

Reform of Civil Nuclear Liability

Réforme de la responsabilité civile nucléaire

Budapest Symposium 1999
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Reform of Civil Nuclear Liability

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In co-operation with
the International Atomic Energy Agency
and the European Commission

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Réforme de la responsabilité civile nucléaire

**Symposium international
Budapest, Hongrie
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Organisé par
l'Agence de l'OCDE pour l'énergie nucléaire

En coopération avec
l'Agence internationale de l'énergie atomique
et la Commission européenne

À l'invitation de
l'Agence de l'énergie atomique de Hongrie
et de l'Institut d'études juridiques
de l'Académie nationale des sciences

ORGANISATION DE COOPÉRATION ET DE DÉVELOPPEMENT ÉCONOMIQUES

En vertu de l'article 1^{er} de la Convention signée le 14 décembre 1960, à Paris, et entrée en vigueur le 30 septembre 1961, l'Organisation de coopération et de développement économiques (OCDE) a pour objectif de promouvoir des politiques visant :

- à réaliser la plus forte expansion de l'économie et de l'emploi et une progression du niveau de vie dans les pays Membres, tout en maintenant la stabilité financière, et à contribuer ainsi au développement de l'économie mondiale ;
- à contribuer à une saine expansion économique dans les pays Membres, ainsi que les pays non membres, en voie de développement économique ;
- à contribuer à l'expansion du commerce mondial sur une base multilatérale et non discriminatoire conformément aux obligations internationales.

Les pays Membres originaires de l'OCDE sont : l'Allemagne, l'Autriche, la Belgique, le Canada, le Danemark, l'Espagne, les États-Unis, la France, la Grèce, l'Irlande, l'Islande, l'Italie, le Luxembourg, la Norvège, les Pays-Bas, le Portugal, le Royaume-Uni, la Suède, la Suisse et la Turquie. Les pays suivants sont ultérieurement devenus Membres par adhésion aux dates indiquées ci-après : le Japon (28 avril 1964), la Finlande (28 janvier 1969), l'Australie (7 juin 1971), la Nouvelle-Zélande (29 mai 1973), le Mexique (18 mai 1994), la République tchèque (21 décembre 1995), la Hongrie (7 mai 1996), la Pologne (22 novembre 1996) et la Corée (12 décembre 1996). La Commission des Communautés européennes participe aux travaux de l'OCDE (article 13 de la Convention de l'OCDE).

L'AGENCE DE L'OCDE POUR L'ÉNERGIE NUCLÉAIRE

L'Agence de l'OCDE pour l'énergie nucléaire (AEN) a été créée le 1^{er} février 1958 sous le nom d'Agence européenne pour l'énergie nucléaire de l'OECE. Elle a pris sa dénomination actuelle le 20 avril 1972, lorsque le Japon est devenu son premier pays Membre de plein exercice non européen. L'Agence compte actuellement 27 pays Membres de l'OCDE : l'Allemagne, l'Australie, l'Autriche, la Belgique, le Canada, le Danemark, l'Espagne, les États-Unis, la Finlande, la France, la Grèce, la Hongrie, l'Irlande, l'Islande, l'Italie, le Japon, le Luxembourg, le Mexique, la Norvège, les Pays-Bas, le Portugal, la République de Corée, la République tchèque, le Royaume-Uni, la Suède, la Suisse et la Turquie. La Commission des Communautés européennes participe également à ses travaux.

La mission de l'AEN est :

- d'aider ses pays Membres à maintenir et à approfondir, par l'intermédiaire de la coopération internationale, les bases scientifiques, technologiques et juridiques indispensables à une utilisation sûre, respectueuse de l'environnement et économique de l'énergie nucléaire à des fins pacifiques ; et
- de fournir des évaluations faisant autorité et de dégager des convergences de vues sur des questions importantes qui serviront aux gouvernements à définir leur politique nucléaire, et contribueront aux analyses plus générales des politiques réalisées par l'OCDE concernant des aspects tels que l'énergie et le développement durable.

Les domaines de compétence de l'AEN comprennent la sûreté nucléaire et le régime des autorisations, la gestion des déchets radioactifs, la radioprotection, les sciences nucléaires, les aspects économiques et technologiques du cycle du combustible, le droit et la responsabilité nucléaires et l'information du public. La Banque de données de l'AEN procure aux pays participants des services scientifiques concernant les données nucléaires et les programmes de calcul.

Pour ces activités, ainsi que pour d'autres travaux connexes, l'AEN collabore étroitement avec l'Agence internationale de l'énergie atomique à Vienne, avec laquelle un Accord de coopération est en vigueur, ainsi qu'avec d'autres organisations internationales opérant dans le domaine de l'énergie nucléaire.

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ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

Pursuant to Article 1 of the Convention signed in Paris on 14th December 1960, and which came into force on 30th September 1961, the Organisation for Economic Co-operation and Development (OECD) shall promote policies designed:

- to achieve the highest sustainable economic growth and employment and a rising standard of living in Member countries, while maintaining financial stability, and thus to contribute to the development of the world economy;
- to contribute to sound economic expansion in Member as well as non-member countries in the process of economic development; and
- to contribute to the expansion of world trade on a multilateral, non-discriminatory basis in accordance with international obligations.

The original Member countries of the OECD are Austria, Belgium, Canada, Denmark, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The following countries became Members subsequently through accession at the dates indicated hereafter: Japan (28th April 1964), Finland (28th January 1969), Australia (7th June 1971), New Zealand (29th May 1973), Mexico (18th May 1994), the Czech Republic (21st December 1995), Hungary (7th May 1996), Poland (22nd November 1996) and the Republic of Korea (12th December 1996). The Commission of the European Communities takes part in the work of the OECD (Article 13 of the OECD Convention).

NUCLEAR ENERGY AGENCY

The OECD Nuclear Energy Agency (NEA) was established on 1st February 1958 under the name of the OEEC European Nuclear Energy Agency. It received its present designation on 20th April 1972, when Japan became its first non-European full Member. NEA membership today consists of 27 OECD Member countries: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Luxembourg, Mexico, the Netherlands, Norway, Portugal, Republic of Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The Commission of the European Communities also takes part in the work of the Agency.

The mission of the NEA is:

- to assist its Member countries in maintaining and further developing, through international co-operation, the scientific, technological and legal bases required for a safe, environmentally friendly and economical use of nuclear energy for peaceful purposes, as well as
- to provide authoritative assessments and to forge common understandings on key issues, as input to government decisions on nuclear energy policy and to broader OECD policy analyses in areas such as energy and sustainable development.

Specific areas of competence of the NEA include safety and regulation of nuclear activities, radioactive waste management, radiological protection, nuclear science, economic and technical analyses of the nuclear fuel cycle, nuclear law and liability, and public information. The NEA Data Bank provides nuclear data and computer program services for participating countries.

In these and related tasks, the NEA works in close collaboration with the International Atomic Energy Agency in Vienna, with which it has a Co-operation Agreement, as well as with other international organisations in the nuclear field.

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AVANT-PROPOS

En prenant l'initiative d'organiser ce Symposium, l'Agence de l'OCDE pour l'énergie nucléaire s'était fixé un triple objectif : dresser un bilan des travaux qui ont conduit en 1997 à l'amendement de la Convention de Vienne et à l'adoption de la Convention sur la réparation complémentaire des dommages nucléaires, au moment où se poursuivent les discussions sur la révision de la Convention de Paris ; ensuite faire le point sur l'évolution des législations nationales sur la responsabilité civile nucléaire en Europe de l'Est et dans les divers autres pays qui n'ont pas encore adhéré aux conventions internationales ; enfin, faire se rencontrer les experts gouvernementaux, représentants de l'industrie nucléaire, assureurs et universitaires, et confronter les points de vue de ces différents acteurs.

On pouvait s'attendre à ce que les pays concernés manifestent une satisfaction légitime d'avoir mené à bien, au terme de longues années de négociations, le difficile travail de révision de la Convention de Vienne et de création d'un dispositif à l'échelle mondiale de financement additionnel de la réparation des dommages nucléaires. Les rapports présentés au cours de ce Symposium offrent cependant un tableau complet et sans complaisance du régime international de responsabilité civile nucléaire tel qu'il ressort de cet exercice. Ils expriment également des attentes que devront prendre en compte les autorités nationales qui œuvrent en ce moment à la révision des Conventions de Paris et de Bruxelles, dans un cadre européen.

Les reproches adressés à ce régime sont multiples, ce qui reflète du reste la diversité même des participants à ce colloque. Certains sont anciens. Ce qui est nouveau en revanche est le fait qu'ils portent sur des aspects jugés jusqu'à présent fondamentaux, par exemple, le caractère exclusif de la responsabilité de l'exploitant nucléaire.

C'est toutefois la question de la justification de la limitation de cette responsabilité – et particulièrement du niveau de cette limitation – qui a suscité le plus de réserves, que l'augmentation substantielle des montants prévus par la Convention de Vienne révisée et les perspectives ouvertes par la nouvelle Convention sur la réparation complémentaire n'ont pas réussi à désarmer. La comparaison entre les sommes disponibles aux États-Unis en cas d'accident nucléaire grave et celles mobilisables dans les autres pays dotés de programmes électronucléaires, particulièrement en Europe, n'a pas manqué d'alimenter ces critiques, notamment de la part des représentants des pays « non-nucléaires ».

FOREWORD

In taking the initiative to organise this Symposium, the objectives of the OECD Nuclear Energy Agency were threefold. First to evaluate the work which concluded in 1997 with the amendment of the Vienna Convention and the adoption of the Convention on Supplementary Compensation for Nuclear Damage, at the outset of the current negotiations on the revision of the Paris Convention; furthermore to examine the evolution of national legislation on third party liability in Eastern Europe and in various other countries which have not yet adhered to the international conventions; and finally to serve as a forum to bring together governmental experts, representatives of the nuclear industry, insurers and academics, with a view to comparing their opinions.

One could have expected that the countries concerned would voice their legitimate satisfaction in having successfully concluded, after many years of negotiations, the difficult task of revising the Vienna Convention and creating a mechanism to provide supplementary compensation for nuclear damage on a global scale. However, the papers presented during this Symposium offer a comprehensive and non-complacent description of the international third party liability regime which resulted from this exercise. They also express those expectations which should be taken into account on a European scale by the national authorities currently participating in the revision of the Paris and Brussels Conventions.

The criticism directed towards this regime is abundant, reflecting the diversity of participants at this Symposium. Some of this criticism is old. What is new, however, is that the critical comments concern principles which, until now, were considered to be the cornerstones of this regime. This is the case, for example, in respect of the channelling of the nuclear operator's liability.

It is, nevertheless, the problem of justifying the limitation of this liability – in particular the liability amount itself – which has been at the forefront of many concerns vis-à-vis this regime, which not even the substantial increase in the amounts established in the revised Vienna Convention or the possibilities made available by the new Convention on Supplementary Compensation for Nuclear Damage have been able to dispel. The comparison between the amounts available in the United States in the case of a serious nuclear accident and the funds which could be mobilised in other countries with electro-nuclear programmes, especially in Europe, generated much of this criticism, not least from the representatives of “non-nuclear” countries.

Cette nécessité d'augmenter fortement la garantie financière devrait inciter à l'avenir les autorités responsables à explorer les moyens de diversifier et, le cas échéant, de cumuler les modes de couverture de la responsabilité : assurance classique ou captive, mécanismes de garantie mutuelle, fonds publics, instruments de solidarité internationale. Au demeurant, il a été souligné que l'augmentation de la garantie financière ne suffirait pas dans le pire des cas – une catastrophe nucléaire de l'ampleur de l'accident de Tchernobyl – à satisfaire tous les besoins. En réalité, dans ce type de situation extrême, il a été reconnu que l'on sortait du cadre même d'un régime fondé sur la notion de responsabilité civile et que la solution serait alors de recourir à des mesures ad hoc d'indemnisation faisant appel à la solidarité nationale.

L'opinion traditionnelle selon laquelle ce régime spécial conçu dans les années 60 pour régir les conséquences d'un accident nucléaire constitue un juste compromis entre les impératifs de protection de la population et les intérêts économiques et juridiques de l'industrie nucléaire s'en trouve un peu ébranlée. Une autre idée reçue, remise en cause au cours du Symposium, est celle selon laquelle le régime international de responsabilité nucléaire joue naturellement un rôle de modèle pour les législations nationales et conserve son attraction sur les pays – encore nombreux – non Parties aux Conventions de Paris ou de Vienne, sans omettre la nouvelle Convention sur la réparation complémentaire. Dans le même temps, la complexité croissante du système conventionnel dans ce domaine est de nature à créer des difficultés juridiques sérieuses, comme ceci a été mis en évidence dans le cas des transports internationaux.

La recherche d'un consensus international sur les conditions garantissant la légitimité, l'efficacité et le caractère équitable de ce régime s'impose donc à tous les pays et organisations concernés. En d'autres termes, l'entreprise de réforme de la responsabilité civile nucléaire n'est pas achevée. La variété des sujets abordés et la qualité des communications présentées au cours de ce Symposium devraient sans aucun doute apporter une contribution précieuse à la poursuite de cet objectif.

L'Agence de l'OCDE pour l'énergie nucléaire remercie l'Agence internationale de l'énergie atomique et la Commission européenne d'avoir accepté de s'associer à l'organisation de ce Symposium. Elle exprime également sa gratitude aux autorités hongroises pour leur accueil et leur soutien efficace au bon déroulement de cette manifestation.

