Convention on Supplementary Compensation for Nuclear Damage (CSC) and harmonisation of nuclear liability law within the European Union

*by Ben McRae**

Recent events at the Fukushima Daiichi nuclear power plants have demonstrated the importance of having strong and effective nuclear liability regimes in effect at the national and global levels to assure the availability of prompt and equitable compensation for nuclear damage in the event of a nuclear incident. In the aftermath of Chernobyl, the international community came together under the auspices of the International Atomic Energy Agency (IAEA) and the OECD Nuclear Energy Agency (OECD/NEA) to review the nuclear liability principles in the 1963 Vienna Convention[1] and the 1960 Paris Convention,[2] consider enhancements to improve the effectiveness of those principles and develop the basis for establishing a worldwide liability regime to supplement and enhance those principles with a view to increasing the amount of compensation available for nuclear damage.[3] After an extensive and thorough review of the then existing liability regimes and numerous proposals for improvements, the international community adopted the Convention on Supplementary Compensation for Nuclear Damage (CSC)[4] to be the basis for a worldwide liability regime. With the recent ratification of the CSC by the United States, the CSC is poised to come into effect. Now is the time for the international community, and especially those countries that use and promote the use of nuclear power, to act to bring the CSC into effect. Such action will establish a global regime

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1. 1963 Vienna Convention on Civil Liability for Nuclear Damage. In addition to the original version, there is an amended version established by the 1997 Protocol to Amend the Vienna Convention. Where a reference only refers to the original version or the amended version, the terms "1963 Vienna Convention" and "1997 Vienna Convention" are used, respectively. Where a reference refers to both versions, the term "Vienna Convention" is used.
2. 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy. In addition to the original version, there will be an amended version that will be established when the 2004 Protocol to Amend the Paris Convention comes into effect. Where a reference only refers to the original version or the amended version, the terms "1960 Paris Convention" and "2004 Paris Convention" are used, respectively. Where a reference refers to both versions, the term "Paris Convention" is used.
3. Preamble to the Convention on Supplementary Compensation for Nuclear Damage (CSC).
4. "Explanatory Texts for the 1997 Vienna Convention on Civil Liability for Nuclear Damage and the 1997 Convention on Supplementary Compensation for Nuclear Damage", IAEA, Vienna 2004, available on the website of the IAEA's Office of Legal Affairs. It provides a detailed discussion and authoritative interpretation of the CSC and its provisions. McRae, B., "The Compensation Convention: Path to a Global Regime for Dealing with Legal Liability and Compensation for Nuclear Damage", *Nuclear Law Bulletin No. 61* (1998/1); Gioia, A., "Maritime Zones and the New Provisions on Jurisdiction in the 1997 Vienna Protocol and in the 1997 Convention on Supplementary Compensation, *Nuclear Law Bulletin No. 63* (1999/1); McRae, B., "The Convention on Supplementary Compensation for Nuclear Damage: Catalyst for a Global Nuclear Liability Regime", *Nuclear Law Bulletin No. 79* (2007/1).

that assures prompt and equitable compensation for nuclear damage by requiring strong and effective national regimes based on the enhanced nuclear liability principles and by providing for an international fund to supplement the amount of compensation available.

This article focuses on the complementary nature of ratification of the CSC by the member states of the European Union, on the harmonisation of nuclear liability laws within the European Union (EU) and on the importance of both actions proceeding in parallel and being completed soon.

A. Background

In the aftermath of Chernobyl, the international community engaged in a comprehensive review of nuclear liability law. This review resulted in three basic conclusions: first, the existing nuclear liability principles continue to be a much more effective means of assuring prompt and equitable compensation for nuclear damage than normal tort law. Specifically, channelling all legal liability to the operator on the basis of strict liability minimises litigation and facilitates the concentration of resources to compensate damage. Second, certain enhancements to the principle were needed. The most important of these enhancements was to expand the definition of nuclear damage and updating the jurisdiction provisions. Third, the amount of compensation for nuclear damage needed to be increased.

To address these conclusions, the existing regimes under the Vienna and Paris Conventions were enhanced and a new convention, i.e. the CSC, was adopted on 12 September 1997 at a Diplomatic Conference in Vienna, Austria. By adopting the CSC, the international community recognised its responsibility to assure prompt and equitable compensation for nuclear damage in the event of a nuclear incident. The CSC is designed to include all countries that have national laws incorporating the enhanced nuclear liability principles and that agree to contribute to an international fund to supplement the amount of compensation for nuclear damage. The CSC focuses on harmonising national nuclear liability regimes in a manner that promotes prompt compensation and on increasing the amount of guaranteed compensation available in the event of a nuclear incident.

A global nuclear liability regime based on worldwide adherence to the CSC is a critical element of the infrastructure necessary for achieving the full benefits of nuclear power with respect to climate change, energy security and economic growth. This global regime will: 1) provide an effective and equitable mechanism by which the international community, and especially those countries that promote the use of nuclear energy, can demonstrate its commitment to responsible action in the event of a nuclear incident; 2) build public confidence in the use of nuclear energy; and 3) provide legal certainty necessary for investors and suppliers to participate in nuclear projects.

