UPDATE ON THE VIENNA PROTOCOL AND CSC:
ISSUES OF IMPLEMENTATION AND APPLICATION IN
NATIONAL LEGISLATION

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ABSTRACT

This paper aims to reflect the recent developments in respect of the 1997 Vienna Protocol (VP) and the 1997 Convention on Supplementary Compensation (CSC), i.e. the changes in signatories and ratifications of both instruments, and the impacts these will have upon the geographical scope of nuclear liability laws of those countries covered or linked to each other within the international nuclear liability regime.

To the extent that certain countries have ratified either the VP or the CSC, it is important to analyse their existing nuclear liability legislation and the manner in which it already implements or aims to implement certain crucial new elements introduced by both instruments, such as, the liability limitation in time and amount, the extension of the geographical scope to damage wherever suffered as well as in the EEZ, the extension of the definition of nuclear damage and preventive measures, and finally, the deletion of some of the exoneration of the operator’s liability. In this context, especially the concept of nuclear environmental damage and the extent to which it is currently covered by existing nuclear liability legislation or, possibly, environmental law, will be given some special attention.

Finally, the paper will focus on various aspects of the implementation and application of these new elements of both 1997 instruments within some CEEC’s nuclear liability regimes as an example to identify those issues that will produce special problems (e.g., administrative, legal, insurance, or political) or necessitate additional legislative efforts in respect of their implementation in national laws.
I. INTRODUCTION

After more than a decade of comprehensive research and preparations, two new legal instruments were adopted on 12 September 1997, i.e. the Vienna Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage (VP) and the Convention on Supplementary Compensation for Nuclear Damage (CSC). These legal instruments are revolutionary compared to the 'older' existing international nuclear third-party liability regime in two main aspects: first, they attempt to cover environmental damage in line with the international trend to recognize responsibility for the protection of the environment (including the marine environment) as intrinsic part of overall health and safety of mankind, and, secondly, both instruments aim to facilitate potential success of compensation claims for nuclear damage by extending the time prescription periods and increasing the obligatory liability amounts. Despite this meritorious aim to extend the scope of coverage in this manner, it seems to create additional legislative demands and uncertainties for those countries that just recently have endured intensive and painstaking efforts for the adoption of nuclear liability legislation conform to the 'older' nuclear liability regime of the Vienna Convention (VC), which they finally ratified. The new conventions, that are predominately created to attract wider participation from particularly the CEE/NIS countries, will burden these countries to request even more demanding and farreaching nuclear liability rules, sometimes alien to the domestic legal system, than those that after such a long time and under international pressure could barely be adopted. Nevertheless, there seems to exist an inexhaustible and admirable legislative energy to even incorporate these newly developed legal concepts within national legislation of a few CEE/NIS countries. First of all, it is necessary to identify the main elements of both 1997 Conventions before comparing them with existing or pending nuclear liability legislation of a few selected countries, i.e. Croatia, the Czech Republic, Hungary, Romania, the Slovak Republic and Slovenia. All of these countries have ratified the Vienna Convention of 1963 (VC), as well as the Joint Protocol (JP) linking the 1960 Paris Convention (PC) to the Vienna nuclear liability regime. Slovenia is the only country that has started the procedure to give up the VC in favour of the PC and the Brussels Supplementary Convention (BSC). Should it succeed in this ambition, Slovenia will be part of the European nuclear liability regime, without giving up its participation in the VC nuclear liability regime to which it will indirectly remain to be bound by way of its JP ratification.

II. THE 1997 CONVENTIONS

Participation of Conventions

The VP has currently been signed by only fourteen signatories and ratified by two Contracting Parties, i.e. Morocco and Romania. Apart from Argentina, Indonesia, Lebanon, Peru, Philippines, the VP found recognition predominately in the CEE/NIS region, where Belarus, Czech Republic, Hungary, Lithuania, Poland and Ukraine have signed the VP. From the 'western' region, despite strong representation during the preparatory discussions, participation is confined to Italy.1 A comparable pattern is found in respect of the CSC, with two significant exceptions, i.e. the participation of the United States and Australia, both breaking their long history of non-participation in any international nuclear liability regime. The CSC has currently thirteen signatories. Besides the two former States, and in addition to Argentina, Indonesia, Lebanon,

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1 Its signatories are Argentina (signed, 19 December 1997), Belarus (signed, 14 September 1998), Czech Republic (signed, 18 June 1998), Hungary (signed, 29 September 1997), Indonesia (signed, 6 October 1997), Italy (signed, 26 January 1998), Lebanon (signed, 30 September 1997), Lithuania (signed, 30 September 1997), Morocco (signed, 29 September 1997), Peru (signed, 4 June 1998), Philippines (signed, 10 March 1998), Poland (signed, 3 October 1997), Romania (signed, 30 September 1997 and ratified on 29 December 1998) and Ukraine (signed, 29 September 1997).
Peru, Philippines, the CEE/NIS region is represented by Czech Republic, Lithuania, and Ukraine. Similar to the VP, only Romania and Morocco have so far ratified the CSC, whereas Italy is the only 'PC-State' to have signed the CSC.²

**Main Elements**

Although both the CSC and the VP have certain common features, they differ as to their intended geographical scope as well as their nature, i.e. the VP focused on assigning primary liability, whereas the CSC aims to ensure availability of supplementary compensation as an ultimate tier of liability to be ensured by and among the Contracting Parties (individually and jointly). Any comparison should take this into account. Nonetheless, the main objective of both instruments is to extend the scope of coverage of the operator's liability regime by incorporating:

- an extended definition of 'nuclear damage' to be optionally incorporated in implementing legislation of Contracting Parties;
- by increasing the time limit and the liability cap;
- by deleting the option of exoneration for *force majeure*; and
- by extending its territorial scope to damage wherever suffered, while permitting an unilateral exclusion of such extension only in respect of non-Contracting States (or its maritime zones) that have nuclear installations and do not afford equivalent reciprocal benefits.

The CSC, although largely replicating the VP, comprises certain special features that are different due partly to its supplementary nature and partly to its more liberal approach to liability channelling:

- it aims to ensure additional compensatory funding up to 600 million SDRs, part of which is designated for transboundary damage only;
- it contains a grandfather clause, allowing the US to maintain its existing nuclear liability regime;
- its geographical scope is not extended to damage wherever suffered.

In addition to the above mentioned factors that should be taken into account in implementing either the provisions of the CSC or the VP, relevant are also the factors that are common to both instruments:

- the phasing-in mechanism allowing a period under which less funds are available;
- the extension to incidents and damage occurring in maritime zones (Art. V CSC);
- the exclusion of non-peaceful nuclear installations (Art. 3 VP; Art. II.2 CSC).