Patrick Reyners

The pressing need to increase financial guarantees substantially should encourage the relevant authorities to look into the possibilities of diversifying and, should the case arise, cumulating different methods of financial cover for nuclear liability: traditional or captive insurance, systems of mutual guarantee, public funds or instruments providing for international solidarity. This said, it was pointed out that increased financial security would not suffice in a worst-case scenario – a nuclear catastrophe of Chernobyl-scale proportions – to cover all damages. It was recognised that, in reality, this type of extreme situation no longer fits into the context of third party liability and a more appropriate solution would be to establish ad hoc compensation measures calling for national solidarity.

Therefore, the traditional opinion whereby the special regime, developed in the sixties in order to govern the consequences of a nuclear accident, represents a fair compromise between the obligation to ensure the protection of the public and the economic and legal interests of the nuclear industry, has been questioned to a certain extent. Another presumption, also revisited during the Symposium, is that the international third party liability regime naturally acts as a role-model for national legislation, thereby remaining attractive to the numerous countries not yet party to the Paris or Vienna Conventions, not to mention the new Convention on Supplementary Compensation. At the same time, the increasing complexity of the regime of international conventions in this field compounds the risk of causing serious legal problems, as has been demonstrated in the case of international transport.

The quest for international consensus on principles ensuring the legitimacy, efficiency and the fair character of this regime is therefore of paramount importance to all countries and organisations involved. In other words, the reform of civil nuclear liability is not yet complete. The variety of subjects examined and the quality of papers presented during the course of this Symposium will certainly be of assistance in the pursuit of this objective.

The OECD Nuclear Energy Agency would like to thank the International Atomic Energy Agency and the European Commission for their participation in the organisation of this Symposium. Considerable thanks are also extended to the Hungarian authorities for their hospitality and their substantial contribution to the success of this event.

Patrick Reyners

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INAUGURAL SPEECH

Attila Chikán

Minister of Economy, Hungary

Mr. President, Ladies and Gentlemen,

I am pleased to be here and welcome all of you as participants to the Symposium on the Reform of Civil Nuclear Liability. Allow me to convey to this Symposium the greetings of the Hungarian Government. It is a special honour for me to welcome the representatives of the OECD Nuclear Energy Agency, the European Commission and the International Atomic Energy Agency as co-organisers of this Symposium. I believe that it indicates the importance of the Symposium and has contributed to widening international participation in this meeting as witnessed by the presence of experts from almost 50 countries.

It is our privilege to host this Symposium after only three years of our joining the OECD and its Nuclear Energy Agency. We consider it as recognition of the great efforts Hungary has made to develop a new comprehensive legal framework in the nuclear field. It is an internationally-shared view that Hungarian legislation is up-to-date and compares favourably with the principles applied in Western countries.

Speaking about the important issues of this Symposium, I am very proud that Hungary's accession to the Vienna Convention goes back as early as 1989 and we have also been playing an active role in its revision.

In accordance with our new Act on Nuclear Energy that incorporates the requirements of the Vienna Convention, an insurance arrangement has been concluded for our Paks Nuclear Power Plant. The Hungarian insurers have established an insurance pool with the intention to seek reinsurance in international pools. Subsequently an extensive international review of the Paks

NPP's safety features was undertaken on behalf of the national and international insurers.

In this Symposium, you seek to review nuclear liability and compensation issues. This is a very ambitious objective. I am convinced that the effective implementation of the Reform of Civil Nuclear Liability is a real challenge to both governments and industry as it is stated among the objectives of this present symposium. In this connection, allow me to put the reform into a broader context and speak briefly about our experience.

You are certainly aware that the Hungarian economy has undergone a dramatic transformation since 1990. It was a painful transition in all sectors of the economy from a centrally-planned system to a market economy. It has however resulted in a considerable restructuring of the economy that can provide a starting point to achieve one of Hungary's most important policy objectives: to join the European Union. In that context it is my Government's conviction that significant measures have been taken in the right direction. That does not mean there are no further impediments. Many arise. For example, as Hungary has implicitly chosen the EU path towards reform of the electricity supply industry, consequently *the modus operandi* of this industry will have to be changed. Therefore, careful consideration is necessary regarding the ways and timeframe to implement the EU provisions. And this is only one of the challenges that the Hungarian Government is facing at present.

I am convinced that nuclear power generation will contribute to meeting this challenge. In our electricity supply, the Paks NPP has a very important role, providing about 40% of the electricity production of Hungary. In this regard we are very glad that both technical and economic experience with our Paks NPP have so far been very satisfactory. The safety of the plant has been acknowledged by the international nuclear community and it was confirmed by the recent first Review Meeting of Contracting Parties to the Convention on Nuclear Safety.

Turning back to the objectives of the Symposium, I can say we have much in common. Our common goal is creating opportunities to promote greater public confidence and encouraging broad adherence to internationally-accepted norms.

Ladies and Gentlemen, I would like to encourage you to meet these challenges and wish all of you every success in these endeavours during the Symposium. Finally, I wish you a pleasant stay in Budapest.

OPENING REMARKS

György Vajda

Director General, Hungarian Atomic Energy Authority

Ladies and Gentlemen,

As a representative of one of the host organisations of this Symposium let me welcome you, participants from abroad and from home, to this Symposium on the Reform of Civil Nuclear Liability. It is a special honour for us to have been invited to host this highly-regarded symposium.

As a host country, we consider this event organised by the OECD/NEA in co-operation with the IAEA and the EC as recognition of our adherence to internationally-accepted values. We are committed members of both Agencies and have been striving for the highest level of safety of our nuclear installations. I am convinced, however, that national efforts alone can not achieve an adequate level of safety. In our view nuclear safety is an international issue.

All of you, whether governmental experts, nuclear industry representatives, specialists from international organisations, nuclear risk insurers or academics, from over fifty countries, are well aware that a central feature of nuclear power generation is its international character and its dependence on international agreements. Sharing this view, we are convinced that the main guarantee of maintaining and increasing nuclear safety lies in the collective knowledge, openness and co-operation of the international community.

However we have to keep in mind that all nuclear activities are based on a complex technical and scientific background that non-expert individuals from the public may not easily grasp and understand. It might be one of the reasons why the nuclear power industry is still on the front line of public concern. The initial social trust and confidence that allowed the emergence of nuclear power projects in the past has vanished, and universal values of science, technology and progress, on which nuclear power is founded, are continuously decreasing.

When considering the possible future of nuclear power the important point, however, is not to measure the current level of confidence, but to elaborate new meanings and values to build social trust in order to restore confidence. A pre-condition for public confidence and social trust is therefore the existence of a social and institutional framework in which there is advocacy between various stakeholders involved in the hazardous activities. This can restore confidence in all organisations related to nuclear energy. Having confidence in an organisation is very useful in the sense that we do not worry about it, we feel safe. “Security” comes from the Latin word *sine cura* which means “free from worry”. And this is our final goal concerning nuclear power: no one should worry about it. I am convinced that significant steps have already been made to create such an institutional framework at national and international levels.

In developing its nuclear industry, Hungary has always paid particular attention to ensuring safety as well as to creating an appropriate legal environment for this activity involving increased hazards. This accounts for the fact that Hungary was the first among the former socialist countries to accede to the Vienna Convention on Civil Liability for Nuclear Damage (in 1989), and Hungary is a State party to all the major international conventions concluded under the auspices of the International Atomic Energy Agency. One can also mention that the new Act on Atomic Energy entered into force in 1997. This is a modern enactment fully in line with our obligations undertaken in the international treaties.

In recent years we have seen the emergence of what used to be referred to as an international nuclear safety regime. One element of this regime is the Convention on Nuclear Safety. The stated objective of the Convention is to achieve and maintain a high level of nuclear safety world-wide, through the enhancement of national measures and international co-operation. During the recent review meeting the Contracting Parties concluded that the review process had proven to be of great value to their national nuclear safety programmes starting with the self-assessment involved in producing the national reports, followed by the review of national reports by other Contracting Parties with exchanges of questions and comments, and finally the very open discussions. The review process truly provided learning through international co-operation.

Development of the nuclear liability conventions is one of the cornerstones of public confidence and another pillar of the international nuclear safety regime. As you are equally well aware, this conference aims to address the changes that have occurred in the regime of liability for nuclear damage in recent years and in particular the reform of the regime which resulted from the revision of the 1963 Vienna Convention. The discussions held on the Vienna

Convention under the auspices of the International Atomic Energy Agency lasted several years and their outcome was the adoption of a Protocol to Amend the Vienna Convention and of a new treaty, the Convention on Supplementary Compensation for Nuclear Damage. The Protocol to Amend the Vienna Convention reflects a good compromise: it serves both the interests of potential victims and also those of the nuclear industry. The flexibility of the Supplementary Convention for Nuclear Damage leaves scope for accession by states party to either the Vienna Convention or the Paris Convention, as well as by states not party to these instruments. It is an impressive example of the idea of international solidarity in our increasingly globalized world.

It brings me back to the real subject of the Symposium. The agenda items of our current deliberations reflect an awareness that increasing the safety of diverse industrial activities is not enough and efforts must also be made to secure as extensive compensation as possible for victims of incidents of catastrophic proportions. These efforts can only be exerted by joint international action.

I believe it would be unrealistic to expect that during a short week you would solve all of the problems relating to these issues. I am confident, however, that the exchange of information and ideas on these issues during this Symposium will prove to be highly profitable and stimulating.

INAUGURAL STATEMENT

Larry Johnson

Legal Adviser, International Atomic Energy Agency

I am pleased on behalf of the Director General to welcome you on behalf of the IAEA to this International Symposium on Reform of Civil Nuclear Liability organised by the OECD/NEA in co-operation with the IAEA and the European Commission. I would also like to thank the Hungarian Atomic Energy Authority and the Institute for Legal Studies of the Hungarian Academy of Sciences for hosting this Symposium and placing at our disposal the excellent facilities and beautiful surroundings of the Academy of Sciences.

It is gratifying to see participation by so many distinguished legal and nuclear experts from Member States and international organisations representative of a broad spectrum of legal thought and energy policies.

For many years the IAEA has been actively engaged at the universal level in the development of an international normative framework for nuclear activities. There now exists a substantial body of guiding standards and a growing number of binding conventions in this area. On the one hand, we have conventions dealing with aspects of nuclear safety, (the Convention on Nuclear Safety and the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management) and on the other hand the liability conventions, which deal with another vital aspect of nuclear safety.

The need for a special regime governing liability for nuclear damage was recognised at the inception of the peaceful utilisation of nuclear energy. This led to the development of the present, in force, international nuclear liability regime that is based on two instruments: the Vienna Convention on Civil Liability for Nuclear Damage which is a treaty of universal character adopted in 1963 under the IAEA auspices; and the Paris Convention on Third-Party Liability in the Field of Nuclear Energy which is a treaty adopted in 1960 within the regional framework of the OECD. The regime is beneficial both to

the nuclear industry and the public: on the one hand, it provides a level of certainty with respect to third party liability for those involved in peaceful nuclear activities and, on the other hand, it plays an important socio-economic role in mitigating some of the consequences of nuclear accidents by providing for prompt and adequate compensation for persons suffering injury, and by reinforcing the importance of maintaining a level of safety which minimizes the risks of nuclear accidents. At the time, the two Conventions represented a major step forward in the development of international law.

The topic of our Symposium is the Reform of Civil Nuclear Liability. A major element of this reform is the result of years of high-priority negotiations which took place in the IAEA following the Chernobyl accident which provided an urgent impetus to further improve the international liability regime. These negotiations first led, as a combined effort with the OECD/NEA, to the adoption of the Joint Protocol in 1988 which linked the Vienna and Paris Conventions into one system. Then, as you know, in 1997, the Diplomatic Conference on nuclear liability convened under the auspices of the Agency successfully adopted the Protocol to Amend the Vienna Convention (“the Protocol”) and the Convention on Supplementary Compensation (“the CSC”).

These new instruments incorporate various progressive developments in the legal, technical and economic aspects of nuclear liability that have taken place since the adoption of the Vienna and Paris Conventions. At the same time, they reaffirm the fundamental, time-tested principles of nuclear liability set forth in the basic conventions, such as no fault liability and channelling of liability to the operator of a nuclear installation.

With regard to the Protocol, I would note the significant increase of the minimum liability limit to 300 million SDRs and the responsibility of the Installation State to ensure that this amount is available. The definition of nuclear damage has been expanded to cover the costs of reinstatement of damaged environment and costs of preventive measures, which is in line with the modern approach taken in other recently-concluded liability conventions. The Protocol also extends the period for submission of claims for loss of life and personal injury to 30 years.

The adoption of the Convention on Supplementary Compensation is a very important development in the liability field. It demonstrates awareness of critical socio-economic situations that may arise from a major nuclear incident that are difficult to be solved alone, even by economically advanced states. The Convention generates substantial additional compensation through contributions by states parties. Also, as a free-standing instrument, the Convention provides an opportunity for states which for various reasons do not choose to participate

in the Vienna or Paris Conventions, to nevertheless participate in a global international liability regime.

This week we have to take stock of these new developments and try and understand the effect that the new, revised, regime will have on the various facets of the nuclear power option. This is important if we want to encourage greater participation by the many – both nuclear and non-nuclear – states that have so far remained outside the admittedly complex regime. It needs to be explained in clear terms, showing the benefits and consequences for participation by states with different interests, *e.g.* nuclear and non-nuclear, developing and developed, maritime and landlocked, those in economic difficulty and those with a thriving nuclear industry.

The pragmatic approach taken in the Protocol and Convention on Supplementary Compensation in dealing with difficult issues needs to be highlighted. The higher standards of compensation are coupled with recognition of the economic realities of the present world. The phasing-in mechanism contained in both instruments allows States in difficult economic situations to join with interim, lower compensation amounts. The problem of operators subject to unlimited liability has been addressed, and a novel solution to the problems of jurisdiction that may arise when a nuclear incident occurs in a State's EEZ has been found.