Following adoption of the CSC, the EU member states continued to focus on nuclear liability law. This focus has taken two tracks: one track is the effort by those EU member states that belong to the Paris Convention to revise the Paris Convention. This undertaking not only involved incorporating the enhancements developed in connection with the CSC but also revising the Paris Convention and the Brussels Convention[5] to significantly increase the amount of compensation available

5. The 1963 Brussels Convention on Supplementary Compensation, including the amended version that will be established when the 2004 Protocol to Amend the Brussels Convention comes into effect. Where a reference only refers to the original version or the amended version, the terms "1963 Brussels Convention" and "2004 Brussels Convention" are used

under these conventions. In making these revisions, care was taken to maintain the compatibility of the revised conventions with the CSC. Protocols to amend the Paris Convention and the Brussels Convention were adopted in 2004 and efforts are under way to bring those protocols into effect.[6] The second track is the efforts by the EU member states to achieve harmonisation of nuclear liability law within the EU and to address the concerns of those member states that do not subscribe to the nuclear liability principles, in part, because they feel that the amount of compensation available is too low.[7] These efforts have resulted in the development of a comprehensive report on the current status of nuclear law within the EU and potential means for achieving greater harmonisation,[8] a workshop to discuss that report,[9] and formation of a working group of experts to examine the issues related to achieving greater harmonisation.

Achieving greater harmonisation of nuclear liability law in the EU and establishing a global nuclear liability regime are complementary efforts that should proceed together and be completed without delay. This paper does not evaluate the merits of various approaches being considered to achieve greater harmonisation of nuclear liability law within the EU. Rather, it discusses how membership by EU member states in the CSC is compatible with all approaches being considered for achieving greater harmonisation and then sets forth the reasons in support of adherence by EU member states to the CSC and addresses several misconceptions about the CSC.

B. Discussion

The CSC is consistent with harmonisation of nuclear liability law in the EU and can facilitate efforts to achieve greater harmonisation

The Legal Study for the Accession of Euratom to the Paris Convention on Third Party Liability in the Field of Nuclear Energy (legal study) addresses harmonising nuclear liability law in the EU by looking at the areas of 1) insurance, 2) jurisdiction and 3) legal principles. The legal study also makes clear that achieving harmonisation is tied to increasing compensation available for nuclear damage.[10] It examines five options for addressing nuclear liability law within the EU and their

respectively. Where a reference refers to both versions, the term "Brussels Convention" is used.

6. For a discussion of the revision process and the amendments to the Paris Convention and the Brussels Convention, see Dussart Desart, R., "The Reform of the Paris Convention on Third Party Liability in the Field of Nuclear Energy", *Nuclear Law Bulletin No. 75* (2005/1).
7. For a discussion of the concerns of the EU member states that do not subscribe to the nuclear liability principles, see Hinteregger, M., "The New Austrian Act on Third Party Liability for Nuclear Damage", *Nuclear Law Bulletin No. 62* (1998/2) and O'Higgins, P. and McGrath, P., "Third Party Liability in the Field of Nuclear Law: An Irish Perspective", *Nuclear Law Bulletin No. 70* (2002/2).
8. Legal Study for the Accession of Euratom to the Paris Convention on Third Party Liability in the Field of Nuclear Energy (legal study), Final Report: TREN/CC/01-2005, 2009, available at: mng.org.uk/gh/private/2009_12_ accession_euratom.pdf.
9. "Prospects of a Civil Nuclear Liability Regime in the Framework of the EU". The workshop was jointly organised by the European Commission and the Brussels Nuclear Law Association and held in Brussels, Belgium on 17-18 June 2010. This article is based, in part, on a presentation, "Convention on Supplementary Compensation for Nuclear Damage (CSC): Mechanism for Achieving Complementary Objectives of Harmonisation of Nuclear Liability Law within European Union and Establishment of Global Nuclear Liability Regime", by the author at the workshop.
10. See Legal Study, *op. cit.*, pp. 88, 102-105; see also Hinteregger, M., *ibid.*, p. 28 and O'Higgins, P. and McGrath, P., *ibid.*, p. 21.

potential for achieving greater harmonisation. These options are: a) non-action; b) all 27 EU member countries are/become parties to the Paris Convention; c) 22 EU member states are/become parties to the Paris Convention with an opt-out for the 5 non-convention member states; d) Euratom accession to the Paris Convention; and e) a Euratom Directive on nuclear third party liability. The CSC is consistent with all five options and will facilitate achieving harmonisation.

Insurance

There is no provision on insurance or other financial security in the main body of the CSC. A contracting party to the CSC must follow the applicable provision in the Paris Convention,[11] the Vienna Convention[12] or the Annex,[13] all of which provide substantial discretion in setting the amount, type and terms of insurance and other financial security. Thus, the CSC would not interfere with taking action to specify the amount and type of insurance or other financial security for nuclear damage that an operator in an EU member state must have. Moreover, there is nothing in the CSC that would interfere with requiring operators in the EU to participate in alternative forms of financial security such as pooling arrangements.[14]

Jurisdiction

Article XIII of the CSC sets forth the jurisdictional rules that all states party to the CSC must follow. In general, these rules grant exclusive jurisdiction over a nuclear incident to the CSC state in whose territory, territorial sea or exclusive economic zone (EEZ) the incident takes place. Article XIII enhances the jurisdiction provisions in the 1960 Paris Convention and the 1963 Vienna Convention by recognising recent developments in the Law of the Sea and the concerns of coastal states over maritime shipments of nuclear material. Specifically, it expands the jurisdiction provisions in those conventions by providing the courts of a CSC state with exclusive jurisdiction over claims for nuclear damage resulting from a nuclear incident in its EEZ. This enhanced jurisdictional provision has broad support in the international community, especially among countries with concerns about potential maritime accidents involving nuclear material and has been incorporated into both the 1997 Vienna Convention and the 2004 Paris Convention. Thus, if all EU member states belonged to the CSC, the CSC would harmonise the jurisdictional rules for a nuclear incident in the EU in a manner consistent with current views on jurisdiction over a nuclear incident.