These factors should be taken into account in legislative efforts aiming at incorporating or implementing the provisions of the CSC or the VP. In addition, these factors could also increase the number of victims to be compensated and minimise (make infeasible in case of the third bullet) the possibility of obtaining compensation under the nuclear liability regime.

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² Its signatories are Argentina (signed, 19 December 1997), Australia (signed, 1 October 1997), Czech Republic (signed, 18 June 1998), Indonesia (signed, 6 October 1997), Italy (signed, 26 January 1998), Lebanon (signed, 30 September 1997), Lithuania (signed, 30 September 1997), Morocco (signed, 29 September 1997), Peru (signed, 4 June 1998), Philippines (signed, 10 March 1998), Romania (signed, 30 September 1997 and ratified on 2 March 1999), Ukraine (signed, 29 September 1997), and United States of America (signed, 29 September 1997).
III. DOMESTIC NUCLEAR LIABILITY REGIMES

1. Scope of Comparision

First, it should be identified to what extent the current national nuclear liability regimes of the countries currently under consideration have implemented or follow the principles of the international nuclear liability regimes, whether or not actually obliged too. As such, it will be assessed how the optional provisions were already or can be incorporated within existing national nuclear legislation. Secondly, a concise assessment will be made as to the extent to which the current nuclear liability laws already adequately implement the provisions of the 1997 treaties, or to what extent this would still require additional modifications and/or adjustments. Finally, some general remarks on the desirability or consequences of ratification of either one of both, or both 1997 treaties will conclude this paper.

All of the selected countries are Contracting Party to the 1963 VC and have implemented its provisions accordingly, but in varying degrees. From all these States, the Czech Republic and Hungary are signatory to the VP, and have, as such, the obligation not to do anything that would run counter the purposes or objective of the Protocol. International public law (e.g., 1969 Vienna Convention on the Law of Treaties, Art. 18) does create certain soft obligations for signatory States, i.e., at least to refrain from acts which would defeat the object and purpose of a that treaty. A similar conclusion can be drawn with respect to the CSC, that, until now, was signed by the Czech Republic only. More binding effect have the VP and CSC on Romania, that ratified both legal instruments. On the other hand, Slovenia and the Slovak Republic did not sign or ratify any of these instruments, and therefore cannot infer any rights or obligations there from, except those established under customary international law.

2. Laws Implementing the International Nuclear Liability Regime

All States under consideration have ratified both the 1963 VC as well as the 1988 Joint Protocol; Hungary being the first to join such international treaty in 1989 and the Slovak Republic being the last to join in March 1995. In addition, the Hungary signed the VP in 1997, the Czech Republic signed both the VP and the CSC in 1998, whereas Romania actually ratified both legal instruments in 1999.

In the Slovak Republic, the Czech Republics and Hungary, the VC’s nuclear liability regime is not implemented by one single instrument, but is regulated in a general manner in their respective framework laws, i.e. the 1998 Slovak Republic’s Act on the Peaceful Use of Nuclear Energy [Part Five], the 1997 Czech Republic’s Atomic Energy Act [Section 5 of Part One], and the 1996 Hungarian Atomic Energy Act CXVI [Chapter V]. Romania, on the other hand, is close to adopting a special law specifying the very general provisions on nuclear liability found in its 1996 Law on the Safe Conduct of Nuclear Activities, as amended in 1998. Also the principles of the VP and the CSC will be implemented by this Law ‘Regarding Civil Liability for Nuclear Damage’, a draft issued by CNCAN and currently submitted to the parliament for adoption. Only two States have currently adopted special implementing domestic legislation confined to nuclear liability and insurance issues, i.e. the Croatian 1998 Act on Liability for Nuclear Damage, and the Slovenian 1978 Act on Third Party Liability for Nuclear Damage together with its 1980 Act on Insurance of Liability for Nuclear Damage. Slovenia did prepare a new draft Law on Third Party Liability for Nuclear Damage aiming to update its nuclear liability and insurance provisions. Since Slovenia started procedures in 1999 to change its participation from the VC into the PC/BSC, any revisions will have to take this possible shift into account.
3. **Geographical Scope Extension**

Unlike the CSC, the VP provides the option to extend the territorial scope to cover damage 'wherever suffered'. Should States wish to follow this option, it will have to be explicitly incorporated in domestic legislation. However, it should be understood that such could significantly increase the number of possible claimants competing for the same amount of compensation available. Although national legislation may confine this extension to damage occurring only in non-Contracting non-nuclear States and their maritime zones (e.g. Estonia, Greece, Turkey or Austria) as well as non-Contracting nuclear States that afford equivalent reciprocal benefits (perhaps Ukraine), this could nevertheless put an extra burden upon the compensatory amount available creating a risk of leaving claimants, especially those concerning costs for reinstatement or prevention measures, uncompensated. Furthermore, those victims of non-Contracting nuclear States that do not afford equivalent reciprocal benefits may consider obtaining compensation for types of nuclear (environmental) damage (either individually or through the State) under 'other (international) laws'. Finally, domestic law should extend coverage to damage occurring in maritime zones. Such could in all likelihood involve compensatory claims for ecological/marine environmental damage, which might be covered also by other marine pollution conventions. In this respect, a conflict of laws should be prevented and might warrant special language to this effect in the domestic implementing legislation.

Contrary to the VP, the geographical scope under the CSC is not extended to damage wherever suffered, since the supplementary funds will not apply to nuclear damage in the territory of non-Contracting Parties (although not clearly stated). This is logical considering the fact that insofar as the CSC explicitly states that it will apply to nuclear damage for which an operator is liable under the 1963 VC and 1960 PC, both of which do not explicitly impose operator's liability for damage suffered in non-Contracting States (i.e. non-nuclear power generating countries would have little incentive to become a CSC Party if damage to their nationals would be covered regardless). However, insofar as the CSC refers to both conventions 'and any amendment thereto which is in force for a Contracting Party to this Convention', this could involve the VP allowing compensation of damages wherever suffered (Art. 1 (a) and (b) CSC).

From the States under consideration, only two States have included explicit provisions on the geographical scope in their domestic nuclear liability law, i.e. Croatia and Romania, whereas the other laws remain rather vague on this. In Croatia, the geographical scope of application has been extended under the 1998 Law, namely, to cover transboundary damage resulting from a nuclear incident for which a Croatian operator is liable on the basis of reciprocity. The Act further states that the content of such reciprocity can be further specified or settled by multilateral or bilateral international treaties with foreign States. This means that the Law still departs from both 1997 treaties by not including the EEZ within the territorial scope of application, but does, however, incorporate already to a certain extent the extension to 'damage wherever suffered' of the VP, be it that reciprocal demands in case of transboundary damage cannot be imposed on non-nuclear non-Contracting States.