A comprehensive and constructive review of the results achieved so far should help promote the principles on which the nuclear liability rules have been developed and hopefully should also help chart the path for future progress.

Finally, I would like to wish you all success in the important work you are to undertake this week.

INAUGURAL SPEECH

Bram Brands

Principal Administrator, Directorate-General for Energy, European Commission

Mr. Chairman, Mr. Minister, Ladies and Gentlemen,

I would like to welcome you on behalf of the European Commission. It speaks for itself that the European Commission, as one of the co-organisers, attaches a high importance to this Symposium on Nuclear Liability. Indeed, nuclear liability is an important issue for many reasons. One of them, which I would like to stress here, is in the context of the social discussion on the use of nuclear energy. Nuclear energy production is, as we all know, a high risk activity. It is only with two sets of measures that the comprehensible public reluctance with regard to this kind of energy production can be overcome:

- i) through adequate safety measures reducing the risks to an absolute minimum; and
- ii) through an adequate liability regime guaranteeing victims of an unlikely accident just and equitable compensation for the damage suffered.

Thus, the subject of this Symposium is, in the on-going debate on the use of nuclear energy, surely a functional one. The discussions have become even more intense in the context of the discussions on the Kyoto decisions on reduction of greenhouse gases. Therefore, the NEA is to be congratulated on their initiative of organising this Symposium. At the same token, our hosts, the Hungarian Atomic Authority and the Institute of Legal and Administrative Studies of the Hungarian Academy of Sciences have to be thanked for making it possible to have this Symposium in this city, full of history and in such beautiful surroundings.

There is more than just the subject of this Symposium which provides significance to this occasion. There is also the timing element. Indeed it takes place at a very appropriate moment. Let me explain briefly why this is so. The nuclear liability issue is practically as old as the commercial use of nuclear power. The international regime was established in the early sixties. This was done through the 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy and the 1963 Vienna Convention on Civil Liability for Nuclear Damage. Ever since, the basic elements reflected in these Conventions have provided for what can today be referred to as the internationally-recognised nuclear liability principles. I am referring here to concepts such as strict liability (*i.e.* no-fault liability), channelled liability, (*i.e.* exclusive liability of the operator), limited liability in amount and time and financial security (*i.e.* in principle mandatory insurance). I am sure that if these concepts are not yet familiar to you today, they will surely become so during this Symposium. Indeed, these principles can be found in the bulk of the national legislations on nuclear liability in the world and this is so not only in states implementing the Conventions, but also in states which developed their nuclear liability legislation independently of these Conventions.

The same principles also survived the Chernobyl accident in 1986. This is so, in spite of the fact that this accident made it clear that further improvements to the international nuclear liability regime were required. Indeed, as a result of this accident, three new international legal nuclear liability instruments were established. First, in 1988, the so-called Joint Protocol, linking the Vienna and the Paris Conventions, was established, thus extending the respective scope of application of each Convention also to the territory of all the Parties to the other Convention. Secondly and thirdly, in September 1997, after almost ten years of further intensive negotiation, the Protocol to amend the Vienna Convention on Civil Liability for Nuclear Damage, which modernises the 1963 Vienna Convention, and the Convention on Supplementary Compensation for Nuclear Damage, which provides additional funds for compensation, saw daylight. Although these three new instruments provide useful additions to the earlier Conventions, they did not fundamentally alter any of the basic concepts.

Now you will understand why we consider the timing of this Symposium so appropriate. Apart from the Joint Protocol which entered into force some 7 years ago, and to which 20 States now adhere, the question of how to ensure the effective implementation of the two other new instruments resulting from the reform today is surely a challenge, not only for the governments but also for the nuclear and insurance industries. A widened adherence to these instruments and to the international liability regimes in general is, of course, another challenge. This Symposium, almost two years

after the creation of these new legal instruments, provides an excellent and well-timed opportunity to discuss these issues beyond the restricted circle of governmental experts, in a context where representatives from the nuclear and insurance industries as well as from the academic world are also present. The fact that one of the neighbouring states to our host country introduced legislation this year which is different from the spirit and the letter of this international nuclear liability regime, can only make this opportunity a more challenging one.

Mr. Chairman, having made these general remarks, as co-organiser of the Symposium, allow me to shortly explain why the European Commission, in spite of the fact that the European Treaties provide hardly any competence to the EU in the nuclear liability field, attaches such importance to the question of nuclear liability. This is because the world we live in is becoming a more and more open one, with increasing interactions between the states and their citizens. As a result, an ever increasing inter-dependence is developing. This is especially so in the nuclear field. We all have heard that “a nuclear accident somewhere is a nuclear accident everywhere.” Whether or not this is true, it makes it clear, especially in the application of our high technology allowing the control over the atom, that our national frontiers are not necessarily very important as to, for example, the consequences of these actions. That is one of the reasons why the European Community, under the TACIS and PHARE programmes, is putting a lot of money into assistance to nuclear programmes in Central and Eastern European countries as well as in the CIS Republics. It was clear that there was some room for improvement in these countries in fields such as design and operational safety of reactors, development of independent regulatory authorities as well as relevant legislation. The general objectives of these TACIS and PHARE programmes incorporate these elements.

The EU, for the practical implementation of the assistance projects, has to rely on industry, as it does not have the required expertise and practical skills in-house. In order to make the involvement of industry possible, where necessary, adequate nuclear liability regimes creating the required predictability for these industries to know the risks they are running in engaging themselves in these assistance projects have to be put in place in the beneficiary countries. It is clear that a further internationalisation of the nuclear liability regime would surely facilitate implementation of future EU assistance projects.

That brings me to the end of my introductory remarks. Let me wish you an instructive and useful Symposium and express the hope that the opportunity it provides will have a catalysing effect towards the widening of the international nuclear liability regime.

ALLOCUTION D'OUVERTURE

Luis Echávarri

Directeur général de l'Agence de l'OCDE pour l'énergie nucléaire

Monsieur le Ministre,

Mesdames et Messieurs,

En ma qualité de représentant de l'Agence organisatrice de cette réunion, je m'associe pleinement aux mots de bienvenue des orateurs précédents et je me félicite de la participation d'une assemblée si nombreuse et si distinguée de spécialistes du droit nucléaire.

C'est une tradition dont nous nous honorons à l'AEN que d'avoir marqué les grandes étapes de l'évolution du régime de responsabilité civile nucléaire par de telles rencontres internationales. Quelques uns d'entre vous se souviennent peut-être du Symposium de Monaco en 1968 et de celui de Stockholm en 1972, organisé autour de l'adoption de la Convention de Bruxelles sur le transport par mer des substances nucléaires. Cette Convention, rappelons-le, consacrait le principe de la primauté de l'application du droit nucléaire sur celle du droit maritime en matière de responsabilité pour les dommages nucléaires.

La révision des Conventions de Paris et de Bruxelles en 1982, premier essai de modernisation de ce régime, a ensuite été analysée et expliquée en détail lors du Symposium de Munich en 1984.

Sans doute plus nombreux seront ceux d'entre vous qui ont participé, en 1992, au Symposium d'Helsinki sur l'accident nucléaire – Responsabilités et garanties, destiné à promouvoir l'adhésion au Protocole Commun de 1988 qui a jeté une passerelle entre les Conventions de Paris et de Vienne.

Nous nous réunissons de nouveau, au lendemain du long exercice de révision de la Convention de Vienne ainsi que de l'adoption d'une nouvelle Convention visant à mettre en place à l'échelle mondiale un financement

additionnel de la réparation des dommages nucléaires. Comme ils s'y étaient engagés alors, les pays Parties à la Convention de Paris travaillent activement à la modification de cette Convention. Ils réfléchissent également à l'avenir de leur propre système régional de réparation complémentaire, alors même qu'en toile de fond se poursuivent les discussions sur l'élargissement de l'Europe.

C'est dire que le système des accords internationaux sur la responsabilité civile nucléaire connaît une action de réforme en profondeur, ce qui nous a donné l'idée du titre de cette réunion et nous a convaincu que le moment en était bien choisi.

Ce mouvement de réforme ne répond pas simplement au besoin normal de mise à jour d'un régime déjà vieux de quelque quarante ans et dont les insuffisances commençaient à devenir assez manifestes, sans même qu'il soit nécessaire d'invoquer l'expérience de l'accident survenu en avril 1986 pour les souligner.

Il répond aussi à une nécessité plus politique : après une longue période de relative stabilité au cours de laquelle la montée de la contestation de l'énergie nucléaire constatée dans un grand nombre de pays n'avait pas pour autant entraîné une remise en cause des principes généraux qui caractérisent la responsabilité nucléaire, nous devons faire face désormais à une situation plus critique.

Les débats au cours des négociations récentes, à Vienne, n'ont pas seulement signalé une volonté collective d'améliorer les Conventions. Ils ont aussi révélé une tendance à mettre en question l'existence même d'un régime spécial, du moins dans certains de ses aspects les plus fondamentaux. Je pense, à titre de simple exemple, à la concentration de la responsabilité sur le seul exploitant nucléaire.

Plus généralement, la « légitimité », si je peux employer ce mot, de notre régime de responsabilité a été contestée au nom de l'idée – un vieux reproche en réalité – que celui-ci favoriserait à l'excès les intérêts de l'industrie nucléaire.

On a même pu percevoir au cours des débats que pour certains il y avait non seulement des victimes innocentes mais aussi des pays « innocents », en d'autres termes des pays non « nucléaires », exposés injustement aux risques des programmes électronucléaires menés dans des pays voisins.

C'est donc un enjeu important – pour reprendre l'expression employée dans la note d'information sur le Séminaire – qui s'offre à vous : démontrer

qu'il est toujours possible de concilier l'objectif d'une indemnisation équitable des dommages causés par un accident nucléaire avec celui de la préservation d'un cadre juridique accepté internationalement et dans lequel les acteurs du nucléaire puissent continuer d'agir efficacement. Mener à bien cette tâche ne se fera pas sans des efforts nouveaux de la part des industriels, assureurs, gouvernements ... notamment pour augmenter les montants de garantie financière et renforcer les procédures de réparation.

Faute de quoi, grande pourrait être la tentation de retourner à des règles juridiques que la Communauté internationale avait pourtant, dans les années 60, jugées inadéquates en matière nucléaire.

Au demeurant, la poursuite de l'amélioration de ce régime qui me semble importante pour mériter la confiance du public à l'égard de la contribution de l'énergie nucléaire à la satisfaction des besoins énergétiques, ne doit pas être guidée par des considérations purement théoriques et perdre de vue les réalités économiques et sociales. C'est la raison pour laquelle cette occasion de confronter les points de vue entre représentants des divers milieux intéressés me paraît particulièrement utile.

Un autre sujet de réflexion qui vient à l'esprit en examinant votre copieux programme est la complexité croissante de ce régime. Actuellement, pas moins de six accords multilatéraux – sans compter la Convention de Bruxelles sur les navires nucléaires – régissent la responsabilité pour les dommages nucléaires. Si cette prolifération d'instruments juridiques doit présenter un grand intérêt intellectuel à des experts tels que vous, il ne semble pas évident au profane que je suis que l'efficacité des mécanismes d'indemnisation est de nature à augmenter de façon proportionnelle au nombre des Conventions internationales applicables à un accident.

L'autre message que je voudrais lancer au cours de cette brève allocution s'adresse plus particulièrement aux représentants des pays de l'Europe de l'Est dont je salue la présence dans cette salle.

Ce Symposium marque en quelque sorte la culmination d'une décade d'efforts entrepris par notre Agence, en collaboration étroite avec les autres organisations concernées, pour amener ces pays à devenir Parties aux Conventions internationales et en intégrer les dispositions dans leurs législations nationales. La carte du monde qui vous a été remise lors de votre enregistrement illustre de façon éloquente les changements positifs intervenus au cours de ces dernières années.

De même que la Réunion d'examen de l'application de la Convention sur la sûreté nucléaire a permis au mois d'avril dernier de constater l'émergence d'une meilleure culture de sûreté dans cette région, ce Symposium devrait éclairer les progrès réalisés en matière de responsabilité nucléaire par des pays qui sont devenus progressivement des partenaires importants de nos pays Membres.

Au-delà du cercle des pays de l'OCDE, je n'oublie pas non plus de souhaiter la bienvenue à tous les experts venus d'autres horizons, Afrique, Amérique latine, Moyen-Orient, Asie, qui ont aussi un rôle important à jouer pour l'instauration d'un régime de responsabilité nucléaire véritablement global.

Je ne voudrais pas conclure sans remercier à mon tour les autorités hongroises qui ont généreusement accepté d'accueillir cette réunion et plus particulièrement les représentants de l'Autorité de l'énergie atomique et de l'Institut d'études juridiques qui n'ont pas ménagé leur peine pour assurer le succès de cette réunion.

Il me reste, Mesdames et Messieurs, à vous souhaiter des discussions fructueuses et un séjour agréable dans cette bonne ville de Budapest. Je me réjouis à l'avance de vous voir ce soir pour notre réception. Merci de votre attention.

