-convention-on-civil-liability-for-nuclear-damage

Protocol to amend the Vienna convention on civil liability for nuclear damage, INFCIRC/566, www.iaea.org/publications/documents/infcircs/protocol-amend-vienna-convention-civil-liability-nuclear-damage

Convention on Supplementary Compensation for Nuclear Damage, www.iaea.org/publications/documents/treaties/convention-supplementary-compensation-nuclear-damage

Paris Convention on Nuclear Third Party Liability, www.oecd-nea.org/law/paris-convention.html

2004 Protocol to Amend the Paris Convention, www.oecd-nea.org/law/paris-convention-protocol.html

Brussels Supplementary Convention, www.oecd-nea.org/law/brussels-supplementary-convention.html

2004 Protocol to Amend the Brussels Supplementary Convention on Nuclear Third Party Liability, www.oecd-nea.org/law/brussels-supplementary-convention-protocol.html

Joint Protocol relating to the Application of the Vienna Convention and Paris Convention, www.oecd-nea.org/law/joint-protocol.html

Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material, www.imo.org/About/Conventions/ListOfConventions/Pages/Convention-relating-to-Civil-Liability-in-the-Field-of-Maritime-Carriage-of-Nuclear-Material-%28NUCLEAR%29.aspx

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