Also Romania has extended its geographical scope under its draft Romanian Law in accordance with the principles of the VP and the CSC, as well as providing for the relevant definitions of terms identical to these international agreements. This means that Romania is

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3 Art. II(2) CSC states that: 'The system of this Convention shall apply to nuclear damage for which an operator of a nuclear installation used for peaceful purposes situated in the territory of a Contracting Party is liable under either one of the Conventions referred to in Art. 1 or national law mentioned in paragraph 1(b) of this Art.', i.e. the 1963 VC and the 1960 PC, as amended, as well as national law of the Annex States. Nevertheless, Art. V aims to confine the use of collective funds for damage suffered in the territory including the maritime zones of CSC Contracting Parties, but does so explicitly only in respect of damage suffered in or above the territorial sea and not the territory of non-Contracting States. Compare Art. V(1)(a) with Art. V(1)(b) CSC.

4 But the PC does contain a specific provision permitting unilateral extension of its territorial scope to non-Contracting States. See supra.
obliged to cover transboundary damage suffered on its territory (including the EEZ), regardless of where such incidents occur. Furthermore, should a Romanian operator be liable for nuclear damage caused at its installation or during transport activities, it will be liable for transboundary damage occurring in the territories of the VC and PC Contracting Parties, but also to transboundary damage suffered elsewhere, i.e. in non-Contracting States with the possibility to exclude damage suffered in the territory of non-nuclear non-Contracting States, or nuclear non-Contracting States not affording equivalent reciprocal benefits. However, the latter option of exclusion was not explicitly incorporated in the text of the draft law. When the CSC comes into force, then the Romanian State will furthermore be obliged to cover transboundary damage occurring within the CSC Contracting Parties' territories up to an amount of 150 million SDRs by funds jointly financed by the CSC Contracting Parties.

Contrary to Croatia and Romania, the 1996 Atomic Energy Act (Chapter V) of Hungary, the 1998 Act of the Slovak Republic, as well as the 1978 Atomic Act of Slovenia do not extend the geographical scope and consequently limit application to nuclear damage suffered and nuclear incidents occurring within the territories of the VC Parties. However, the 1996 Hungarian Act further stipulates that, notwithstanding the general rule, the provisions of the Act may also be applied on the basis of reciprocity. This means that compensation for transboundary damage in territories not covered by the PC or VC, could be covered under the Hungarian 1996 Act subject to whether the national laws of such territories would provide reciprocal benefits to Hungarian victims under similar reversed circumstances. Similarly, the 1997 Atomic Energy Act of the Czech Republic lacks an explicit territorial extension, but it does allow the provisions of general legal regulations (i.e., the Civil Law No. 40/1964 as amended) concerning liability for nuclear (transboundary) damage to be applicable to the extent it is not provided otherwise by the Act itself or by international agreement. Ergo, it seems that apart from Croatia and Romania, the other States will have to adjust or include some new provisions on the geographical scope in their respective domestic laws should they wish to appropriately implement the provisions of either the VP (extended to 'wherever damage occurs' and EEZ) or the CSC (extended to EEZ). Slovenia, however, if it wishes to switch to the PC, can use its option under the PC to extend the geographical scope to 1) either to incidents occurring in the territory of a Contracting State, regardless of where the damage occurred; 2) or to damage suffered in the territory of a Contracting State, regardless of where the incident occurred; 3) or to incidents occurring and damage suffered in the territory of a non-Contracting State, whether or not conditional upon reciprocity. Such extension would, however, not make any significant difference to the other States under discussion, since they all are bound by their geographical scopes through the JP.

4. Grave Natural Disaster Exoneration

The VP deletes the possible exoneration of the operator's liability in case of a grave natural disaster of an exceptional character, which should be reflected within domestic legislation. However, in view of the fact that natural disasters are, in all likelihood, uninsurable, this new clause might leave potential victims of such disaster inadequately or not compensated. Since victims are not likely to be successful to claim compensation under other types of domestic law, it would seem advisable to provide some additional or separate funding for such damage, otherwise compensation might prove to be unrealistic. The CSC leaves existing exoneration rules, based either on PC or VC (or the Annex provisions) intact, which means that no further adjustments would be required.
Some legal systems have excluded by national legislation the exoneration in case of a grave natural disaster, while retaining the exonerations in case of armed conflict, hostilities, civil war etc., which is one of the new features of both the CSC and the VP. This was done only in Romania. The Romanian draft Law that intends to fully reflect the principles of the VC, i.e., grave natural disaster no longer exonerates the operator’s liability. Other States exempt the operator from liability in case of a natural disaster, such as Croatia, Czech Republic (whose law is however not explicit on this), Hungary, Slovenia and the Slovak Republic. Some commentary should be made on a few domestic laws. First of all, the Hungarian law explicitly adds that, except as otherwise stipulated in the 1996 Law, the limitation of or exemption from the liability for nuclear damage is null and void, which would therefore require amendment should Hungary wish to join the VP. Furthermore, the 1998 Atomic Act of the Slovak Republic explicitly states that compensation for nuclear damage is not regulated by the Act, but by general regulations on liability for damage, i.e., the Civil Code, 'except as otherwise stipulated in the Act or an international agreement to which the Slovak Republic is bound'. It is therefore likely that the Civil Code will to some extent determine the potential exoneration of liability, including in cases of force majeure. Since such issues are not settled in the 1998 Act, it is perhaps advisable considering the fact that the provisions of international treaties (VC, VP, or CSC) are not an integral part of national law nor prevail there over. The Slovenian 1978 Act is more specific and exonerates the operator from liability, if nuclear damage resulted from an act of aggression, war or armed conflict, or resulted directly from an earthquake, floods, fire or any other grave natural disaster, upon proof that such damage could not have been anticipated or avoided. Despite the fact that exoneration is already further conditioned, it still does not coincide with the proposed deletion under the VP, or, in all likelihood, a future revised PC.