Session I – Séance I

**IMPLEMENTING A BETTER REGIME OF
INTERNATIONAL CIVIL LIABILITY**

**UN RÉGIME INTERNATIONAL AMÉLIORÉ DE
RESPONSABILITÉ CIVILE NUCLÉAIRE**

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**THE CONCEPT OF “POLLUTION DAMAGE” IN THE MARITIME
CONVENTIONS GOVERNING LIABILITY AND COMPENSATION
FOR OIL SPILLS**

**LE CONCEPT DE « DOMMAGE DE POLLUTION » DANS LE CADRE
DES CONVENTIONS MARITIMES SUR LA RESPONSABILITÉ
ET LA RÉPARATION POUR LES MARÉES NOIRES**

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Résumé

La présente communication traite du régime international institué sous l'égide de l'Organisation Maritime Internationale (OMI) qui est relatif à la réparation des dommages de pollution causés par les marées noires. Ce régime a été d'abord mis en place par la Convention internationale de 1969 sur la responsabilité civile pour les dommages dus à la pollution par les hydrocarbures ainsi que par la Convention internationale de 1971 portant création d'un fonds international d'indemnisation pour les dommages dus à la pollution par les hydrocarbures. Ce régime est toutefois progressivement remplacé par une Convention « responsabilité » adoptée en 1992 et une Convention « fonds » également adoptée en 1992. Les Parties aux Conventions précitées sont indiquées en annexe à ce rapport. Les Conventions « responsabilité » instituent un régime de responsabilité objective, garantie par une assurance obligatoire. Le propriétaire du navire peut normalement limiter sa responsabilité à un montant qui est lié au tonnage du navire.

L'auteur analyse en détail le régime de responsabilité ainsi que les fonds créés par les Conventions de 1971 et 1992, qui sont administrés par une Organisation intergouvernementale dont le siège est à Londres. Il étudie les concepts de dommage de pollution et de mesures de sauvegarde ou mesures préventives, la question de l'admissibilité de demandes en réparation : dommages aux biens, opérations de nettoyage, coûts fixes, pertes indirectes et pertes économiques pures, à la lumière d'exemples concrets. Il aborde également la question des conditions d'indemnisation de la perte économique pure et du dommage à l'environnement. Il conclut cet exposé en soulignant la contribution apportée par les conventions précitées au droit international sur la responsabilité civile.

1. Introduction

Compensation for pollution damage caused by spills from oil tankers is governed by an international regime elaborated under the auspices of the International Maritime Organization (IMO). The framework for the regime was originally the 1969 International Convention on Civil Liability for Oil Pollution Damage (1969 Civil Liability Convention) and the 1971 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (1971 Fund Convention). This “old” regime was amended in 1992 by two Protocols, and the amended Conventions are known as the 1992 Civil Liability Convention and the 1992 Fund Convention. The 1992 Conventions entered into force on 30 May 1996.

The 1969 Civil Liability Convention and the 1971 Fund Convention have been denounced by a number of States and are losing importance. They are being replaced with a “new regime”, namely the 1992 Civil Liability Convention and the 1992 Fund Convention.

The Civil Liability Conventions govern the liability of ship-owners for oil pollution damage. The Conventions lay down the principle of strict liability for ship-owners and create a system of compulsory liability insurance. The ship-owner is normally entitled to limit his liability to an amount which is linked to the tonnage of his ship.

The 1971 and 1992 Fund Conventions are supplementary to the 1969 Civil Liability Convention and the 1992 Civil Liability Convention, respectively. They establish a regime for compensating victims when the compensation under the applicable Civil Liability Convention is inadequate. The 1971 and 1992 Fund Conventions each established an intergovernmental organisation to administer the regime of compensation created by the respective Convention, the International Oil Pollution Compensation Funds 1971 and 1992 (IOPC Funds). The Organisations have their headquarters in London.

The States Parties to the 1969, 1971 and 1992 Conventions are listed in the Annex.

It is recognised that the international regime of liability and compensation established by the maritime Conventions referred to above is, in many regards, different from the nuclear liability regimes under the Vienna Convention on Civil Liability for Nuclear Damage and the Paris Convention on Third Party Liability in the Field of Nuclear Energy. Since, fortunately, the nuclear conventions have never been applied and there is therefore no

experience of how the regimes established under these Conventions would operate, it might be interesting to examine how the regime established under the maritime Conventions operates, in particular as regards the concept of “damage”.

2. An outline of the international maritime compensation regime

Substantive provisions

The 1969 and 1971 Conventions apply to pollution damage caused by spills of persistent oil from tankers and suffered in the territory (including the territorial sea) of a State Party to the respective Convention. Under the 1992 Conventions, however, the geographical scope is wider, with the cover extended to pollution damage caused in the Exclusive Economic Zone (EEZ) or equivalent area of a State Party. “Pollution damage” includes the cost of “preventive measures”, *i.e.* measures to prevent or minimise pollution damage.

Damage caused by non-persistent oil is not covered by the Conventions. Spills of gasoline, light diesel oil, kerosene, etc. therefore do not fall within the scope of the Conventions.

The 1969 Civil Liability Convention and the 1971 Fund Convention apply only to measures taken after oil has escaped or been discharged. These Conventions therefore do not apply to pure threat removal measures, *i.e.* preventive measures which are so successful that there is no actual spill of oil from the tanker involved. Under the 1992 Conventions, however, expenses incurred for preventive measures are recoverable even when no spill of oil occurs, provided that there was a grave and imminent threat of pollution damage.

The 1969 and 1971 Conventions apply only to ships which actually carry oil in bulk as cargo, *i.e.* generally laden tankers. Spills from tankers during ballast voyages are therefore not covered by these Conventions. The 1992 Conventions apply also to spills of bunker oil from unladen tankers in certain circumstances. Neither the 1969/1971 Conventions nor the 1992 Conventions apply to spills of bunker oil from ships other than tankers.

The owner of a tanker has strict liability (*i.e.* he is liable also in the absence of fault) for pollution damage caused by oil spilled from the tanker as a result of an incident. He is exempt from liability under the 1992 Civil Liability Convention only if he proves that:

1. the damage resulted from an act of war or a grave natural disaster, or
2. the damage was wholly caused by sabotage by a third party, or
3. the damage was wholly caused by the negligence of public authorities in maintaining lights or other navigational aids.

The limit of the ship-owner's liability under the 1969 Civil Liability Convention is the lower of 133 Special Drawing Rights (SDRs)¹ (USD 180) per tonne of the ship's tonnage or 14 million SDRs (USD 19 million). Under the 1992 Civil Liability Convention, the limits are:

- a) for a ship not exceeding 5 000 units of gross tonnage, 3 million SDRs (USD 4 million);
- b) for a ship with a tonnage between 5 000 and 140 000 units of tonnage, 3 million SDRs (USD 4 million) plus 420 SDRs (USD 568) for each additional unit of tonnage; and
- c) for a ship of 140 000 units of tonnage or over, 59.7 million SDRs (USD 80.7 million).

There is a simplified procedure under the 1992 Civil Liability Convention for increasing these limits.

Under the 1969 Civil Liability Convention, the ship-owner is deprived of the right to limit his liability if the incident occurred as a result of the owner's personal fault ("actual fault or privity"). Under the 1992 Convention, however, the ship-owner is deprived of this right only if it is proved that the pollution damage resulted from the ship-owner's personal act or omission,

1. The unit of account in the Conventions is the Special Drawing Right (SDR) as defined by the International Monetary Fund. In this paper, the SDR has been converted into United States dollars (USD) at the rate of exchange applicable on 30 April 1999, *i.e.* 1 SDR = USD 1.35122.

committed with the intent to cause such damage, or recklessly and with knowledge that such damage would probably result.

Claims for pollution damage under the Civil Liability Conventions can be made only against the registered owner of the ship concerned. This does not preclude victims from claiming compensation outside the Conventions from persons other than the owner. However, the 1969 Civil Liability Convention prohibits claims against the servants or agents of the ship-owner. The 1992 Civil Liability Convention prohibits not only claims against the servants or agents of the owner, but also claims against the pilot, the charterer (including a bareboat charterer), manager or operator of the ship, or any person carrying out salvage operations or taking preventive measures.

The owner of a tanker carrying more than 2 000 tonnes of persistent oil as cargo is obliged to maintain insurance to cover his liability under the applicable Civil Liability Convention. Tankers must carry a certificate on board attesting the insurance coverage. When entering or leaving a port or terminal installation of a State Party to the 1969 or 1992 Civil Liability Convention, such a certificate is required also for ships flying the flag of a state which is not party to that Convention.

Claims for pollution damage under the Civil Liability Conventions may be brought directly against the insurer of the owner's liability for pollution damage.

The IOPC Funds 1971 and 1992 pay compensation to those suffering oil pollution damage in a State Party to the respective Fund Convention who do not obtain full compensation under the applicable Civil Liability Convention in the following cases:

- a) the ship-owner is exempt from liability under the applicable Civil Liability Convention because he can invoke one of the exemptions under that Convention; or
- b) the ship-owner is financially incapable of meeting his obligations under the applicable Civil Liability Convention in full and his insurance is insufficient to satisfy the claims for compensation for pollution damage; or
- c) the damage exceeds the ship-owner's liability under the applicable Civil Liability Convention.

The compensation payable by the 1971 Fund in respect of an incident is limited to an aggregate amount of 60 million SDRs (USD 81 million), including the sum actually paid by the ship-owner (or his insurer) under the 1969 Civil Liability Convention. The maximum amount payable by the 1992 Fund in respect of an incident is 135 million SDRs (USD 182 million), including the sum actually paid by the ship-owner (or his insurer) under the 1992 Civil Liability Convention. The 1992 Fund Convention provides a simplified procedure for increasing the maximum amount payable by the 1992 Fund.

Actions for compensation under the applicable Civil Liability Convention against the ship-owner or his insurer may only be brought before the courts of the State Party to that Convention in whose territory, territorial sea or EEZ the damage was caused.

3. Organisation of the IOPC Funds

Each Fund has an Assembly, which is composed of representatives of all Member States. The Assembly is the supreme organ governing the respective Fund, and it holds regular sessions once a year. Each Assembly elects an Executive Committee comprising 15 Member States. The main function of these Committees is to approve settlements of claims.

The 1992 Fund and the 1971 Fund have a joint Secretariat. The Secretariat is headed by a Director and has at present 22 staff members.

The Director has been granted extensive authority to approve claims for compensation.

4. Financing of the IOPC Funds

The 1971 and 1992 Funds are financed by contributions levied on any person who has received in one calendar year more than 150 000 tonnes of crude oil and heavy fuel oil (contributing oil) after sea transport in a State Party to the respective Fund Convention.

The levy of contributions is based on reports of oil receipts in respect of individual contributors. A State shall communicate every year to the Fund the name and address of any person in that State who is liable to contribute, as well as the quantity of contributing oil received by any such person. This applies whether the receiver of oil is a Government authority, a State-owned company

or a private company. Except in the case of associated persons (subsidiaries and commonly controlled entities), only persons having received more than 150 000 tonnes of contributing oil in the relevant year should be reported.

Each contributor pays a specified amount per tonne of contributing oil received. The amount levied is decided each year by the respective Assembly.

5. Claims Settlement

Claims experience

Since its establishment in 1978, the 1971 Fund has been involved in some 100 incidents. The 1971 Fund has paid some USD 350 million in compensation. The 1992 Fund has so far only made very small payments.

In the great majority of these incidents, all claims have been settled out of court. So far, court actions against the 1971 Fund have been taken in respect of only seven incidents. In most of these cases, the aggregate amounts claimed greatly exceed the maximum amount payable under the 1969 Civil Liability Convention and the 1971 Fund Convention. In five of the seven cases, most of the claims were settled out of court.

Concepts of “pollution damage” and “preventive measures”

The concepts of “pollution damage” and “preventive measures” are defined in the 1969 Civil Liability Convention (Articles I.6 and I.7) as follows:

“Pollution damage means loss or damage caused outside the ship carrying oil by contamination resulting from the escape or discharge of oil from the ship, wherever such escape or discharge may occur, and includes the costs of preventive measures and further loss or damage caused by preventive measures.

Preventive measures means any reasonable measures taken by any person after an incident has occurred to prevent or minimize pollution damage.”

The definition of “pollution damage” in the 1992 Civil Liability Convention reads:

“Pollution damage means:

- a) loss or damage caused outside the ship by contamination resulting from the escape or discharge of oil from the ship, wherever such escape or discharge may occur, provided that compensation for impairment of the environment other than loss of profit from such impairment shall be limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken;
- b) the costs of preventive measures and further loss or damage caused by preventive measures.”

The definition of “preventive measures” in the 1992 Civil Liability Convention is identical to that in the 1969 Convention.

The definitions set out above are included in the respective Fund Convention by reference.

The definitions of “pollution damage” and “preventive measures” in the 1992 Conventions have served as a model for the corresponding definitions in other recent international treaties, *e.g.* the 1996 Convention on liability and compensation for damage in connection with the carriage of hazardous and noxious substances by sea (HNS Convention) which is not yet in force.

6. Admissibility of Claims for Compensation

General considerations

For a claim to be accepted by the IOPC Funds, it has to be proved that the claim is based on a real expense actually incurred, that there was a link between the expense and the incident and that the expense was made for reasonable purposes.

The 1971 Fund has acquired considerable experience with regard to the admissibility of claims. In connection with the settlement of claims it has developed certain principles as regards the meaning of “pollution damage”, which is defined as “damage caused by contamination”.

In 1994, a Working Group of the 1971 Fund examined in depth the criteria for the admissibility of claims for compensation within the scope of the 1969 Civil Liability Convention, the 1971 Fund Convention and the

1992 Conventions. The Report of the Working Group was endorsed by the Assembly of the 1971 Fund. The Assembly of the 1992 Fund adopted a Resolution to the effect that this Report shall form the basis of its policy on the criteria for the admissibility of claims.

The 1971 and 1992 Fund Assemblies have expressed the opinion that a uniform interpretation of the definition of “pollution damage” is essential for the functioning of the regime of compensation established by the Conventions.