11. Article X of the 2004 Paris Convention provides that "[t]o cover the liability under this Convention, the operator shall be required to have and maintain insurance or other financial security of the amount established pursuant to Article 7(*a*) or 7(*b*) or Article 21(*c*) and of such type and terms as the competent public authority shall specify.
12 Article VII of the Vienna Convention provides that "[t]he operator shall be required to maintain insurance or other financial security covering his liability for nuclear damage in such amount, of such type and in such terms as the Installation State shall specify".
13. Article 5 of the Annex to the CSC provides that "[t]he operator shall be required to have and maintain insurance or other financial security covering his liability for nuclear damage in such amount, of such type and in such terms as the Installation State shall specify".
14. Although beyond the scope of this article, pooling is a very effective means of implementing the "polluter pays principle" and increasing the amount of compensation available for nuclear damage. See Legal Study, pp. 85-88; see also Carroll, S., "Perspective on the Pros and Cons of a Pooling-type Approach to Nuclear Third Party Liability", *Nuclear Law Bulletin No. 81* (2008/1) and Pelzer, N., "International Pooling of Operators' Funds: An Option to Increase the Amount of Financial Security to Cover Nuclear Liability?", *Nuclear Law Bulletin No. 79* (2007/1).

Article XIII also sets forth the rules on enforcement of judgments. Specifically, it provides that a judgment by a court of the CSC state with exclusive jurisdiction over a nuclear incident is enforceable in the courts of another CSC state as if the judgment were a judgment by a court of that country. Reconsideration of the merits of the case is never permitted. Thus, if all EU member states belonged to the CSC, it would provide assurance that a judgment by a court of the EU member state with jurisdiction under the CSC would be enforced in the courts of all other CSC states.

Legal principles

The CSC requires its contracting parties to have national law on nuclear liability that is based on the Paris Convention, the Vienna Convention or the Annex to the CSC[15] and that incorporates the provisions in the CSC on jurisdiction, compensation and the definition of nuclear damage. The Paris Convention, the Vienna Convention and the Annex to the CSC provide for national law based on the same legal principles,[16] including: 1) channelling all legal liability for nuclear damage exclusively to the operator; 2) imposing liability on the operator without the need to demonstrate fault, negligence or intent and 3) compensating damage without any discrimination based upon nationality, domicile or residence. These principles represent a legal approach that focuses on compensating damage promptly with a minimum of litigation. Incorporation of these principles into national law eliminates the need to prove who is responsible for causing a nuclear incident, whether there is fault, negligence or intent, or whether there are any legal defences that might be raised. The only issues to be resolved are whether the nuclear incident caused the damage and, if so, what is the amount of the damage. Accordingly, claims should be paid promptly with little or no litigation. Thus, if all EU member states belonged to the CSC, the national laws of EU member states would be harmonised in a manner that promotes prompt compensation with minimal litigation.

C. Compensation

The CSC requires two tiers of compensation: the first tier comes from the requirement in Article III(1)(a)(i) that "the installation state[17] shall ensure the availability of SDR 300 million[18] or a greater amount that may have been specified to the Depository". To the extent funds from the liable operator are insufficient to cover the amount of the first tier, the CSC requires the installation state to make public funds available to cover the difference. In the event unlimited liability is imposed on the liable operator, the obligation of the installation state to make public funds available is limited to the first tier amount. The second tier comes from the

15. Article II.1 of the CSC.
16. See McRae, B., *op. cit.*, *Nuclear Law Bulletin No. 61*, pp. 34-38. The footnotes to the text on the Annex provisions provide a crosswalk to the corresponding provisions of the 1963 Vienna Convention, the revised Vienna Convention, the 1960 Paris Convention and the Annex provisions. See also Explanatory Texts, Section 3.3.2.
17. Installation state refers to the contracting party in which the nuclear installation operated by the liable operator is located. The CSC, the Paris Convention and the Vienna Convention assign certain functions to the installation state or its national law regardless of where a nuclear incident occurs or whether the courts of the installation state have jurisdiction over the nuclear incident. This article uses installation state in place of contracting party to denote functions that are always assigned to the installation state or its national law. See e.g., Explanatory Texts, Sections 1.2, 1.4 and 2.8.
18. SDRs (Special Drawing Rights) are reserve assets defined and maintained by the International Monetary Fund. The value of the SDR is defined by a weighted currency basket of four major currencies: the Euro, the US dollar, the British pound, and the Japanese yen. As of 22 June 2011, SDR 1 equals USD 1.6 or EUR 1.11.

requirement in Article III(1)(b) that contracting parties "shall make available public funds" to an international fund to supplement the first tier amount. The second tier amount is dependent on the number of nuclear power plants in contracting parties and will increase as the number of such plants increase. If most countries with nuclear power plants adhered to the CSC today, the amount of the second tier would be more than SDR 300 million.[19]

The CSC also permits a contracting party to establish a third tier of compensation in excess of the first two tiers, however,[20] the CSC does not govern the distribution of this third tier.