5. Nuclear Damage Covered

One of the most important features of both the VP and the CSC is the extension of the definition of damage to include a) economic loss resulting from personal injury or property damage, b) costs of measures of reinstatement of impaired environment if actually taken or to be taken (unless such impairment is insignificant), c) certain loss of income resulting from an economic interest in any use or enjoyment of the environment resulting from a significant impairment of the environment, d) costs of preventive measures and further loss or damage caused by such measures, and e) any other economic loss. This extension was somewhat mitigated by the fact that the extent of recovery for such damage will depend upon the law of the competent court. National nuclear liability regimes as well as related procedural rules can, therefore, either facilitate or complicate the award of compensation for types of damages falling within these categories. Nevertheless, in principle, national nuclear liability law does not necessarily have to incorporate all these types of damage, i.e., duplicate the text of the VP and CSC in this respect, but it can neither legally limit the definition of nuclear damage to merely personal and property damage. Ratification of either convention will reflect a State's will to be bound by its provisions, and, as a consequence, provide evidence of the acceptance that its court will have to admit claims for compensation for the enumerated types of damages, except for claims of pure economic loss, i.e. economic loss other than that caused by the impairment of the environment. Since this is generally not considered to be optional, some sort of legislative guidance is advisable in this respect. Especially when taking into

5 Section 26(2) of the 1998 Atomic Act and Sections 415 to 450 of the Civil Code.
6 Art. 2(2) VP. This provision with the phrase ‘and each of the following to the extent determined by the law of the competent court’ was subject to much controversy and was finally adopted with a divergence of views between those considering that regardless of where this phrase was placed, all types of nuclear damage would be determined according to the law of the competent court and a State would not be compelled to include other types of nuclear damage as extended by the VP, whereas others maintained that this phrase related only to the extension of heads of damage. See 17th Session, Part 2 of the SCNL, IAEA Doc. SCNL/17.11/INF.7.
account the wide divergence in interpretation by law, jurisprudence and legal doctrine existing in comparative national legal systems of such notions as economic loss, environmental damage etc. To avoid resulting legal uncertainty, the definition of nuclear damage adopted under the VP and the CSC would therefore demand some reflection in the existing domestic nuclear liability laws. To what extent this has currently been done will be determined below.\(^7\)

Another result of implementation of the new definition of nuclear damage is the fact that it would increase the number of situations under which compensation could be claimed and awarded under the domestic law, and accordingly reduce the amount available for the total number of victims (or each victim individually) facing a limited liability amount. This is despite the fact that the costs of reinstatement and preventive measures are further confined and conditioned (approval of competent State authorities, reinstatement aim, non-defensive, reasonableness).\(^8\) As such, a balance should be found in the domestic law between the amount actually available to compensate nuclear damage (including the additional State funds) and those types of damages that realistically can and proportionally should be awarded. Especially since the incorporated prioritisation clause for claims regarding personal injury, in case of excess of liability limit, should also be implemented and would further increase the potential number of inadequate or non-recoverable environmental claims.\(^9\) Finally, another new feature that should be implemented is an incident creating 'a grave and imminent threat' of nuclear damage to which the definition of a nuclear incident has been extended under both the CSC and the VP in order to allow recovery of preventive measures costs.\(^10\) Before implementing within the domestic law absolute recoverability of the costs of preventive and reinstatement measures, it should be identified to what extent they are and can actually be insured by the existing insurance mechanisms.

\(a.\) Croatia

The 1998 Act on Liability for Nuclear Damage defines 'nuclear damage' as incorporating loss of life, any personal injury or any other damage to a person's health, any loss of or damage to property, which arises out of or results 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 in, or of nuclear material sent to, processed in or coming from, a nuclear installation or from other ionising radiation emitted by any other source of radiation inside a nuclear installation. In the absence of an explicit extension of the definition of nuclear damage to incorporate types of environmental damage or costs of preventive measures, it is unlikely that this is currently covered. Other types of damages, including environmental damage, might nevertheless be claimed by transboundary victims of accidents for which an operator of an installation situated in the Croatian territory is liable. Depending upon the reciprocity rules, the Act's provisions will be applicable in the same manner as the relevant Act of the victim's State would be applicable to nuclear damage occurring on the Croatian territory for which the operator situated on the territory of that State is liable. It is doubtful whether, if such State's national law compensates other types of damage, including environmental damage and costs of preventive measures, the Croatian court would follow this. Furthermore, Article 28 of the Act explicitly states that matters not regulated by the Act, are to be governed by the provisions of the VC. However, should the Croatian Government

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\(^7\) Compare the text of Art. I, para. l(k)(ii) 1963 VC, by using the expression 'if and to the extent', clarifying the scope of the definition of nuclear damage is entirely dependent on the law of the competent court, with the amendment into 'to the extent' (deleting 'if') in the text of Art. 2, Paragraph 2 of the Protocol, apparently not creating such option for the law of the competent court.

\(^8\) Costs of preventive measures are recoverable only if they are taken after a nuclear accident occurred and upon approval of the competent authorities required by the law of the State where the measures were taken, while aiming at minimizing the types of damage covered by the definition. Furthermore, all measures have to be 'reasonable', i.e. measures considered under the law of the competent court to be appropriate and proportionate taking into account all the circumstances, such as the nature and extent of the damage incurred or risk of damage involved, their effectiveness and the relevant scientific and technical expertise. Art. 2(4) VP, Art. I(h) and (i) CSC.

\(^9\) Art. 8(2) VP, Art. 9(4) of the CSC Annex.

\(^10\) Art. 2(3) VP, Art. I(i) CSC.
decide to ratify the VP or the CSC and align the provisions of its Act accordingly, an
adjustment will have to be made to ensure that types of environmental damage and costs of
preventive and reinstatement measures can be recovered under the Act. At this point, it would
be advisable to identify to what extent these types of claims are admissible or recoverable
under other Croation laws, to avoid possible future or existing conflict of laws.

b. Czech Republic

According to the 1997 Law, nuclear damage will presumably involve damage resulting from a
nuclear incident. This is, however, not clearly stated in that provision. Nuclear damage is only
defined by reference to Art. I(1)(k) of the VC. In line with that provision (paragraph ii), the
Law further extends coverage of nuclear damage to include also 'damage arising in the form
of costs of interventions necessary to prevent or reduce exposure or restore the original or
equivalent state of the environment, if these interventions were made necessary by a nuclear
event and the nature of the damage thus permits'.

This means that the Czech Republic does
already cover costs of preventive and reinstatement measures in line with the definitions of
the VP and the CSC. However, economic loss, loss of profit, and costs of preventive measures
in case of a mere threat of a nuclear incident (i.e. pre-accidental), seem to fall outside the
scope of coverage. Nevertheless, the court has some room of interpretation within the context
of the domestic civil law. The 1997 Law explicitly stipulates that the extent and manner of
compensation will be determined by the Civil Law No. 40/1964, whereas reference is made to
'legal regulations effective at the time of occurrence of the nuclear event' to determine the 'amount of damage', the meaning of which is rather vague. Nevertheless, it seems that within
the limits of interpretation of the VC, under the 1997 Law as well as the Civil Law certain
types of environmental damage, economic or ecological loss might be recoverable. Therefore,
before taking any legislative efforts to align the provisions in respect of nuclear damage
definition to those of the CSC or VP, to which the Czech Republic is a signatory, it should
first be identified to what extent such types of damages are already, directly or indirectly,
recoverable within the domestic legal system.

c. Hungary

Nuclear damage is defined by the 1996 Act as 'loss of human life, all damage afflicted to the
physical fitness and health of humans, all material damage, the costs of repairing to a reasonable
extent the damage to the environment arising concurrently, and the costs related to all
reasonable and required actions carried out for the mitigation or restoration of damages
provided they were caused by nuclear fuel, a radioactive product, waste in a nuclear facility or
by an abnormal event in the facility or during transport of radioactive material originating from,
transported from or shipped to a nuclear facility'. An abnormal event includes 'an incident
occurring in a facility or equipment serving the application of atomic energy or arising in the
course of an activity with a radioactive (nuclear) material - for any reason whatsoever - which
may unfavorably affect safety and will or may result in an unplanned human exposure to
radiation of, as well as an unplanned release of radioactive materials into the environment'.