The Funds consider each claim on the basis of its own merits, in the light of the particular circumstances of the case. Whilst criteria for the admissibility of claims have been adopted, a certain flexibility is nevertheless allowed, enabling the Funds to take into account new situations and new types of claims. Generally, the Funds follow a pragmatic approach, so as to facilitate out-of-court settlements.

Decisions on the admissibility of claims which are of general interest are reported in the IOPC Funds' Annual Report.

The IOPC Funds have published Claims Manuals which contain general information on how claims should be presented and set out the general criteria for the admissibility of various types of claims.

It should be emphasised that the Conventions apply only to “pollution damage”, *i.e.* damage caused by contamination. Damage caused by fire and explosion is not covered. Personal injury and death are therefore normally not covered by the Conventions.

A major nuclear incident could give rise to claims for loss of life or personal injury. The IOPC Funds have virtually no experience in respect of these types of claim. However, a nuclear incident could also cause damage to property and economic loss. Such an incident could necessitate very expensive measures to prevent damage to property or to reinstate the contaminated environment. The admissibility of claims relating to such damage has been considered in depth by the IOPC Funds in connection with the assessment of thousands of claims.

The various types of claims which have been presented to the IOPC Funds over the years are dealt with below.

Property damage

Pollution incidents often result in damage to property: the oil may contaminate fishing boats, fishing gear, yachts, beaches, piers and embankments. The Funds accept costs for cleaning polluted property. If the polluted property (*e.g.* fishing gear) cannot be cleaned, the Funds compensate the cost of replacement, subject to deduction for wear and tear. Measures taken to combat an oil spill may cause damage to roads, piers and embankments and thus necessitate repair work, and reasonable costs for such repairs are accepted by the Funds.

Clean-up operations on shore and at sea, and preventive measures

The Funds pay compensation for expenses incurred for clean-up operations at sea or on the shore. Operations at sea may relate to the deployment of vessels, the salaries of crew, the use of booms and the spraying of dispersants. In respect of onshore clean-up, the operations may result in major costs for personnel, equipment, absorbents etc.

Claims for measures to prevent or minimise pollution damage are assessed on the basis of objective criteria. The fact that a government or other public body decides to take certain measures does not in itself mean that the measures are reasonable for the purpose of the Conventions. The technical reasonableness is assessed on the basis of the facts available at the time of the decision to take the measures. However, those in charge of the operations should continually reappraise their decisions in the light of developments and further technical advice.

Claims for costs are not accepted when it could have been foreseen that the measures taken would be ineffective. On the other hand, the fact that the measures prove to be ineffective is not in itself a reason for rejection of a claim for the costs incurred. The costs incurred, and the relationship between these costs and the benefits derived or expected, should be reasonable. In the assessment, the IOPC Funds take account of the particular circumstances of the incident.

Measures taken to prevent or minimise pollution damage (“preventive measures”) are compensated by the Funds. Measures may have to be taken to prevent oil which has escaped from a ship from reaching the coast, *e.g.* by placing booms along the coast which is threatened. Dispersants may be used at sea to combat the oil. Costs for such operations are in principle considered as

costs of preventive measures. It must be emphasised, however, that the definition only covers costs of *reasonable* measures.

Fixed costs

Claims submitted by public authorities for carrying out clean-up operations and preventive measures often include elements covering costs which would have arisen even if the incident had not occurred (*e.g.* normal salaries for permanently employed personnel). Such fixed costs are distinguished from additional costs, *i.e.* costs incurred solely as a result of the incident which would not have arisen otherwise (*e.g.* payments for overtime).

The Funds' position is that a reasonable proportion of fixed costs should be admissible, provided that such costs correspond closely to the clean-up period in question and do not include remote overhead charges.

Consequential loss and pure economic loss

The Funds accept in principle claims relating to loss of earnings suffered by the owners or users of property which has been contaminated as a result of a spill (consequential loss).

An important group of claims are those relating to pure economic loss, *i.e.* loss of earnings sustained by persons whose property has not been polluted. Claims for pure economic loss are admissible only if they are for loss or damage caused by contamination. The starting point is the pollution and not the incident itself.

In order to qualify for compensation the basic criterion is that a reasonable degree of proximity exists between the contamination and the loss or damage sustained by the claimant. A claim is not admissible on the sole criterion that the loss or damage would not have occurred but for the oil spill in question. When considering whether the criterion of reasonable proximity is fulfilled, the following elements are taken into account:

- the geographic proximity between the claimant's activity and the contamination;
- the degree to which a claimant is economically dependent on an affected resource;

- the extent to which a claimant has alternative sources of supply or business opportunities; and
- the extent to which a claimant's business forms an integral part of the economic activity within the area affected by the spill.

Account is also taken of the extent to which a claimant can mitigate his loss.

The 1971 Fund has considered thousands of claims for pure economic loss, and has developed a certain policy as regards the application of the criterion of "a reasonable degree of proximity". These claims have arisen out of incidents in Algeria, France, Italy, Japan, Malaysia, the Republic of Korea, Spain, Sweden, the United Kingdom and Venezuela. The following examples illustrate this policy.

In the *Braer* incident (United Kingdom, 1993) the United Kingdom Government imposed a fishing exclusion zone covering an area along the west coast of Shetland which was affected by the oil, prohibiting the capture, harvest and sale of all fish and shellfish species within the zone area. Dispersed oil affected 18 salmon farms within the exclusion zone. On the basis of scientific and other evidence, the 1971 Fund accepted as reasonable the slaughter and disposal of the salmon which were in the farms at the time of the incident, and paid compensation for the slaughtered salmon totalling USD 34 million.

Shetland salmon farmers maintained that the price of Shetland farmed salmon sold from outside the exclusion zone was depressed for some 30 months as a result of the incident and presented claims for compensation for the alleged losses. The 1971 Fund accepted, on the basis of the advice of its experts, that there was a fall in the relative price of Shetland salmon during the months immediately after the incident and paid compensation for the losses relating to that period, but rejected the claims for further compensation. The claimants took legal action against the 1971 Fund claiming compensation for a longer period of time. The Scottish Court rejected the claim on the ground that the claimants had not suffered any damage to their property and that the claims therefore were inadmissible. The claimants have appealed against the judgement.

The 1971 Fund has received claims in a number of cases from businesses which process and pack fish. The claimants have maintained that as a result of the incident they were deprived of their supply of fish from the fishermen who normally fished within the area affected by the spill and that they suffered loss of income. The 1971 Fund has accepted claims from a number of businesses located within the affected area, but has rejected claims

from businesses located relatively far from that area, in one case some 400 kilometres outside the area (*Sea Empress* incident, United Kingdom, 1996).

In the *Braer* incident a claim was presented by a company in Denmark which sold salmon feed to the Shetland salmon farmers and by a sales agent in Oslo, 90% of whose sales consisted of salmon from the area covered by the exclusion zone. These claims were rejected, mainly on the grounds that there was not a sufficient degree of proximity between the claimant's activity and the contamination, and that the claimant's business did not form an integral part of the economic activity of the area affected by the spill.

A claim was presented in the *Braer* incident by a company which supplied salmon smolt to salmon farmers on Shetland from its installation on mainland Scotland some 500 kilometres from Shetland. The 1971 Fund rejected this claim as not fulfilling the criteria for admissibility. The company pursued its claim in the Scottish Courts. The main argument invoked by the company was that the United Kingdom statutes which give effect to the 1969 Civil Liability Convention and the 1971 Fund Convention imposed an absolute liability of indeterminate extent in respect of all losses caused by contamination. The Court of first instance agreed with the 1971 Fund's position that, although the statutory provisions imposed liability for pure economic loss, there was nothing in the provisions to suggest that the limitations upon the recoverability of economic loss in general law were to be displaced. The Court stated that the company's primary argument would extend the scope of statutory liabilities in the case beyond any reasonable limit and beyond any limit which Parliament could have contemplated. It was also stated that although the purpose of the 1971 Fund was to provide full compensation to victims, the Fund's liability was limited. The Court stated that this suggested that the Fund was to compensate proximate claimants and not remote claimants. In conclusion the Court held that the liability for pure economic loss could be satisfactorily interpreted to mean a liability for such loss where it was directly caused by the contamination in accordance with the established principles of Scots law. The company has appealed against the judgement, and the Court of Appeal's judgement is expected in May 1999.

The IOPC Funds accept in principle claims from hotels, restaurants and other businesses in the tourism industry which have suffered losses as a result of an oil spill. It should be noted, however, that the tourism industry is affected by a number of factors and that the number of tourists who visit a particular area may vary from one year to another for reasons which are impossible to establish. The fundamental condition for admissibility is therefore that it must be established that the reduction in tourism was in fact caused by the oil spill.

The IOPC Funds distinguish between, on the one hand, those claimants who sell their goods or services directly to tourists and whose businesses are affected directly by a reduction in visitors to the area affected by an oil spill and, on the other hand, those claimants who do not provide goods or services directly to tourists but only to other businesses which in their turn serve tourists. The Funds have taken the view that in general there would not be a reasonable degree of proximity between the contamination and the losses suffered by claimants in the latter category and that claims of that type would not normally be admissible.

In the light of this position of principle, the 1971 Fund rejected a number of claims arising out of the *Sea Empress* incident. A laundry service operator provided services to hotels and restaurants in the affected area. A company located within the affected area sold frozen food to hotels and restaurants in the area. A small business manufactured postcards with photographs of scenic places in the area and sold these postcards to hotels and shops. These claimants maintained that their income had decreased due to the reduction in the number of tourists visiting the area. All these claims were rejected on the ground that there was not a reasonable degree of proximity between the contamination and the alleged losses.

In connection with the *Sea Empress* incident a civil engineering contractor, based in the area affected by the oil spill, claimed compensation for losses resulting from contracts allegedly lost due to the incident. The claimant alleged that he was dependent on work carried out for local authorities, but that such work had not been forthcoming in the months following the incident because the authorities were concentrating on the clean-up operations and did not place any orders due to lack of funds. The 1971 Fund considered that the claimant's loss was only indirectly caused by contamination. The Fund noted that the alleged loss was suffered as a result of local authority decisions based on financial constraints and not as a result of the contamination itself. In the light of these circumstances, the 1971 Fund took the view that there was not a sufficient degree of proximity between the claimant's loss and the contamination resulting from the incident and therefore rejected the claim.

Measures to prevent pure economic loss

Claims for the cost of measures to prevent pure economic loss may be admissible if they fulfil the following requirements:

- the cost of the proposed measures is reasonable;

- the cost of the measures is not disproportionate to the further damage or loss which they are intended to mitigate;
- the measures are appropriate and offer a reasonable prospect of being successful; and
- in the case of a marketing campaign, the measures relate to actual targeted markets.

To be admissible, the costs should relate to measures to prevent or minimise losses which, if sustained, would qualify for compensation under the Conventions. Claims for the cost of marketing campaigns or similar activities are accepted only if the activities undertaken are in addition to measures normally carried out for this purpose. In other words, compensation is granted only for the additional costs resulting from the need to counteract the negative effects of the pollution.

In connection with the *Nakhodka* incident (Japan, 1997), the 1971 Fund accepted a claim for USD 360 000 from a federation of fishery co-operatives for the cost of a major publicity campaign aimed at preventing and mitigating losses in sales from the area affected by the oil spill. The sales from the members of that federation during the three months following the spill amounted to some USD 475 million. It was considered that the costs of the measures were reasonable and not disproportionate to the losses which could have been sustained if no action had been taken. The measures were considered appropriate in the circumstances and offered a reasonable prospect of success. The measures related to targeted markets and were in addition to the federation's normal marketing activities.

Environmental damage

In 1980, the 1971 Fund Assembly adopted an important Resolution on the admissibility of claims relating to damage to the environment. In the Resolution it is stated that the assessment of compensation "... is not to be made on the basis of an abstract quantification of damage calculated in accordance with theoretical models". In other words, compensation can be granted only if a claimant, who has a legal right to claim under national law, has suffered quantifiable economic loss.

Damage to the marine environment cannot be easily assessed in monetary terms, as the marine environment does not have a direct market value. In recent years models have been elaborated in many countries for the

assessment of damage to the marine environment. It is submitted that any assessment of ecological damage to the marine environment in monetary terms would require sweeping assumptions regarding relationships between different components of the environment and economic values. Any calculation of the damage suffered in monetary terms would necessarily be arbitrary. For this reason, it is maintained that it would be inappropriate to admit claims for compensating damage to unexploited natural resources which have no owner.

The 1992 Conventions contain an amended wording of the definition of pollution damage. A proviso was added to the definition in the 1969 and 1971 Conventions to the effect that compensation for impairment of the environment (other than loss of profit from such impairment) should be limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken. This new wording was not in any way intended to widen the concept, but rather to codify the interpretation of the definition as developed by the 1971 Fund.

The Funds have decided that in order for claims for the cost of measures to reinstate the marine environment to be admissible for compensation, the measures should fulfil the following criteria:

- the cost of the measures should be reasonable;
- the cost of the measures should not be disproportionate to the results achieved or the results which could reasonably be expected; and
- the measures should be appropriate and offer a reasonable prospect of success.

The test of reasonableness laid down in the 1992 Conventions is an objective one, *i.e.* the measures should be reasonable from an objective point of view in the light of the information available when the specific measures are taken. Compensation is payable only in respect of measures actually undertaken or to be undertaken.