Thus, if all EU member states belonged to the CSC, it would ensure the availability of at least SDR 300 million to compensate nuclear damage, plus the amount of the second tier of international fund. The EU member states, however, would have the option of taking action to establish a minimum first tier amount for EU member states greater than SDR 300 million. For example, the EU member states could decide that the minimum first tier amount for EU member states should be EUR 700 million,[21] which would be based on the amount of the insurance that an operator could reasonably be expected to obtain in the current market. Or the EU could decide that the minimum first tier amount for EU member states should be EUR 1 200 million[22] or a higher amount, which would be based on requiring the installation state or operators to fund the part of the first tier amount in excess of the amount of insurance available.

The CSC recognises that, while the international community can set a floor on the amount of first tier compensation that is acceptable to trigger contributions to the CSC international fund, the ultimate decision on what the first tier amount should be for a particular country or region is a political decision that will reflect circumstances in that country or region. The option to set a first tier amount higher than SDR 300 million permits the development of a political consensus on how much damage can and should be addressed through the civil legal liability system. Acceptance of the basic principles of nuclear liability law, especially by countries that have no nuclear power plants, is dependent on their linkage to an effective mechanism to assure a meaningful amount of compensation. Prompt compensation with a minimum of litigation is attractive only if there is a substantial amount of compensation available. Thus, the amount of assured compensation available for a nuclear incident in the EU most likely will be the major factor in whether efforts to harmonise nuclear liability law among EU member states will be successful. The CSC will not hinder achieving consensus among EU member states and, in fact, will assist this process by making supplementary funds available through the CSC international fund, of which a substantial portion will come from non-EU countries.[23]

19. Assuming the EU member states, Canada, China, India, Japan, the Republic of Korea and the United States belonged to the CSC, the international fund would provide approximately SDR 329 million. This amount is based on the IAEA online calculator that can be found at the website http://ola.iaea.org/CSCND/Calculate.asp.
20. Article XII(2) of the CSC provides that damage in CSC states with no nuclear installations on their territory may not be excluded from third tier compensation on any grounds of lack of reciprocity.
21. That is the same as the first tier amount for a country that belongs to the 2004 Paris Convention.
22. That is the same as the second tier amount for a country that belongs to the 2004 Brussels Convention.
23. Assuming the EU member states, Canada, China, India, Japan, the Republic of Korea and the United States belonged to the CSC, the international fund would provide approximately SDR 329 million. Approximately 198 million of this amount would come from non-EU Countries, including approximately SDR 101 million from the United States.

The CSC will fit over whatever approach is followed to harmonise nuclear liability law among EU member states

Umbrella instrument

The CSC was developed to be a free-standing instrument that would fit like an umbrella over the national laws of countries that are contracting parties of the Paris Convention or the Vienna Convention or that have national law consistent with the basic nuclear liability principles as set forth in the Annex to the CSC. As a result, an EU member state that belonged to the Paris Convention or the Vienna Convention would have to change its national law only to the extent necessary to reflect the enhancements in the CSC that apply to all CSC states. These enhancements include 1) ensuring the availability of at least SDR 300 million to compensate nuclear damage, 2) agreeing to contribute to an international fund established by the CSC, 3) implementing the enhanced definition of nuclear damage in the CSC, 4) implementing the enhanced jurisdictional provisions in the CSC and 5) extending coverage to include all CSC states. None of these actions would be inconsistent with the Paris Convention or the Vienna Convention. An EU member state that did not belong to the Paris Convention or the Vienna Convention would have to take similar actions, as well as ensure its national law was consistent with the basic principles of nuclear liability law set forth in the Annex.

The CSC recognises that the need to adopt national law might be a disincentive to some countries, especially a country that has no nuclear industry and thus has no need for a nuclear liability regime, except as a contingency in the event of a transportation accident in its territory, territorial sea or EEZ. Accordingly, the CSC is clear that contracting parties to the CSC need not enact implementing legislation to the extent its national legal framework makes treaty provisions directly applicable without the need for legislation. The CSC also is clear that its contracting parties with no nuclear installations on its territory need only implement those provisions of the CSC necessary to give effect to its obligations under the CSC.[24]

Implementation of CSC by EU member states

Given the umbrella aspects of the CSC, EU member states could adhere to the CSC with little or no change in their national laws, regardless of what approach is followed to harmonise nuclear liability law among EU member states. Assuming no change in the *status quo*, the following actions might be necessary: each EU member state would need to have national law that incorporated jurisdictional provisions and definition of nuclear damage in the CSC; each EU member state with a nuclear installation would need to have national law that ensured the availability of a first tier amount of at least SDR 300 million and that covered nuclear damage in all CSC states; each EU member state that was not member of the Paris Convention or the Vienna Convention would need to take action to ensure its court would apply the principles of nuclear liability law as set forth in the Annex if its courts had jurisdiction over a nuclear incident. On the other hand, if all EU member states were parties to the 2004 Paris Convention, there would be no need for any change. The 2004 Paris Convention contains the same jurisdictional provisions and essentially the same definition of nuclear damage as the CSC. In addition, the scope provision in the 2004 Paris Convention would encompass other CSC states. Furthermore, the 2004 Paris Convention establishes a first tier amount of at least EUR 700 million.[25]

24. Chapeau of Annex to CSC; see Explanatory Text, Sections 1.2 and 3.4.
25. With respect to EU member states that are contracting parties to both the 2004 Paris Convention and the 2004 Brussels Convention, the first tier amount most likely would be EUR 1 200 million since Article 14(d) of the 2004 Brussels Convention appears to

Operation of the CSC

In the event of a nuclear incident in an EU member state, the CSC would operate as follows: the first tier amount would be used to compensate nuclear damage in EU member states and other contracting parties to the CSC.[26] If nuclear damage exceeds the first tier amount, the EU member states and other CSC states would contribute to the CSC international fund in accordance with the provisions of Article IV of the CSC.[27] The second tier amount from the CSC international fund would be used to compensate nuclear damage in EU member states and other CSC states, bearing in mind that according to Article XI(1)(b) of the CSC, 50% of the second tier funds shall be available to compensate claims for nuclear damage suffered outside the territory of the installation state.[28] The CSC does not govern the compensation of nuclear damage beyond the first and second tier amounts.[29] Thus, EU member states would be free to establish additional means (such as the Brussels Convention) to compensate nuclear damage within the EU beyond the first and second tier amounts.