This means that the nuclear damage covers costs of reinstatement and post- and pre-accidental
preventive measures, provided they were necessary and reasonable, as well as certain types of
economic loss related to property damage. Nevertheless, it is not clear whether pure economic
loss related to the impairment of the environment, i.e. pure ecological or other pure economic
loss are admissible, but presumably not. The italicized words indicate that a threat of a nuclear
event is also covered. This seems to correspond sufficiently close to the VP and CSC definition

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11 Art. 34(Q) of the 1997 Atomic Energy Act.
12 Art. 2, paragraphs (a) and (c) respectively, of the 1996 Act CXVI on Atomic Energy.
of damage, and would not necessarily require any adjustment should Hungary desire to ratify
one or both of the 1997 treaties.

d. Romania
The draft Law extends the definition of nuclear damage explicitly to six types of damages:
besides personal and property damage (1-2) and any economic loss resulting therefrom (3), it
further covers costs of measures of reinstatement of impaired environment (4), loss of profits
as a result of an 'economic interest in any environment utilization', as well as the costs of
preventive measures and any loss or damages caused by such measures (6). However, the
optional type of damage included in the VP and CSC, i.e., 'any other economic loss, other
than any caused by the impairment of the environment, if permitted by the general law on
civil liability of the competent court', has not been incorporated in the current text. The draft
Law defines reasonable measures and reinstatement and preventive measures in line with the
VP and the CSC. Similarly, a nuclear accident is defined to include in relation with preventive
measures also an occurrence creating a serious and imminent threat of the occurrence of
nuclear damage. This therefore, almost entirely follows the revised VP/CSC definition of
nuclear damage. Finally, cases of personal injury will have priority in compensation if the
total damage exceeds the liability limit, which could possibly vary from 5 to 300 million
SDRs.

e. Slovak Republic
The Slovak Act defines nuclear damage as detriment to property, loss of life or harm to health
caused by an accident or by an accident during transportation. Environmental damage is thus
not explicitly included. However, from the definition of 'accident' it can be concluded that
damage resulting from a threat to the health of persons or of the nuclear accident is covered as
well. Such extension to cover a threat to health is also included in the definition of a transport
accident. This has practical relevance in respect of the fact that the Act has used the option
of the VC to include as nuclear damage also other types of loss, such as i.e. 'damage that has
arisen through the expenditure of costs on measures necessary to avert or reduce irradiation
or to restore the natural environment to its previous or equivalent status, should such
measures have been instigated as a result of a nuclear incident and should the nature of the
circumstances permit them'. The extension provided it therefore confined to costs of
preventive measures to avert irradiation and of reinstatement measures, but seems to exclude
other types of environmental damage, profit or other economic loss. Although the Slovak Act
does incorporate already a limited extension of nuclear damage, it does not coincide with the
VP and CSC.

f. Slovenia
The nuclear liability provisions in Slovenia define nuclear damage in such a manner that it is
clear that it does cover certain types of environmental damage. Nuclear damage is defined as
follows:
- damage caused by death, personal injury or any other damage to a person's health, any loss
  of, or damage to, property or a contamination of the environment, which arises out of or
  results 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 in, or of nuclear material coming from, processed in or sent to a nuclear installation;

13 See current Art. 3(a) defining 'nuclear accident'; Art. 3(m) defining 'nuclear damage' of the Draft Law on Civil Liability (1999 draft).
14 See infra text. The draft Law is not clear here on whether the absolute legal liability limit of 300 million SDRs for each nuclear accident
is meant, or the varying limits set for the operator's liability. Presumably the first is meant. Compare Art. 10(2) VP.
15 Art. 26(1) juncto Arts. 24(2)(c) and 24(3) of the 1998 Act on the Peaceful Use of Nuclear Energy.
16 Art. 26(3) of the 1998 Act on the Peaceful Use of Nuclear Energy.
• damage caused by death, personal injury or any other damage to a person’s health, any loss of, or damage to, property or a contamination of the environment which arises out of or results from other ionizing radiation emitted by any other source of radiation inside a nuclear installation.

Although contamination of the environment is included, other types of damages, such as costs of preventive and reinstatement measures, loss of profit, or types of economic loss, are currently not recoverable under the Slovenian Nuclear Liability Act. This, as well as extending its definition of nuclear incident to an occurrence that creates a grave and imminent threat of causing nuclear damage, might warrant legislative adjustment, especially if the revised PC will also follow these extensions.

6. Time prescription and limits

Both the CSC and the VP also increased the existing prescription periods demanding adjustments also on a national level. Since the CSC basically follows whatever regime on time prescription and limits already applied, adjustment of the prescription periods seems unnecessary for States planning to join the CSC. This is different for the VP, that extended the objective prescription period to thirty years for personal injury claims, while retaining a 10-year period for all other types of nuclear damage. In addition, the special prescription period of twenty years in respect of lost, stolen, jettisoned or abandoned nuclear materials was repealed, which would make it irrelevant whether or not nuclear material causing a nuclear incident was under the operator’s control at the time of the incident. This should therefore be followed by national law that can fix longer periods provided the operator’s liability during such periods is covered by financial security (which proves difficult if not impossible in the States under consideration) and provided such claims, and those for personal injury submitted after ten years from the date of the nuclear incident, shall in no case affect the rights of compensation of any person who has brought an action prior to the expiry of that period. This latter provision aims to limit a prioritization of personal injury claims submitted after a 10-year period, which could result in an undetermined prolongation of inadequate compensation for initial claims. It is therefore important to implement this rule in domestic law, especially if the national regime intends to extend prescription periods even beyond 30 years or with no limitation at all (such as Ukraine). In addition, the discovery rule, i.e., the date on which the person suffering damage had knowledge of the damage and the operator liable, was also amended. Whereas this period was optional under the 1963 VC if confined to not less than three years, it is mandatory under the VP and restricted to a period within three years, provided the 10 or 30-year, or even longer periods established by the Installation State, are not exceeded. However, most States still follow the VC prescription rules, i.e. a three-year discovery period, a ten-year objective prescription period, and within twenty years for theft, etc. This is the case in Croatia, the Czech Republic, Hungary, the Slovak Republic and Slovenia. Romania is an exception and does provide in its draft Law for a 30-year prescription limit set for types of personal injury by the draft Law, whereas claims for compensation in respect of all other types of damages will have to be submitted within ten years from the date of the occurrence of the nuclear incident. The Czech Republic only partly departs; its 1997 Act defines an objective time limit for bringing compensation claims of ten years from the occurrence of the nuclear incident or, and this is different, from the expiry of the insurance time limit if this is longer than ten years as provided under the VC. This means that any necessary adjustment would also have to take into account the flexibility of insurance policies ensuring compensation for personal injury claims submitted before 30 years, although not likely.