7. Conclusions

The regime of compensation created by the 1969 and 1971 Conventions represented an innovation in international law. It was not possible to foresee how this regime would function. In the light of 20 years experience, it

is submitted that the regime has functioned reasonably well. This is evidenced by the fact that when the 1971 Fund Convention entered into force in 1978, the 1971 Fund had 14 Member States, whereas today 83 States belong to the 1971 or the 1992 Fund. It is expected that a number of other States will become Members of the 1992 Fund in the near future.

The Assemblies of the IOPC Funds have repeatedly emphasised the importance of uniform application of the Conventions in all Member States. Such uniform application is crucial, since the oil industry in one Member State pays for the cost of clean-up operations carried out and losses suffered in other Member States.

The examples given above show that the IOPC Funds have granted compensation for pure economic loss in many cases where the national courts might not have accepted the claims. The decisions taken by the governing bodies of the Organisations composed of representatives of the Governments of Member States have contributed to the development of international law. This is in line with the United Nations Convention on the Law of the Sea (Article 235) which obliges States to co-operate in developing international law in the field of liability and compensation.

Very often the question is made why the IOPC Funds are not prepared to accept certain types of claims. It is submitted that this is the wrong question. The real question is: How far are the Governments of IOPC Funds' Member States prepared to impose a financial burden on their respective oil industries? This is a political question, which was answered by the position taken by the 1992 Diplomatic Conference.

It should also be noted that, pursuant to the applicable Fund Convention, there is only a finite amount of money available. If the IOPC Funds were to accept claims which have only an indirect link to the pollution or claims for general damage to the environment, the first line victims would run an increased risk of not being fully compensated.

ANNEX

States Parties to both the 1992 Civil Liability Convention and the 1992 Fund Convention as at 1 May 1999

<i>31 States for which 1992 Fund Convention is in force (and therefore Members of the 1992 Fund)</i>		
Australia	Ireland	Oman
Bahamas	Jamaica	Philippines
Bahrain	Japan	Republic of Korea
Croatia	Latvia	Singapore
Cyprus	Liberia	Spain
Denmark	Marshall Islands	Sweden
Finland	Mexico	Tunisia
France	Monaco	United Arab
Germany	Netherlands	Emirates
Greece	Norway	United Kingdom
Grenada		Uruguay
<i>12 States which have deposited instruments of ratification, but for which the 1992 Fund Convention does not enter into force until date indicated</i>		
Canada		29 May 1999
Algeria		11 June 1999
New Zealand		25 June 1999
Barbados		7 July 1999
Venezuela		22 July 1999
Belgium		6 October 1999
Iceland		13 November 1999
Belize		27 November 1999
China (Hong Kong Special Administrative Region)		5 January 2000
Sri Lanka		22 January 2000
Vanuatu		18 February 2000
Panama		18 March 2000

States Parties to the 1992 Civil Liability Convention but not to the 1992 Fund Convention as at 1 May 1999 *(and therefore not Members of the 1992 Fund)*

<i>2 States for which the 1992 Civil Liability Convention is in force</i>	
Egypt	Switzerland

**States Parties to both the 1969 Civil Liability Convention and the 1971
Fund Convention as at 1 May 1999**
(and therefore Members of the 1971 Fund)

<i>41 States Parties to the 1971 Fund Convention</i>		
Albania	Iceland	Poland
Antigua & Barbuda	India	Portugal
Benin	Italy	Qatar
Brunei Darussalam	Kenya	Russian Federation
Cameroon	Kuwait	Saint Kitts & Nevis
Colombia	Malaysia	Seychelles
Côte d'Ivoire	Maldives	Sierra Leone
Djibouti	Malta	Slovenia
Estonia	Mauritania	Syrian Arab Republic
Fiji	Mauritius	Tonga
Gabon	Morocco	Tuvalu
Gambia	Mozambique	United Arab Emirates
Ghana	Nigeria	Yugoslavia
Guyana	Papua New Guinea	
<i>11 States Parties to the 1971 Fund Convention which have deposited instruments of denunciation which will take effect on date indicated</i>		
Canada		29 May 1999
New Zealand		25 June 1999
Indonesia		26 June 1999
Barbados		7 July 1999
Venezuela		22 July 1999
Croatia		30 July 1999
Algeria		3 August 1999
Belgium		6 October 1999
China (Hong Kong Special Administrative Region)		5 January 2000
Sri Lanka		22 January 2000
Vanuatu		18 February 2000
<i>1 State which has deposited an instrument of ratification, but for which the 1971 Fund Convention does not enter into force until date indicated</i>		
Panama		16 June 1999

**States Parties to the 1969 Civil Liability Convention but not to
the 1971 Fund Convention as at 1 May 1999**
(and therefore not Members of the 1971 Fund)

<i>24 States Parties to the 1969 Civil Liability Convention</i>	
Brazil	Latvia
Cambodia	Lebanon
Chile	Luxembourg
Costa Rica	Nicaragua
Dominican Republic	Panama*
Ecuador	Peru
Egypt	Saint Vincent & the Grenadines
Equatorial Guinea	Sao Tomé & Principe
Georgia	Saudi Arabia
Guatemala	Senegal
Honduras	South Africa
Kazakhstan	Yemen
<i>1 State Party to the 1969 Civil Liability Convention which has deposited an instrument of denunciation which will take effect on date indicated</i>	
Belize	27 November 1999

- * Panama will become a Member of the 1971 Fund on 16 June 1999 (see table above).

**THE NEW DEFINITION OF NUCLEAR DAMAGE IN THE 1997
PROTOCOL TO AMEND THE 1963 VIENNA CONVENTION
ON CIVIL LIABILITY FOR NUCLEAR DAMAGE**

**LA NOUVELLE DÉFINITION DU DOMMAGE NUCLÉAIRE SELON
LE PROTOCOLE D'AMENDEMENT DE 1997 DE LA CONVENTION
DE VIENNE DE 1963 RELATIVE À LA RESPONSABILITÉ CIVILE
DES DOMMAGES NUCLÉAIRES**

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Résumé

Cette communication analyse le contenu et la portée de la nouvelle définition du dommage nucléaire contenue dans le Protocole d'amendement de la Convention de Vienne relative à la responsabilité civile en matière de dommage nucléaire, par rapport à la définition figurant dans la Convention de 1963.

S'inspirant de l'expérience des accidents de Three-Mile Island et de Tchernobyl, l'auteur observe que les coûts afférents aux mesures préventives, au dommage à l'environnement et à la couverture des pertes économiques pures, sont susceptibles de constituer une partie importante de la réparation des conséquences d'un accident nucléaire. Il passe ensuite à l'analyse détaillée de la nouvelle définition, en insistant sur la notion de perte économique dont il soulève les incertitudes quant à l'admissibilité des demandes en réparation. Il passe en revue certaines traditions jurisprudentielles nationales ainsi que l'expérience des Conventions maritimes à ce sujet. Un autre développement est consacré à la question du dommage à l'environnement, en se fondant sur l'expérience de divers jugements se rapportant aux modalités de réparation de ce type de dommage. Les mesures préventives et les conditions de l'admissibilité de leur réparation sont ensuite étudiées, en insistant sur le critère de « mesures raisonnables ».

L'auteur conclut son exposé en observant que la définition révisée du dommage nucléaire aura profondément modifié la nature de la protection offerte par la Convention de Vienne et constitue une avancée significative. Il note cependant les incertitudes qui peuvent subsister à ce sujet ainsi que le fait que cet élargissement de la portée de la réparation du dommage nucléaire doit obligatoirement s'accompagner d'une augmentation des fonds disponibles, non seulement de la part de l'exploitant responsable mais aussi de l'État concerné.

1. Introduction

One of the most significant problems with the Vienna Convention on Civil Liability for Nuclear Damage of 1963 (hereinafter: 1963 Vienna Convention), is the relatively narrow concept of “nuclear damage” which qualifies to be compensated under the regime established by this Convention. The 1963 Vienna Convention defines “nuclear damage” as “loss of life, any personal injury or any loss of, or damage to, property ...”, but also “any other loss or damage ... if and to the extent that the law of the competent court so provides”.¹ This definition makes it clear that compensation for any damage other than loss of life, personal injury and loss of or damage to property is subject exclusively to the law of the competent court. However, the question whether the regime of liability established by the 1963 Vienna Convention may also encompass damage to environment is disputable within doctrine, and it has been argued that the civil liability which does not explicitly refer to environmental damage may not apply to goods such as water, soil or air which belong to *res communis omnium*.²

Having in mind the experience of the Three Mile Island and Chernobyl accidents,³ which demonstrated that the costs of preventive measures, damage to the environment and economic loss may constitute substantial portions of the total damage following a nuclear incident, from the outset of negotiations on the revision of the 1963 Vienna Convention in the Standing Committee on Civil Liability for Nuclear Damage, it was very clear that the definition of nuclear damage is of paramount importance for the

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1. Art. I, Para. 1(k)(i) and (II) of the 1963 Vienna Convention.
 2. See Norbert Pelzer, *Compensation for Nuclear Damage Caused to the Environment in Relation to the Paris and Vienna Conventions*, Working Paper presented at the Informal Meeting of Experts Concerning the Relationship Between the Paris and Vienna Conventions, Vienna 1986, p. 7.
 3. The Three Mile Island incident involved partial melting of the reactor core, but the containment system prevented significant off-site exposure to radioactive material. In the case of Chernobyl, the core melted and the containment failed. Dozens of lives were lost rapidly and, by some estimates, premature death was caused to hundreds of thousands of people because of exposure to radioactive substances. The domestic financial costs alone have exceeded USD 20 billion, and the total costs were far higher. See Michael Trebilcock and Ralph Winter, *The Economics of Nuclear Accident Law*, *International Review of Law and Economics*, 1997, Vol. 17, No. 2, p. 218.

development of the nuclear civil liability regime. The inclusion of environmental damage was a sensitive question as the coverage of such damage would have a significant impact on the amount of funds available for compensation relating to personal injury, death and damage or loss of property.⁴ Opponents underlined that such damage cannot be assessed in monetary terms as the environment does not have a market value. Furthermore, impairment of the environment is not a sufficiently precise term as there are neither generally applicable international norms nor guidelines on specific maximum permissible contamination.

Similar uncertainties arose with inclusion of economic loss and the costs of preventive measures in the definition of “nuclear damage”. The problem was intensified by the uncertainty surrounding the insurability of environmental damage, and also insurability of economic loss and preventive measures.⁵

During the revision of the 1963 Vienna Convention, the problem of the definition of nuclear damage was also considered in the context of significant progress which has been achieved in other conventions which regulate compensation for damage. The Protocol of 1992 to Amend the International Convention on Civil Liability for Oil Pollution Damage from 1969 was examined as a possible model for a new definition of nuclear damage. This Protocol broadened civil liability in its definition of “pollution damage” to encompass environmental damage, “... provided that compensation for impairment of the environment other than loss of profit from such impairment

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4. In a statement in the US Nuclear Regulatory Commission’s (1985) report on the Price Anderson Act, the commissioners’ “worst-case” scenario, in the event of a nuclear accident, was a USD 10 billion loss in physical assets, before any deaths or health effects. See: J.A. Dubin, and G.S. Rothwell, *Subsidy to nuclear power through Price-Anderson liability limit*, Contemporary Policy Issues, 1990, p. 75.
 5. The European Insurance Committee expressed serious reservations in the Standing Committee on inclusion of environmental damage, preventive measures and pure economic loss. Particular concern was expressed on the insurability of preventive measures taken by persons other than the competent authorities. For such situations, the insurance industry requested such measures be taken under the order of the competent authorities. According to the explanation, if measures are not ordered “there is the risk of speculative claims from people who might take any manner of action (including going on holiday) on the grounds that their action was reasonable” (IAEA, Doc. SCNL/12/1, p. 2).

shall be limited to cost of reasonable measures of reinstatement actually undertaken or to be undertaken”, and “the cost of preventive measures and further loss or damage caused by preventive measures”.⁶ An almost identical definition was adopted in the 1993 Council of Europe Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment.⁷

The development of other international liability regimes towards protection of the environment and other legitimate interests which could be adversely affected by a nuclear incident, together with the increased sensitivity of the public towards the use of nuclear energy, created a climate in which the modernisation of the definition of nuclear damage become inevitable. All efforts in this field were based on the reality of different purposes which the international nuclear liability regime should serve. Surely, the most obvious aspect of nuclear liability is the “establishment of minimum standards to provide financial protection against damage”.⁸ However, it is clear that the nuclear liability regime serves also as a tool to ensure efficiency of the nuclear safety system, imposing on the nuclear operator serious liability obligations which should intensify his efforts in respect of nuclear safety.⁹ Finally, it should

6. Art. 2, Para. 1.

7. Art. 2, Para. 7; International Legal Materials, 1993, 32, p. 1228. The Convention does not apply to damage caused by a nuclear substance, and which is covered by the Paris and Vienna Conventions or if liability is regulated by “specific internal law, provided that such law is as favourable, with regard to compensation for damage” as the two cited conventions (Art. 4, Para. 2). It is worth mentioning that the Convention of International Liability for Damage Caused by Space Objects, which applies among states and does not establish an international regime of civil liability, also covers environmental harm (International Legal Materials, 1971, p. 965). See also Philippe Sands, *Observations on International Nuclear Law Ten Years after Chernobyl*, Review of European Community & International Environmental Law, 1996, Vol. 5, No. 3, p. 199.

8. See the Preamble of the 1963 Vienna Convention.

9. See M-C. Boehler, *Reflections on Liability and Radiological or Nuclear Accidents: The Accidents at Goiania, Forbach, Three Mile Island and Chernobyl*, *Nuclear Law Bulletin* No. 59, June 1997, p. 13. However, some opposite views in respect of the role of the international nuclear liability regime were expressed during negotiations in the Standing Committee on the revision of the 1963 Vienna Convention. The delegate of Bulgaria pointed out that allocation of large funds for liability might become a restrictive factor in upgrading safety in countries having economic difficulties, and suggested 15 million SDRs as a generally acceptable amount of operator's liability

not be forgotten that revision of the relatively old Convention was linked to an endeavour to provide a sound legal basis for the development of nuclear energy, including adjustment of its provisions to public expectations.