The CSC provides the only basis for a global nuclear liability regime

Potential to include countries with most of the nuclear power plants worldwide

As noted previously, the CSC is an umbrella instrument that requires minimal changes in the national law of countries that are parties to the Paris Convention or the Vienna Convention or that have national law consistent with the basic nuclear liability principles as set forth in the Annex to the CSC. In addition, the CSC is a free-standing instrument that does not require a country to be a party to the Paris Convention or the Vienna Convention. This free-standing aspect is especially important for countries that have thus far chosen not to join the Paris Convention or the Vienna Convention.[30] These attributes make the CSC the only international instrument with a realistic possibility of establishing a global regime.[31]

contemplate that contributions to the CSC international fund by a 2004 Brussels state would take place after compensation had been made available in accordance with Article 3(b)(i) and (ii) of the 2004 Brussels Convention.

26. The first tier amount is available to compensate nuclear damage wherever suffered unless the installation state exercises the discretion under the CSC to make first tier funds unavailable to compensate nuclear damage in non-CSC states.
27. Article 14(d) of the 2004 Brussels Convention provides that where all the 2004 Brussels states belong to the CSC, a 2004 Brussels state may use the funds that it would otherwise contribute to the Brussels supplementary fund to satisfy its obligation under the CSC to contribute to the CSC international fund. This provision addresses possible concerns by a Brussels state that the CSC might require the state to contribute public funds to an international supplementary fund twice (i.e. once to the CSC international fund and once to the Brussels supplementary fund).
28. The reservation of 50% of the second tier for transboundary damage (i.e. damage outside the installation state) in EU member states and other CSC states only applies if the first tier amount is less than SDR 600 million. Thus, the reservation would not apply if the first tier amount is comparable to the amount required by the 2004 Paris Convention.
29. As noted previously, Article XII(2) of the CSC provides that damage in CSC states with no nuclear installations on their territory may not be excluded from third tier compensation on any grounds of lack of reciprocity.
30. This group includes many countries with a number of nuclear power plants (such as Canada, China, India, Japan, the Republic of Korea and the United States), as well as most countries with no nuclear power plants.
31. Pelzer, N., "Learning the Hard Way: Did the Lessons Taught by the Chernobyl Nuclear Accident Contribute to Improving Nuclear Law", *International Nuclear Law in the Post-Chernobyl Period*, OECD, Paris, 2006, pp. 73-115. In a thoughtful discussion about the future of nuclear liability, including the prospects for a global nuclear liability regime,

Inclusion of the EU member states in the CSC will bring the CSC into effect as a global regime. With the EU member states as parties to the CSC, CSC states will be located around the globe on four continents and possess over 250 reactors (over 57% of the reactors in the world).[32] With the inclusion of the other countries currently considering the CSC,[33] CSC states will be located on five continents, possess over 370 reactors (over 84% of the reactors in the world), and include the countries where the greatest growth in the use of nuclear power is anticipated.[34]

United States and the CSC

The CSC is the only international nuclear liability instrument to which the United States can belong. The United States helped develop and then ratified the CSC because it sees great merit in belonging to a global nuclear liability regime but cannot join the Paris Convention or the Vienna Convention. This inability to join the Paris Convention or the Vienna Convention results from the nature of the nuclear liability regime in the United States. The Price-Anderson Act[35] was adopted by the United States in 1957 as the world's first national law for dealing with nuclear liability and thus predates both the Paris Convention and the Vienna Convention. It pioneered the concept of channelling liability for nuclear damage exclusively to the operator but did so on the basis of economic channelling rather than legal channelling.[36] It has served for over 60 years as a lynchpin for the development of the world's largest fleet of commercial nuclear power plants and it would be impractical for the United States to revise this law to replace economic channelling with legal channelling.

The drafters of the CSC recognised that a nuclear regime could not be truly global if it did not include the country that has the most nuclear power plants in the world. The drafters also recognised that the Price-Anderson Act ensures that, in the event of a nuclear incident with substantial off-site damage, victims will receive prompt compensation for nuclear damage up to approximately USD 13 billion from a fund provided by operators and guaranteed by the United States government. This compensation would be provided on the basis of strict liability and with minimal

Pelzer notes that CSC "marks major progress in developing a universally harmonised nuclear law", that the CSC's "main advantage is its free-standing character" and that the CSC "is thus apt to provide the basis for a global regime", p. 111.