17 Arts. 7, 8, 10 VP, respectively and compare Art. 9 CSC Annex and Art. XII CSC.
7. **Liability Limits and Insurance**

The VP increases the liability limit of the operator, or the operator and the Installation State together, to not less than 300 million SDRs (about USD 420 million) from the previous limit of USD 5 million. An exception allows fixing a lower amount of liability, but not less than 5 million SDRs in case the risks involved justify this and provided that, if the actual damage exceeds this reduced limit, the Installation State ensures the availability of public funds up to the general liability limit, i.e., at least 300 million SDRs. The CSC, on the other hand, aims to provide for additional compensation schemes and follows in principle the provisions of the VP. Important to emphasise is that from the aimed availability of about 600 million SDRs under the CSC to compensate nuclear damage of one nuclear incident, about 150 million SDRs would be reserved exclusively for transboundary damage.\(^{18}\) This means that despite the overall increase of available funds, it would leave victims in Contracting States in the same position as under the VP \((i.e. 300 \text{ million SDRs}),^{19}\) whereas half of the additional funds will be used only for those victims of transboundary damage not compensated under the first tier distributed on a non-discriminatory basis. Therefore, only in respect of victims of transboundary damage, the CSC will increase their success in obtaining adequate compensation and will accordingly be an attractive instrument for those States that did not join any type of international nuclear liability regime so far. Especially considering the fact that under the first tier a Contracting State may exclude nuclear damage suffered in a non-Contracting State subject to obligations of that State under the VC or PC.\(^{20}\)

In addition, it should be emphasized that the use of funds of the first tier differs per State depending upon the territorial and other extensions it allows by national legislation based on the related nuclear liability agreement it ratified. In case of a very unrestricted approach, a relatively rapid exhaustion of the first (national) tier in case of a nuclear incident might demand the use of additional public funds, financed jointly by all CSC Contracting Parties, including those with a very restrictive approach, i.e. not allowing similar extensions. This might encourage Contracting States to adopt a likewise (politically attractive) lenient approach in respect of the extent of coverage under the first tier. It is here where an appropriate balance should be found as to whether States with currently low liability limits and perhaps less insurance capacity can afford themselves to join the VP in addition to the CSC, or should just for starters begin with joining only the CSC. In both situations, the State will have to ensure a higher amount of additional liability cover, whether it is by a guarantee for the increased operator's liability up to 300 million SDRs \((i.e. \text{a potential maximum of 200 million SDRs}),^{19}\) or a guarantee of a potential maximum of 150 million SDRs, while assuring their victims of joint public funding intervention up to at least 600 million SDRs. Therefore it would be wise for a particular State to identify what the effects and costs would be to incorporate all amendments of the VP significantly increasing the number of potential claimants with a guarantee of only 300 million SDRs, or retain a rather restrictive approach, i.e. retain the options provided under the VC (Article XII CSC, e.g. grave natural disaster, time prescription, nuclear damage etc.) with similar guarantee but also an additional joint public funding up to 600 million SDRs, with a relatively low entrance barrier (if the US joins, this figure will certainly be low).

To ensure the widest adherence to the CSC possible, a lower transitional amount was agreed upon. However, most States under consideration have liability limits that fall significantly short of even the absolute transitional minimum of 100 million SDRs for a 15-year period under the VP or 150 million SDRs for a 10-year period under the CSC. In practice this means that various States that have established considerably lower amounts of liability limits are

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\(^{18}\) Art. XI(1)(a) and (b) CSC. Transboundary damage is damage suffered outside the territory of the Installation State, including therefore damage suffered in the territory where the nuclear incident occurred during transportation outside the Installation State's territory.

\(^{19}\) Art. III(1) CSC.

\(^{20}\) Art. III(2) CSC.
enabled join the CSC and the VP as long as such States ensure public funds up to initially set liability cap. However, the calculation of the demanded phasing-in amounts seems to be rather problematic in case the CSC and the VP are adhered to at the same time. Furthermore, States joining both these instruments (such as in Romania) can no longer avail themselves of the lower transitional amount under the VP, but should assure 150 million SDRs for a 10-year period. These aspects should be taken into account when considering ratification of the 1997 treaties, especially in view of the existing domestic liability caps and insurance capacity, and the legal obligation of States to ensure the liability limit, either subsidiarily or supplementarily.

a. Croatia

The legal limit of the operator's liability was increased in Croatia from 5 million USD to 320 million Croatian Kuna (i.e., about 44 million USD or 32 million SDRs) applicable to all types of nuclear facilities and to the operator's or carrier's liability in connection with the transit of nuclear material. It does not include any interest or costs awarded by a court. The operator should provide and maintain the insurance or other financial security covering this liability amount, and for liability occurring during the carriage of nuclear material not covered by that insurance, such liability will have to be covered by separate insurance policy or financial security. The Croatian State guarantees this maximum operator's liability amount, but does not provide for supplementary public funds in case damages exceed this limit. However, in such case, the Croatian Act provides for rules on the distribution of compensation and a procedure for establishing the nuclear damage to be governed in accordance with the provisions of the Maritime Act relating to the procedure of limitation of the ship operator's liability. Nevertheless, the absolute minimum of 100/150 million SDRs to become eligible for the VP or CSC respectively, let alone the additional State guarantee up to 300 million SDRs as required under both treaties.

b. Czech Republic

The operator's liability for nuclear damage in the Czech Republic is legally limited to the amount of 6 billion CZK (approximately 150 million SDRs) per nuclear installation and per nuclear incident, whereas for facilities with reduced risk and transport the liability limit is 1.5 billion CZK (about 37.5 million SDRs). Nuclear installations for which the higher limit is applicable are those used for power generation as defined by Act No. 222/1994, and 'storage facilities and repositories of spent nuclear fuel assigned to such installations, or nuclear materials generated by processing of this fuel'. Therefore, the identification of nuclear installations for which 6 million CZK is made available could differ from the definition of nuclear installation under the VC, depending upon the Act No. 222/1994. To cover this liability limit the operator is obliged to have insurance or other financial security up to a minimum amount of 1.5 billion CZK for nuclear power plants and stipulated associated activities, or 200 million CZK for other nuclear installations and shipments. The operator's liability limit seems to be in line with even the absolute minimum under the CSC, however, the law does not require a State guarantee up to this limit, should the insurance coverage of the operator be set lower or insufficient.