2. **Definition of nuclear damage in the 1997 Protocol to amend the 1963 Vienna Convention**

From the beginning of negotiations within the Standing Committee on the revision of the 1963 Vienna Convention, it was clear that the definition of “nuclear damage” is essential for the proper functioning of the regime which aims to provide fair compensation for victims in the event of a nuclear incident. Discussions on this issue went in the direction of an extension of the scope of nuclear damage, but serious disagreement based on the different concepts of national tort law, legislation and jurisprudence in respect of economic loss and environmental damage, made it very difficult to formulate a precise definition of nuclear damage.¹⁰

The definition adopted in the Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage (hereinafter “the Protocol”) is a compromise solution. This definition includes environmental damage, economic loss and preventive measures, but leaves it to the law of the competent court to decide to what extent these aspects of damage may qualify for compensation.

Article 2, Paragraph 2 of the Protocol defines “nuclear damage” as “loss of life or personal injury and loss of or damage to property” (*damnum emergens*) resulting from the nuclear incident. The definition also includes, but only to the extent determined by the law of the competent court:

1. Economic loss arising from death, personal injury or damage to property (if incurred by a person entitled to claim in respect of such loss of damage).

(IAEA, Doc. SCNL/9/1). See Report of the Standing Committee, Ninth Session (February 1994, IAEA, SCNL/9/INF.5, p. 3).

10. See: Patrick Reyners: *Modernisation of the Civil Liability Regime for Nuclear Damage: Amendment of the Vienna Convention and Adoption of the New Convention on Supplementary Compensation for Nuclear Damage*, Report for the Seminar on Nuclear Law in Tallinn, Estonia, 24-28 August 1998, p. 4.

2. The costs of measures of reinstatement of impaired environment, unless such impairment is insignificant, if such measures are actually taken or to be taken, and insofar as not included in the category of “economic loss”.
3. Loss of income deriving from an economic interest in any use or enjoyment of the environment, incurred as a result of significant impairment of that environment.
4. The cost of preventive measures and further loss or damage caused by such measures.
5. And 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.

All mentioned losses or damages, except those which result from the costs of preventive measures, must arise out of or result from ionising radiation emitted by any source of radiation inside a nuclear installation, or emitted from nuclear fuel or radioactive products or waste in, or of nuclear material coming from, originating in, or sent to, a nuclear installation whether so arising from the radioactive properties of such matter or from a combination of radioactive properties with toxic, explosive or other hazardous properties of such matter.

The formulation of this definition is not entirely clear. The reference to the “extent determined by the competent court” does not lead to the conclusion that the law of the competent court is applicable to the question of the admissibility of the claim for compensation for economic loss, environmental damage or damage to the property.¹¹ The law of the competent court is

11. The formulation of Article I, Para. 1(k)(ii) of the 1963 Vienna Convention, by using the expression “if and to the extent”, makes it clear that a broader scope of the definition of nuclear damage, beyond the damage which is a result of loss of life, any personal injury or any loss of, or damage to, property, is entirely dependent on the legislation of the competent court. On the contrary, the word “if” has been omitted in the text of Article 2, Paragraph 2 of the Protocol. Furthermore, only the last part of the definition, namely pure economic loss not related to the impairment of the environment has been expressly linked with the solutions of the “general law on civil liability of the competent court”. *Argumentum a contrario*, the remaining part of the definition of nuclear damage, placed under the expression “to the extent determined by the competent court”, should not be considered as optional for the competent court with respect to the admissibility of claims.

applicable to the admissibility of claims only in respect of economic loss other than that caused by the impairment of the environment. Also, this formulation does not relate to the nature, form or extent of compensation.¹²

This definition of nuclear damage results from the necessity to provide for a great deal of flexibility, allowing the reconciling of such a definition of nuclear damage with the reality of significant differences of national legislation of potential Contracting Parties to the Protocol,¹³ primarily in respect of pure economic loss, but also the interpretation of the other elements of the definition. Therefore, the Protocol has broadened the definition of nuclear damage, but at the same time it has recognised the existing differences in comparative legislation, leaving the extent of damage to ultimately be determined by the law of the competent court. Such a solution makes compensation for nuclear damage dependent on the interpretation of the law of the competent court on the notions of economic loss, environmental damage and preventive measures.¹⁴ However, the precise enumeration of the types of damage can be seen as a significant improvement of the international nuclear liability regime as established by the amended Vienna Convention.¹⁵

Damage resulting from loss of life or personal injury, or loss of or damage to property does not raise problems of legal interpretation. Provided that the causal link between the given incident and the damage is established, compensation shall be provided under every legal system which adheres to the established international liability regime. For such damages the only serious question is that of their assessment. On the other hand, the remaining part of the definition of nuclear damage contained in the Protocol, although clearly compensable in principle, raises serious difficulties in legal interpretation.

3. Economic loss

The definition of nuclear damage in the revised Vienna Convention includes three different categories of economic loss (*lucrum cessans*). First is

12. See Art. VIII, Par. 1 of the 1963 Vienna Convention as amended by the Protocol.

13. See Reyners (note 10), p. 5.

14. Vanda Lamm, *The Protocol amending the 1963 Vienna Convention*, *Nuclear Law Bulletin* No. 63, June 1998, p. 14.

15. *Ibid.*

the economic loss arising from death, personal injury or damage to property incurred by a person entitled to claim in respect of such loss or damage (consequential economic loss); second, economic loss which is the result of significant impairment of the environment (pure economic loss related to the impairment of the environment); and finally, loss sustained without accompanying physical damage (other pure economic loss). The admissibility of claims for the last category of economic loss is entirely left to the solutions of the general law on civil liability of the competent court.

The Protocol gives no guidance as to what extent claims may be made for economic loss. Most legal systems allow compensation in respect of claims for loss of profit or earnings which is a result of damage to the claimant's property, but in many jurisdictions claims for "pure economic loss" would be strictly disallowed. Indeed, the concept of economic loss differs in civil and common law systems. In civil law countries economic loss comprises both losses resulting from physical damage to property and those not resulting from physical damage. In common law, there is a clear differentiation between consequential damage and pure economic loss.¹⁶ In the theory and jurisprudence of the common law legal system, the term "pure economic loss" often means "loss which should not be compensated".¹⁷

The primary ground for such an approach is concern that admissibility of claims in respect of "pure economic loss" would open an uncontrollably wide range of claims, with very different status in respect to its remoteness with the wrongful act. The historical development of common law on tort centred on the primacy of property rights and created a doctrine which provided for compensation of damage to the property in a physical sense, but not merely "economic damage". However, the approach of the common law courts has not

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16. For a comparison between the criteria used in two systems, see A.M. Honore, *Causation and Remoteness of Damage*, International Encyclopaedia of Comparative Law, Vol. XI: Torts, Chapter 7, p. 1-154. See also W. Tetley, *Damages and Economic Loss in Marine Collision: Controlling the Floodgates*, Journal of Maritime Law and Commerce 1991, Vol. 22, No. 4, pp. 539 et seq.). After Three Mile Island, US courts compensated economic losses where the applicant could prove physical or property damage, e.g. only consequential damage. See also Antonia Layard, *Nuclear Liability Damage Reform After Chernobyl*, Review of European Community & International Environmental Law, 1996, Vol. 5, No. 3, p. 220.
 17. Efstathios K. Banakas, *Tender in the Night: Economic Loss – The Issues*, in: Civil Liability for Pure Economic Loss, (ed. Efstathios K. Banakas), Centre of European Law and Practice, University of East Anglia, Kluwer, 1996, p. 3.

precluded recovery in cases where the relationship between the parties is sufficiently close. Under certain circumstances, the wrongfulness of the act, the physical, chemical, aesthetic or other material nature of the damage suffered by the plaintiff, causal route, the degree of the defendant's fault and the plaintiff's legitimate expectations may be taken into account and finally determine the issue of what is recoverable "economic loss".¹⁸

Different ground rules of civil law jurisdictions in respect to the perception of purely economic interests which are not considered as inferior to interests in real property, or other proprietary or quasi-proprietary interest, have resulted in no clear distinction between consequential damage and pure economic loss. Physical damage is not a relevant criterion for determining the recoverability of the claim, but there exist other criteria used for such purposes, which differ from country to country.

For example, in the French legal system there is, in principle, no reason why economic loss would be irrecoverable simply on the ground that it is unaccompanied by physical damage, or by the infringement of property or any other proprietary interest or rights.¹⁹ French courts recognise pure economic loss upon proof of the existence of direct and certain results of the alleged wrongdoing by the defendant. The requirement of "certainty" restricts delictual liability to reasonable limits, and the requirement of "directness" prevents compensation from being awarded to persons who claims loss along the extensive line of "domino" consequences. Such an approach enabled courts to shift around the criteria of legal causation, focusing on the wrongful event rather than on the nature and extent of specific legal rights of the plaintiff.²⁰

18. For American practice see Banakas, (note 17), p. 13-15. In English law, the basic principle is that pure economic loss is not recoverable, but there is strictly speaking no general rule disallowing recovery of such claims. See David Horwath, *Economic Loss in England: the Search for Coherence*, in: *Civil Liability for Pure Economic Loss*, (ed. Efstathios K. Banakas), Centre of European Law and Practice, University of East Anglia, Kluwer, 1996, pp. 51-53.

19. See analysis in: Norbert Trotz, *Report of the Chairman of the International Sub-Committee: Admissibility and Assessment of Claims for Pollution Damage*, International Maritime Committee, Yearbook 1993, Sydney I, Documents for the Conference, p. 98.

20. Such an analysis was supported in a decision of the *Cour de Cassation* of 1965, where a defendant was held liable to compensate the Marseille Bus Company for lost income, when the town centre was blocked by the traffic accident for

In German tort law, liability attaches to wrongful invasions of “protected” legal rights or interests and the preconditions of liability are harm and invasion. Damage must only be compensated when the person causing it has acted contrary to law and in a culpable manner or if the harm can be attributed to him on the basis of strict liability for harm lawfully caused.²¹ A typical situation where pure economic loss may be compensated is the breach of the right to an established and operating business.²²

The technology progress, which has intensified interdependence of damage to property or impairment of environment with economic interests, calls for inclusion of pure economic loss into the legal considerations. Social and economic implications of economic loss reflected in deterioration of economic conditions, financial well-being, influence on trade and investments, insolvency or unemployment are not to be neglected. It would be unfair for the person suffering economic loss to bear their own loss, particularly where concrete economic interests are clearly identifiable.

which he was responsible (Cass. civ. 2e, 28 April 1965, K.1965 J.777), and in the decision by which the Electricity Board of France was compensated for the loss when two hydroelectric stations had to be shut down to clean the water from a dangerous toxic substance that escaped from a lorry overturned on the highway (*Tribunal de Grande Instance de Valence*, 15 October 1971, *Cahiers juridiques d'électricité et de gaz* 1972 J.56). See Banakas, (note 17), p. 16.

21. Art. 823 I of the German Civil Code (BGB). The invasion must be direct to the business itself and the asset affected must be integral to the business (BGHZ 3, 270;7;30;29, 65). See Erwin Deutch, *Compensation for Pure Economic Loss in German Law*, in: *Civil Liability for Pure Economic Loss*, (ed. Efstathios K. Banakas), Centre of European Law and Practice, University of East Anglia, Kluwer, 1996, p. 80.
22. Art. 823 I of the German Civil Code was interpreted in the light of Art. 14 of the German Constitution (*Grundgesetz*) which mentions only “ownership”. This term was considered by the German Federal Constitutional Court and the writers to include all property rights and, generally, the economic well-being of citizens, e.g. individual economic rights (BVerG 1, 264, 276; Mainz/Durig, GG Kommentar Art 14, Rdn 96f). See Banakas, (note 17), p. 11. The German Supreme Industrial Court recognized the “material” character of the “pure” loss of earnings in several cases. *Ibid*, p. 19. On the problem of compensability of economic loss in Italian courts and distinction between “rights” and “legitimate interest”, see Monateri, P.G.: *Economic Loss in Italy*, in: *Civil Liability for Pure Economic Loss*, (ed. Efstathios K. Banakas), Centre of European Law and Practice, University of East Anglia, Kluwer, 1996, p. 200.

The importance of the problem of the admissibility of claims in respect of pure economic loss become increasingly acute in the context of damage to the environment. This has been recognised within the international conventions of liability and compensation for oil pollution damage. Obviously, oil pollution may influence many economic activities which are directly or indirectly related to the damage to the property or to the environment. For instance, a fisherman who loses earnings as a result of reduced catches of fish or is prevented from fishing, pending the cleaning of the polluted marine environment, may claim loss of profit. The same may apply to hoteliers who lose bookings as a result of damage to an environment in which they have no proprietary entitlement. In practice, it would be very hard to resist such claims on the basis that pure economic loss is not recoverable.

On the other hand, the question is where to draw the line between recoverable claims and those which should be dismissed for reasons of remoteness of what might be called economic proximity. Should compensation be paid to a tourist agency having its place of business far from the polluted area, but whose main business activity consists of making bookings for hotel rooms in the polluted area, or to hoteliers who are not in the immediate vicinity, but nevertheless suffer loss of income because tourists avoid the whole area? What should be done with claims of the fish processing industry involved in long-standing business relations with fisherman who suffer reduced catches of fish? If claims for lost of profit are paid to companies, should they be paid also to employees of companies? Could the recovery for pure economic loss extend to claims of the local authorities for reduced taxes as a result of diminished economic activities, or to the cost of advertising campaigns designed to remedy the “loss of image” of the polluted area?