32. European Nuclear Society, "Nuclear Power Plants, World-Wide" (NPP World-Wide) at www.euronuclear.org/info/encyclopedia/n/nuclear-power-plant-world-wide.htm.
33. The countries currently considering the CSC include Canada, China, India, Japan, the Republic of Korea and the United Arab Emirates.
34. European Nuclear Society, *op. cit.* (Footnote 32).
35. 42 USC § 2210. The Price-Anderson Act operates as follows: owners of nuclear power plants pay a premium each year for USD 375 million in private insurance for off-site liability coverage for each reactor unit. This first tier of insurance is supplemented by a second tier of operator funds from a retrospective pool. In the event a nuclear accident causes damages in excess of USD 375 million, each owner of a nuclear power plant would be assessed a prorated share of the excess up to USD 111.9 million per reactor unit. With 104 reactors currently licensed to operate, this secondary tier of funds would yield about USD 12.6 billion. If 15% of these funds are expended, prioritisation of the remaining amount would be left to a federal district court. If the second tier is depleted, Congress must determine whether additional relief is required.
36. Economic channelling and legal channelling both make the operator exclusively liable for the nuclear damage resulting from a nuclear incident. Economic channelling accomplishes this objective by making the operator fund an indemnification system that indemnifies anyone who incurs legal liability for a nuclear incident. In other words, the operator pays for all the nuclear damage for which there is legal liability.

litigation.[37] Accordingly, Article 2 of the Annex to the CSC permits the United States to belong to the CSC without replacing economic channelling with legal channelling as long as it maintains its existing nuclear liability regime.

Broad adherence

Many countries, and especially countries without nuclear power plants, have been unwilling to join the Paris Convention or the Vienna Convention because they perceive these conventions as not focusing sufficiently on the concerns of those who might suffer nuclear damage in the event of a nuclear incident. The CSC maintains the basic principles of nuclear liability law set forth in the Paris Convention and the Vienna Convention, while including provisions to address the concerns of countries that have not joined these conventions. Specifically, the CSC grants a contracting party exclusive jurisdiction over a nuclear incident in its territorial sea or its EEZ, provides for an expansive definition of nuclear damage and ensures the availability of a meaningful amount of compensation.[38] This more balanced approach is fundamental to attracting the broad adherence necessary for a global regime.

Joint Protocol

The Joint Protocol[39] cannot provide a basis for a global regime. Since opening for signature in 1988, the Joint Protocol has attracted 26 countries as contracting parties. These countries are located mostly in Europe and possess 66 reactors (approximately 15% of the reactors in the world).[40] Although the Joint Protocol has played an important role as a regional arrangement linking certain European countries, it has failed to attract sufficient adherence to become a global regime. There are several reasons why the Joint Protocol has not and cannot provide the basis for a global regime.

As an initial matter, unlike the CSC, the Joint Protocol is not a free-standing instrument. In order to belong to the Joint Protocol, a country must also belong to either the Paris Convention or the Vienna Convention. Thus, since the United States cannot join the Paris Convention or the Vienna Convention, the Joint Protocol cannot include the United States that possesses approximately 24% of the commercial nuclear power plants in the world.[41] This inability to include the leading nuclear power is a decisive drawback to establishing a global regime.[42]

37. For comparison, USD 13 billion is approximately six times more than the amount that would be available under the combined 2004 Paris Convention/2004 Brussels Convention system, i.e. EUR 1.5 billion. However, compensation under the latter system does not include legal costs (interest, claims handling costs) which would have to be paid in addition to the compensation amount and must not be paid out of the available compensation amount.
38. McRae, B., *op. cit.*, *Nuclear Law Bulletin No. 61* (1998/1), pp. 26-28.
39. The 1988 Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention (Joint Protocol).
40. For comparison, countries that belong to the 1997 Vienna Convention possess 4 reactors (less than 1% of the reactors in the world), countries that belong to the Vienna Convention possess 72 reactors (approximately 13% of the reactors in the world), countries that belong to the CSC possess 108 reactors (approximately 24% of the reactors in the world), countries that belong to the Paris Convention possess 125 reactors (approximately 29% of the reactors in the world), and countries that do not belong to any convention possess 137 reactors (approximately 31% of the reactors in the world).
41. The United States has 104 nuclear power plants out of the 440 nuclear power plants in the world.
42. Pelzer, N., *op. cit.* (Footnote 31), p. 113.

In addition, the Joint Protocol has several aspects that make it unattractive to many countries. First, the Joint Protocol links a country to all other countries that belong to the Joint Protocol and to any version of the Paris Convention or the Vienna Convention. Thus, by adhering to the Joint Protocol, a country would have to accept linkage with countries that belong to the Joint Protocol and to the 1963 Vienna Convention that permits a limit on the liability of an operator as low as USD 5 million and that does not contain the enhanced jurisdictional provisions or the enhanced definition of nuclear damage.[43] The drafters of the 1997 Vienna Convention recognised that some countries might find it unacceptable to join an international instrument if such action resulted in the possibility of exclusive jurisdiction over a nuclear incident residing with the courts of a country whose national law reflected the minimal requirements of the 1963 Vienna Convention. Accordingly, the 1997 Vienna Convention contains a provision that gives countries the option of belonging to the 1997 Vienna Convention without having treaty relations with countries that only belong to the 1963 Vienna Convention and thus are not obligated to adopt the enhancements in the 1997 Vienna Convention.[44] Membership in the Joint Protocol forecloses that option because the Joint Protocol automatically links a country with all other countries that belong to the Joint Protocol and any version of the Paris Convention or the Vienna Convention and contains no mechanism to opt out of this linkage.[45]