c. Hungary

In Hungary, the ceiling of the licensee's liability is legally limited to 100 million SDRs, in case of an incident in a nuclear installation, but it will be much lower, 5 million SDRs, for incidents occurring during the carriage of or storage of nuclear fuel. The relevant provision in the Atomic Energy Act does not mention other radioactive material. If the amount of 100

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21 Under the VP the transitional period starts from the entry into force of the Protocol (which is unsure), whereas the CSC establishes this period from the date of opening of signature of the CSC (which basically means that in 2007 no State can benefit from the transitional amount).
million SDRs proves insufficient for compensation of all victims, an additional amount of 200 million SDRs will be paid by the State from public funds. The licensee should be insured up to the amount of compensation specified by the 1996 Act, i.e., 100 million SDRs, which matches the absolute minimum set under the VP, but not the CSC.

d. Romania

Under the draft Law, the proposed liability limit for one nuclear incident is set at 300 million SDRs, with a minimum operator's liability limit of 150 million SDRs, which can be reduced for a 10-year period to 75 million SDRs. The public funds of the State will have to ensure the difference between the operator's liability limit and 300 million SDRs. In respect of transport, an amount up to a minimum of 5 million SDRs can be set, which is to be decided by the regulatory body. The operator's liability limit is set to an amount no less than 30 million SDRs for research reactors and waste and nuclear fuel disposal facilities. This can be reduced to a minimum of 10 million SDRs provided the State guarantees the difference with public funds. The 1996 Law does require an operator of a nuclear installation to take insurance or any other financial guarantee to cover its liability for nuclear damage. The amount, nature, and terms of such insurance or guarantee have to be in accordance with those provided under the law and the international conventions to which Romania is a party. This means for starters, that the transitional liability amount of 75 million SDRs should be increased to a minimum of 150 million SDRs required under the ratified CSC even though it would be 50 million SDRs higher than required under the ratified VP. When the CSC comes into force, then the Romanian State will furthermore be obliged to cover transboundary damage occurring within the CSC Contracting Parties' territories up to an amount of 150 million SDRs by funds jointly financed by the CSC Contracting Parties, in addition to a State guarantee of the operator's liability limit up to 300 million SDRs.

e. Slovak Republic

In the Slovak Republic, liability is legally limited to 2 billion Slovak Crowns (about 34.8 million SDRs), which does not include interests or costs. An exemption to mandatory financial coverage for nuclear liability is made for nuclear incidents caused by small amounts of nuclear materials which are assumed not to be capable of giving rise to nuclear damage. The Act provides for a mandatory insurance coverage or other financial security. This insurance must be maintained only during the operation period of a nuclear installation and at least ten years after a nuclear incident. Again, an increase of the liability limit seems required in order to join either the VP or the CSC.

f. Slovenia

Under the 1978 Liability Act of Slovenia, the operator's liability for one nuclear facility is still set at 5 million USD, regardless of the type of facility or activity involved. However, the amounts of mandatory insurance are fixed by the 1980 Insurance Act and vary in respect of nuclear installations, type of research reactors and carriage of nuclear materials. The legal liability limit was recently increased from a maximum of 5 to 42 million USD (about 30 million SDRs) for nuclear installations and research reactors, as well as for the carriage of nuclear materials, by Government Decree of 26 November 1998 on the increase of the operator's liability limit and mandatory insurance which came into force as of February 1999. This fixed liability amount does not include any interest or costs awarded by a court. Although the operator's liability is legally limited to one specified amount (i.e., 42 million USD), its obligation to insure such liability will vary in amount according to the 1980 Act, which makes the insurable amount for small reactors dependent upon thermal power of such nuclear research reactors. Currently, only in respect of nuclear installation, the mandatory
insurance of the operator is equal to its legal liability limit.\textsuperscript{22} The mandatory insurance for carriage of nuclear material is set at 14 million USD. If the financial means of the insurer are insufficient to cover the liability claims, the Act provides that the Government will guarantee the difference up to 42 million USD. Still, this amount falls considerably short of that obligatory under either the VP or the CSC.

8. State Intervention

None of the domestic nuclear liability laws under discussion, except for that of Hungary and the draft law of Romania, currently ensures the availability of the absolute minimum transitional amount of 100/150 million SDRs. Whereas it is true that States are not obliged to set the legal operator's limit to this amount, the State itself should be obliged to ensure at least the availability of that minimum amount. Furthermore, except for Romania, none of the domestic laws under consideration, ensure an additional State guarantee up to 300 million SDRs as required under both the CSC and the VP.

Pursuant to 1998 Law, the Republic of Croatia will provide the means to compensate the nuclear damage up to the amount established by the Law, when the operator fails to provide or obtain the insurance or a financial security or the insurer or a financial guarantor are not liable to compensate a nuclear damage, based on the insurance contract or guarantee, or finally, when the insurer or a provider of a financial security is not able to fulfil its contractual obligations due to its insolvency. Thus, although the Croatian State guarantees the maximum liability amount of the operator, \textit{i.e.} 320 million Croatian Kuna (about 32 million SDRs) it does not provide for supplementary public funds in case damages exceed this limit.

Similarly, the 1997 Atomic Act of the Czech Republic provides for State guarantees to ensure compensation up to the established liability limits if liability claims are not reimbursed or exceed the mandatory insurance of the operator. Such State guarantee will cover amounts up to 6 billion CZK with respect to facilities with a mandatory insurance of 1.5 billion CZK, and 1.5 billion CZK if mandatory insurance amounts to 200 million CZK (low risk facilities and transport). Perhaps this could incorporate a small supplementary State guarantee insofar as this is indeed 'over and above' sums of CZK 1.5 billion or 200 million respectively paid by the insurers already.\textsuperscript{23} Also in Slovenia, State intervention is confined to cases where financial means provided for by the insurer are insufficient to compensate for nuclear damage and limited to the operator's liability cap of 42 million USD (30 million SDRs). On the other hand, the 1998 Act of the Slovak Republic does not oblige the State to intervene with supplementary funds or even in case the operator's funds for compensation would fail or be insufficient. Already under its present obligations conferred from Slovakia's ratification of the VC, this requires adjustment, let alone future obligations should it ratify either the VP or the CSC.