Second, there is uncertainty as to how the Joint Protocol would operate in certain situations. Specifically, it is unclear in certain transportation scenarios which country would have jurisdiction. This uncertainty arises because, unlike the CSC, the Joint Protocol does not contain substantive provisions on jurisdiction that apply to all countries that belong to the Joint Protocol but rather relies on the jurisdictional provisions in the applicable convention. The uncertainty is illustrated by the following example. Assume that countries A and B are non-EU member states that belong to the Vienna Convention and the Joint Protocol, that country C is an EU member state that belongs to the Paris Convention and the Joint Protocol, and that a nuclear incident occurs in country C during transport of nuclear material from country A to country B. Under the Joint Protocol, the applicable convention would be the Vienna Convention since the installation state belongs to the Vienna

43. This problem does not arise with respect to the CSC because the CSC contains substantive provisions on first and second tier compensation, the definition of nuclear damage and jurisdiction that must be followed by all CSC states. The Joint Protocol does not contain substantive provisions. Rather, it identifies which convention applies to a nuclear incident and provides that parties to the Joint Protocol that are not parties to the applicable convention should be treated as if they were parties to the applicable convention.
44. Article 19 of the 1997 Vienna Convention.
45. If all the EU countries belonged to the 2004 Paris Convention or to either the 2004 Paris Convention or the 1997 Vienna Convention, their membership in the Joint Protocol would give rise to the possibility of their linkage to a non-EU country that belonged to the 1963 Vienna Convention and the Joint Protocol and that imposed an extremely low liability limit on its operators. For example, assume that all EU member states belong to the Joint Protocol, that a nuclear incident occurs in a non-EU member state and causes substantial nuclear damage in EU member states, and that the non-EU state belongs to the 1963 Vienna Convention and the Joint Protocol and imposes a liability limit of USD 5 million on operators located within its territory. In this scenario, the courts of the non-EU country would have exclusive jurisdiction over claims for nuclear damage in the non-EU country, as well as claims for nuclear damage in EU countries, the amount of funds available to compensate these claims would be limited to USD 5 million and there would be no international fund to supplement the compensation available. No claims could be brought in the courts of any EU country and the Brussels Convention would not apply.

Convention.[46] Most commentators on the Joint Protocol take the view that, since country C is treated as if it were a contracting party to the Vienna Convention, it would have exclusive jurisdiction over the incident.[47] Some commentators, however, take the view that, since country C is not a contracting party to the Vienna Convention, it cannot have jurisdiction under the Vienna Convention and thus country A has exclusive jurisdiction.[48]

Third, unlike the CSC, the Joint Protocol does not provide for supplementary funding for nuclear damage.

The CSC represents a commitment of the international community to ensure the existence of effective nuclear liability regimes at the national and global levels

Effective national nuclear liability regime

As discussed previously, each contracting party to the CSC must have national law based on the nuclear liability principles, adopt the enhanced jurisdictional principles and the enhanced definition of nuclear damage, and ensure the availability of at least SDR 300 million for compensating nuclear damage.

International fund

The international fund established by the CSC is the mechanism at the global level by which the members of the international community, and especially countries that operate nuclear power plants, can demonstrate their commitment to responsible action in the event of a nuclear incident.[49] The international fund is open ended and the amount of compensation available from the fund will grow as the number of nuclear power plants in contracting parties increase. Most of the contributions to the international fund will come from countries that have nuclear power plants. Specifically, 90% of the contributions to the international fund will be based on the installed nuclear capacity in a contracting state and thus will come from only those states where reactors are located. The remaining 10% of the contributions will be based on the UN rate of assessments of contracting parties. Given that many countries with nuclear power plants have a large UN rate of assessment, it is likely that most of the contributions to the international fund will come from countries with nuclear power plants. Countries with no nuclear power plants will provide no more than 2 or 3% of the contributions to the international fund. While only a small percentage of the total contributions to the international

46. Article III.3 of the Joint Protocol provides that, with respect to a nuclear incident during transportation, the applicable convention shall be the convention to which the installation state belongs.
47. See von Busekist, O., "A Bridge Between Two Conventions on Civil Liability for Nuclear Damage: the Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention", *Nuclear Law Bulletin No. 43* (1989/1).
48. See "Indemnification of Damage in the Event of a Nuclear Accident. Workshop Proceedings", pp. 85-114; see especially OECD/NEA Secretariat, "Issues Concerning the Interpretation of the Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention", pp. 101-103, and Pelzer, N., "Interpretation of the Joint Protocol in Transport Cases – The German Position", pp. 105-107. The workshop was organised by the OECD/NEA and held at Bratislava, Slovak Republic on 18-20 May 2005.
49. Some have observed that "particular nuclear states do not feel attracted to join" the CSC because of the international fund and thus that the "'supplementary funding element' is a weakness in the design of the CSC". Pelzer, N., *op. cit.* (Footnote 31), p. 114. While the inclusion of the international fund may make ratification of the CSC more difficult for a few countries, the inclusion of an international fund is essential to achieving a global regime that attracts broad adherence from both countries with nuclear power plants and countries with no nuclear power plants.

fund will come from countries with no nuclear power plants, this contribution represents a very important element of international solidarity.

Focus on transboundary damage

The international fund recognises the importance of compensating transboundary damage in a meaningful and equitable manner. The international fund addresses transboundary damage in an equitable manner by reserving half of the fund for transboundary damage if the installation state has established a first tier amount less than SDR 600 million. This provision recognises the importance the international community attaches to compensating transboundary damage and will encourage countries with no nuclear power plants to join the CSC. The provision also will provide an incentive to countries with nuclear power plants to establish first tier amounts of at least SDR 600 million. In addition, this provision applies the "polluter pays principle" to make the installation state more responsible for ensuring compensation for transboundary damage. Moreover, given that most damage is likely to occur in the immediate vicinity of the nuclear power plant where a nuclear incident occurs and thus in the installation state, reserving half the international fund for transboundary damage will help ensure the availability of a meaningful amount of compensation for transboundary damage.[50]

Some have suggested that reserving half of the international fund for transboundary damage is inequitable to the installation state.[51] The international community, however, has chosen an equitable approach for allocating the public funds provided by CSC parties to the international fund that balances the interests of all countries. First, the installation state will always receive more than it contributes and, in most cases, many times more.[52] In other words, the international community will provide the installation state with funds that can be used to compensate nuclear damage in the installation state in amounts that significantly exceed the contribution from the installation state.[53] Second, each state party to the CSC must contribute to the international fund, even if it has no nuclear installations and thus could never be the installation state. Finally, the reservation only applies if

50. Pelzer, N., *op. cit.* (Footnote 31), pp. 110-111.
51. Dussart Desart, R., *op. cit.* (Footnote 6), p. 31.
52. When a country makes public funds available for a purpose, it is not unusual for the country to put restrictions on the use of those funds. For example, the Brussels Convention restricts the use of public funds contributed to the Brussels supplementary fund to nuclear damage in contracting parties to the Brussels Convention. Given that more than half the contributions to the CSC international fund will always come from CSC states other than the installation state, it is not unusual for the CSC states other than the installation state to, in effect, reserve a portion of their contributions to the CSC international fund to be used exclusively for compensating nuclear damage within their territories and not within the territory of the installation state. The decision to make the installation state pay into the international fund at, in effect, a higher rate than other contracting parties is similar to the recent decision by the Brussels Convention states to revise the contribution formula for the Brussels supplementary fund to put more emphasis on the extent to which a contracting party has nuclear power plants within its territory. Both decisions represent an application of the "polluter pays principle".
53. Assuming the CSC only includes the existing contracting parties plus the EU member states, the international fund would make approximately SDR 187 million available, of which approximately SDR 93 million would be available for nuclear damage in the installation state and other contracting parties. Among EU member states, France would make the largest contribution (approximately SDR 34.7 million) to the international fund. The contributions of other EU member states would be considerably lower. For example, the next five largest contributors would be Germany (approximately SDR 20.8 million), the United Kingdom (approximately SDR 11.2 million), Sweden (approximately SDR 8.5 million), Spain (approximately SDR 7.6 million) and Belgium (approximately SDR 5.6 million).

the installation state establishes a first tier amount less than SDR 600 million. Thus, the reservation would not apply if the installation state had a first tier amount comparable to the amount required by the 2004 Paris Convention.[54]

The CSC will assist in building public confidence in the use of nuclear power by assuring meaningful compensation for nuclear damage promptly with a minimum of litigation

The CSC will build public confidence in the use of nuclear power by requiring contracting parties to have national laws based on nuclear liability principles that assure prompt and equitable compensation and by increasing the amount of compensation available in the event of a nuclear incident. The nuclear liability principles represent a legal approach that focuses on compensating damage promptly with a minimum of litigation. Incorporation of these principles into national law eliminates the need to prove who is responsible for causing a nuclear incident, whether there is fault, negligence or intent, or whether there are any legal defences that might be raised. In addition, the CSC grants exclusive jurisdiction to the courts of the contracting party where a nuclear incident occurs so that all claims will be brought in one forum. To ensure claimants from all countries receive equal and fair treatment, the CSC requires all claims to be considered without any discrimination based on nationality, domicile or residence.

The CSC recognises that prompt compensation with minimum litigation is only attractive to the public if there is an assured and meaningful amount of compensation available for nuclear damage. The CSC increases the amount of compensation available for compensating nuclear damage by requiring the operator to be liable for at least SDR 300 million and by requiring contracting parties to contribute to an international fund to supplement the compensation for nuclear damage. In addition to increasing the amount of compensation, the CSC provides for an expansive definition of nuclear damage.[55]

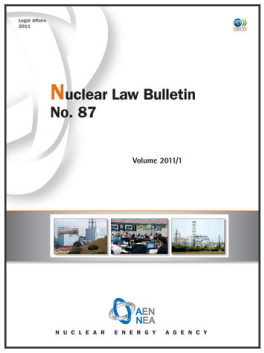
The CSC provides the legal certainty necessary for utilities, nuclear suppliers and investors to participate in designing, constructing and operating nuclear power plants

The CSC provides legal certainty by requiring contracting parties to adopt national laws based on the nuclear liability principles. Legal certainty is essential for investors, nuclear suppliers and plant operators to engage in nuclear projects. Specifically, many investors and nuclear suppliers will not participate in nuclear projects in the absence of channelling liability exclusively to the operator and granting exclusive jurisdiction to the courts of the country where a nuclear incident occurs.[56]

D. Conclusion

The CSC is an excellent vehicle to achieve greater harmonisation of coverage and treatment of nuclear damage within the EU, while establishing a treaty link between EU member states and non-EU member states worldwide. The EU member states should proceed promptly to achieve greater harmonisation of nuclear law within the EU and to become part of a global nuclear liability regime based on the CSC.

54. If the EU adopted a requirement that all EU member states must have a first tier amount of at least SDR 600 million, the reservation would not apply to any nuclear incident for which an EU member state is the installation state.
55. See McRae, B., *op. cit.* (Footnote 4), *Nuclear Law Bulletin No. 79* (2007/1), pp. 20-21.
56. *Ibid.*, p. 22.



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