There are currently only two domestic laws, the provisions of which are in line with those of the CSC and the VP in respect of State intervention. Firstly, the Hungarian State is obliged under its 1996 Act to provide for supplementary compensation; damage in excess of the operator's liability limit, will be compensated by the Hungary State up to a limit of 300 million SDRs. Secondly, the Romanian Government will be obliged to intervene both on a supplementary as well as a subsidiary manner, \textit{i.e.}, by guaranteeing the operator's liability up to the established limit and ensure compensation in excess of this limit up to 300 million SDRs. Furthermore, supplementary public funds will have to be made available by Romania under the special mechanism provided by the CSC, should it enter into force.

\textsuperscript{22} Research reactors with a thermal power below 10 kW are required to obtain insurance covering 1.87 million USS, between 10 kW and 1 MWe insurance should cover 2.08 million USS and, finally, research reactors with a thermal power between 1 MWe and 25 MWe are obliged to take out insurance for 4.67 million USS.

\textsuperscript{23} See Art. 37 of the 1997 Atomic Energy Act.
IV. TENTATIVE CONCLUSIONS

It appears from the above, that further analysis is required to determine with more certainty the impact of the new features adopted under the VP and the CSC in order to identify their impact on the existing international State obligations and national nuclear liability and insurance law, and even perhaps 'other' relevant laws (environmental or civil law). It would not be advisable to simply incorporate such new features, without examining the extent to which this might result in conflict of laws. Although nuclear liability laws have generally prevailed as *lex specialis*, it would be imperative to analyze more carefully whether both systems of law, that of nuclear liability law and 'other (civil or environmental) law', are indeed mutually exclusive or are considered to be complementary or restrictive within the various national legal systems. This should in any case precede any decision as to the desirability to extent the currently existing definition of nuclear damage to incorporate all the types of damage included under the definition of the CSC or VP. In this respect, it might even be relevant to obtain some knowledge over the situation as it exists in near or neighbouring countries, should the domestic nuclear liability law cover claims for transboundary damage on the basis of reciprocity (e.g. Croatia) in view of the currently existing international discrepancies.

Based on this analysis, although certainly not exhaustive and comprehensive, a few conclusions can be drawn. First of all, there does not exist a homogeneous definition of nuclear damage within the various national nuclear laws discussed, despite the recent evolutions within international nuclear energy law. On the contrary, the concepts of nuclear damage, as well as the legal consequences thereof, vary considerably per national legal system (e.g., compare Croatia with Hungary). Secondly, whether the various types of nuclear damage, as extended under the VP and the CSC, are currently covered within the various domestic nuclear energy laws depends entirely upon the liberty of the courts to interpret the respective damage concepts currently employed. Especially where references are made to the applicability of the civil law or 'other national regulations' if not at variance with the principles of the respective international nuclear liability treaties ratified, as well as conditions of reciprocity for coverage of transboundary nuclear damage, this seems to provide enough room to either enlarge or decrease the definition of nuclear damage (see, e.g., Czech Republic, Slovak Republic and Hungary). Thirdly, the resulting disharmonious interpretations of (actual, indirect or denial of) coverage of certain types of nuclear damage resulting from a nuclear accident, might currently result in discrepancies between the treatment of international victims of such damage within the respective nuclear liability regimes. This is an undesirable result which might justify efforts for legislative adjustment to ensure homogeneity of treatment in the region.

As stated above, the desirability to join the CSC and not the VP, would be interesting for those States that have a rather lenient approach to nuclear damage already, but do not wish to extend the coverage of multiple claims as far as would be required under the VP. This would have the advantage that the considerable increase of possible claimants would attenuated somewhat and enlarging the already higher operator's liability amounts set, while benefitting at the same time from the additional 300 million SDRs provided for by the joint public funding mechanism. As such, Croatia and Slovenia, with the relatively lowest liability caps and strictest definition of nuclear damage, will have to make more radical adjustments in their domestic nuclear liability laws, should they wish to join either the CSC or the VP. Both the Czech and Slovak Republic would require only a few adjustments in the definition of damage, whereas the Slovak Republic will have to make a significant increase in the currently stipulated legal liability cap. The nuclear liability law of Romania would require only very minor changes in line with the CSC supplementary State funding mechanism. The same is
almost true for Hungary, except for the extension to the EEZ and State guarantee. However, should Hungary wish to join the VP, it will have to make more adjustments. Before making any decision on possible revisions and possible ratification of the CSC or VP, the widely cited criticism should be carefully studied in order to minimise such adverse consequences.

Foremost, the inclusion of environmental damage does have, of course, a significant impact on the amount of financial resources available for compensation relating to personal injury, death and damage or loss of property. Equally important is the uncertainty of the exact impact, since not only environmental damage, but also economic loss and costs of preventive measures cannot be assessed in monetary terms and are not sufficiently precise terms in absence of either international or national specific rules. This is further intensified by the uncertainty of whether national insurance market is capable to insure such types of damages, especially in situations where no actual accident has occurred. In addition, also the increase in the time limit, especially with respect to personal injury, further limits the possibility of claimants to obtain compensation. Similarly, the deletion of the exoneration of the operator's liability in the case of a natural disaster would put an additional burden upon the operator's liability amounts, whereas this might not even be insurable. Although all this was aimed to be balanced by simultaneously increasing the liability amount, it certainly does not constitute a sufficient limit proportional to the considerable increase in potential claimants considering the extended definition of nuclear damage as well as that of the time limit. In any case, it would similarly reduce the probability for environmental claimants to obtain compensation, disregarding the fact for now that it might very well be the case that environmental damage can become apparent more rapidly than, for instance, radioactivity-induced cancers. Moreover, if a certain amount for personal and physical damages would be reserved in a manner determined by national legislation individually, it would necessarily prolong legal procedures and potentially result in international discrepancies. Ergo, it seems obvious that the established system of state intervention embodied in the CSC is not an unnecessary or unrealistic supplement to the Vienna regime. Finally, before aiming to change domestic nuclear liability regimes in accordance with either the CSC or VP, it would be wise to agree upon a compensation qualification and quantification mechanism. This could be used as a guideline not only in respect of damage assessment after an accident, but especially the possibility to make such assessment a priori in order to determine more precisely whether a correct balance between available and insurance financial resources and possible potential claimants can be established before any decision on enlarging the scope of the domestic law.
<table>
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<tr>
<th>COUNTRY</th>
<th>NPP (UNITS)</th>
<th>MWe</th>
<th>OPERATOR</th>
<th>NTPL LAW</th>
<th>LIABILITY LIMIT</th>
<th>USD million (approx)</th>
<th>INSURANCE COVERAGE</th>
<th>STATE INTERVENTION</th>
<th>NUCLEAR POOL</th>
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I.a. = last amended, suppl. = supplementary  
NTPL = nuclear third-party liability
### DIAGRAM II

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<th>COUNTRY</th>
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Supplm. = supplementary