The International Oil Pollution Compensation Fund established by the Convention of 1971 has recognised claims for compensation of economic loss, but only in respect of persons whose incomes directly depended on activity in the polluted sea or on coastal or sea-related activities, *e.g.* loss of earnings suffered by fisherman or by hoteliers and restaurants at seaside resorts.²³

In order to find a suitable test based on clearly defined principles which might prevent an uncontrolled profusion of claims, the Comité Maritime International has adopted Guidelines on Oil Pollution Damage (hereinafter

23. Måns Jacobsson, *The International Conventions of Liability and Compensation for Oil Pollution Damage and the Activities of the International Oil Pollution Compensation Fund*, in: *Liability for Damage to the Marine Environment* (ed. Collin M. de la Rue), London, 1993, p. 52.

“CMI Guidelines”),²⁴ which imposes one important restriction, namely, that pure economic loss must be caused by the contamination itself, and that it would not be sufficient for a causal connection to be shown between the loss and the incident which caused the escape or discharge of the oil from the vessel involved in the incident.²⁵ Pure economic loss will be treated as caused by contamination only when a reasonable degree of proximity exists between the contamination and the loss.²⁶ The recovery may extend only to those who depend for their income on commercial exploitation of the affected coastal or marine environment,²⁷ but not to parties merely claiming to have suffered delay, interruption or other loss of business not involving commercial exploitation of the environment or to the loss of taxes and similar revenues by public authorities.²⁸

The same problem appears in the context of interpretation of the Protocol to amend the 1963 Vienna Convention. Consequential economic loss poses no serious difficulties in terms of application, as in most countries, a claim for compensation of economic loss is generally accepted if it relates to damage to property or a right of possession. On the other hand, while intending to cover the broadest range of damage, the Protocol recognises the very

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24. Resolution of the 35th International Conference of the Comité Maritime International in Sydney from 2nd to 8th October 1994 (Doc. Pollution/Sydney-13).
 25. CMI Guidelines, Part I (General), 2.
 26. CMI Guidelines, Part II (Economic Loss), 6(a). In ascertaining whether such proximity exists, account is to be taken of all the circumstances, including (but not limited to) the following general criteria: (i) the geographical proximity between the claimant's activities and the contamination; (ii) the degree to which the claimant is economically dependent on an affected natural resource; (iii) the extent to which the claimant's business forms an integral part of economic activities in the area which are directly affected by the contamination; (iv) the scope available for the claimant to mitigate his loss; (v) the foreseeability of the loss; and (vi) the effect of any concurrent causes contributing to the claimant's loss [CMI Guidelines, 6(a)].
 27. CMI Guidelines, 7(a). In addition, compensation may be paid for economic loss if it results from infringement of a recognised legal right or interest of the claimant, but only in cases where such right is vested only in the claimant or to a reasonably limited class of persons, *e.g.* where such rights are not freely available to the public at large. CMI Guidelines, 8.
 28. CMI Guidelines, 7(b).

different approaches which exist in national legislation and case-law of states which may adhere to the revised Vienna Convention, in respect of the admissibility of claims based on pure economic loss. Therefore, the compensation of pure economic loss which is not related to the impairment of the environment has been made entirely dependent on the legislative regime and case-law of the Contracting Party within whose territory the nuclear incident occurs.

The remaining problem is the admissibility of claims for compensation of pure economic loss related to the impairment of the environment. The Protocol itself gives three elements for guidelines on the application of this part of definition. First, it underlines that the claim for compensation must be based on an economic interest in any use or enjoyment of the environment. This requirement may be interpreted narrowly, to include only recognised legal rights in any use of the environment, or extensively to all claims where a certain form of economic interest may be established. In the practice of the International Oil Pollution Compensation Fund, compensation has not normally been extended to claimants whose livelihoods do not depend directly on earnings from coastal or sea-related activities.²⁹ However, the Protocol does not answer specifically the question of remoteness of claim. Does the reference to the economic interest in any use or enjoyment of the environment apply only to those who can prove such interest with a licence to operate a certain established activity? Such narrow interpretation would not be acceptable, while a particular economic activity may in some countries be permitted only to those holding a licence but in other countries the same activity may be open to all citizens, in the absence of any relevant restriction. At the same time, an excessively broad approach should also be avoided. It is very hard to imagine a universal test which could provide guidelines for the admissibility of all possible claims. The only possible solution is to rely on the notion of proximity which would permit the taking into account of all the relevant circumstances of a particular claim, including degrees of geographic, economic and causal remoteness.³⁰

The second guideline is contained in the requirement of significance of the impairment of the environment. The notion of significance is certainly too vague a criterion, but it indicates that impairment of environment must have a serious impact on the use or enjoyment of the environment.

29. Trotz, (note 19), p. 104.

30. See analysis of suitable test for oil pollution damage in: Trotz, (note 19), p. 103.

Finally, pure economic loss and other categories of damage contained in the definition, with the exception of preventive measures, must result from ionising radiation, or arise from radioactive properties or a combination of radioactive properties with toxic, explosive or other hazardous properties of sources designated by the definition. This constitutes a serious restriction to some remote types of claim, and it would prevent compensation for loss of income which is not directly caused by contamination.

The establishment of general criteria which could comprehensively govern the compensation of loss of income related to the impairment of the environment, in such a manner as to effectively control the boundaries of recovery is not feasible. However, the importance of the problem is obvious. It must be taken into account that the system based on the limited liability of the operator determines not only the position of the operator on the one side and the victims on the other, but also influences the relationship between the victims themselves. Payment of compensation to those whose economic activity is not directly affected by impairment of the environment and to those who do not depend entirely for their income on commercial exploitation of the environment, may seriously diminish the financial resources available for compensation for those who directly suffer the consequential damage or any other category of nuclear damage.

4. Environmental damage

The compensation of the impairment of the environment is a controversial issue because the extent of environmental damage cannot be evaluated in monetary terms, as the environment does not have a quantifiable market value. However, the international regime of civil liability must keep pace with changes related to environmental concern which have also had an legislative impact on the national legislation. Therefore, the crucial problem is to determine the criteria for its evaluation. As precise criteria for the determination and repair of environmental damage are extremely difficult to establish, during negotiations on the revision of the 1963 Vienna Convention, many countries were reluctant to accept the inclusion of environmental damage in the definition of nuclear damage.

The definition adopted in the Protocol to Amend the Vienna Convention followed the concept established in the 1992 Protocol to Amend the International Convention on Civil Liability for Oil Pollution Damage of 1969 and in the 1993 Council of Europe Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment. Therefore, the compensation of environmental damage is limited to the “cost of measures of

reinstatement of impaired environment ..., if such measures are actually taken or to be taken". In addition, the impairment of environment should not be insignificant.

The measures covered by the definition include all reasonable measures which remain to be taken after the preventive measures, namely clean-up measures aimed at removing the contamination, and restoration measures which are taken after the contamination has been removed in order to reinstate the environment to its condition prior to the nuclear incident.

In order to clarify the problem of compensation which may be awarded for the impairment of the environment, the Protocol adopted the definition of nuclear damage with two additional definitions. "Measures of reinstatement" encompass any reasonable measures which have been approved by the competent authorities of the State where such measures were taken, and the aim of which is to reinstate or restore damaged or destroyed components of the environment, or to introduce, where reasonable, the equivalent of these components into the environment.³¹ However, the law of the competent court is applicable to the question of the "reasonableness" of undertaken measures, *e.g.* the question whether such measures were appropriate and proportionate. The law of the competent court may decide on the "reasonableness", by taking into account all circumstances, in particular (i) the nature and extent of the damage incurred; (ii) the extent to which, at the time they are taken, such measures are likely to be effective; and (iii) relevant scientific and technical expertise.³²

The Protocol does not define impairment of the environment. In the doctrine it is defined as "... every kind of decrease of the quality of life which is caused by a certain occurrence or a series of occurrences, and which affects the whole population in a certain region".³³ The Council of Europe Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment defines the environment as "natural resources both abiotic and

31. Art. 2, Para. 4. of the Protocol (Art. I (m) of the revised Vienna Convention). The definition of "measures of reinstatement" makes it clear that the law of the State where the damage is suffered shall determine who is entitled to take such measures.

32. Art. 2, Para. 4. of the Protocol (Art. I (o) of the revised Vienna Convention). Compare with the CMI Guidelines, 13.

33. Pelzer, (note 2), p. 4. See also Tadeusz Gadkowski, "*International Liability of States for Nuclear Damage*", Adam Mickiewicz University Press – Poznan; Eburon – Delft, 1989, p. 56.

biotic, such as air, water, soil, fauna and flora and the interaction between the same factors, property which forms part of the cultural heritage or the characteristic aspects of the landscape.³⁴

The solution adopted in the Protocol, based on the concept of “reinstatement”, establishes the principle that the actual costs of such reinstatement should mark the boundary between recoverable and irrecoverable claims. The competent court may only recognise claims for environmental damage which involve compensation of the cost of reasonable measures for reinstatement of the impaired environment, but not also the “remaining” environmental damage. Claims for compensation of costs of reasonable measures for reinstatement of the impaired environment in the conditions before the nuclear incident are admissible, but such an approach cannot be taken in respect of damage to the environment which cannot be restored by the reasonable measures. Such claims, based on the supposed value of the environment, or the use of it, are necessarily speculative, and frequently depend on abstract or theoretical notions.³⁵ Therefore, any calculation of environmental damage would be necessarily arbitrary.

In the context of liability for oil pollution damage, the question of the admissibility of claims for compensation for damage to the marine environment was examined by the International Oil Pollution Convention Fund for the first time in connection with the Antonio Gramsci incident which occurred in the USSR in 1979. In that case, a claim of an abstract nature for compensation for ecological damage was made by the Government of the USSR, calculated according to a mathematical formula laid down in the USSR legislation.³⁶ The basic rule of this mathematical formula is not calculation of the cost of the measures relating to the elimination of pollution, but rather a so-called “indicator of the cost of appraising the living resources of the ecological zone”. According to this method there is no need to establish whether any damage was actually caused to the marine environment, but the calculation is made according to a mathematical formula and the total sum is dependent upon the nature and the amount of the pollutant.³⁷

34. Art. 2, Para. 10.

35. Trotz, (note 19), p. 107.

36. Jacobsson, (note 23), p. 52.

37. See N.D. Koroleva, *Ecological damage, Responsibility for pollution of the marine environment*, Marine Policy, March 1992, p. 87. Another method

The case which seriously revealed the problem of environmental damage was the decision in the famous case *Zoe Colocotroni*.³⁸ The Court of first instance awarded the claimants compensation for damage to the marine environment of an amount which corresponded to the costs of replacing the destroyed marine organisms, and non-commercial species were estimated according to the costs they had in biological laboratories.³⁹ The appeal court found it appropriate to determine the damage to the marine environment calculating the costs which were reasonably used for the reinstatement of the marine environment to the conditions existing before the accident, or as close to previous conditions as may be accomplished without the unreasonably high costs.⁴⁰

This case influenced also the 1984 Protocol to Amend the International Convention on Civil Liability for Oil Pollution Damage of 1969, which introduced the cost of reasonable measures as relevant to determine the right of compensation.⁴¹ However, in the *Patmos* case, the Italian Court of Appeal departed from the solution introduced by the 1984 Protocol, recognising

established by the USSR legislation was based on the determination of damage from the polluting of bio-resources. It consists of a method of direct calculations, namely, studies which enable one to determine the number of animals or other species that have perished. There is also the method of the so-called “control areas” based on a comparison of the indicators of the state of aquatic species in the area which has suffered from pollution with an analogous area which has not been subjected to such pollution. *Ibid.*, pp. 87-89.

38. Court of Appeal of the United States (First circle), *Commonwealth of Puerto Rico et al v. Zoe Colocotroni et al*, 628 Federal Reporter, 2 d Series, (1980), p. 652.
39. Analysis of the used method see in: W. Abecassis, R. L. Jarashow, *Oil Pollution From Ships*, London 1985, para. 10-51 and 10-52.
40. 628 Federal Reporter, 2 d Series, (1980), p. 675. The appeal court recognised also the calculation of natural regeneration processes as relevant to the determination of compensation and awarded a total of USD 6 164 192.09 in damages for clean-up costs and environmental harm. *Ibid.*, p. 675-676. Catherine Redgwell, *Compensation for oil pollution damage – quantifying environmental harm*, *Marine Policy*, March 1992, pp. 94-95. See also comment of this approach in: Martine Remond-Gouilloud, *Insurance, liability and compensation*, *Marine Policy*, May 1990, 242.
41. See V Resolution No. 3 of the IOPC Fund Assembly from 10 October 1980 (FUND/A/ES.1/13, para. 11 and Annex I).

the Italian Government's claim in respect of damage to the environment, not on the basis of the value of natural resources which cannot be estimated in monetary terms, but on the principle of equity. The court recognised the economic character of ecological damage and referred to Article 1226 of the Italian *Code Civile* which states that in cases where the amount of compensation cannot be determined precisely, the judge may estimate the damage according to the principles of equity. Therefore, the amount of the compensation was also based on a very abstract estimation as in the *Zoe Colocotroni* case.⁴²

The development of the concept of environmental damage within the international regime of civil liability for oil pollution damage significantly influenced the definition of nuclear damage contained in the Protocol. However, the definition which relates to damage to the environment still leaves it to the courts to interpret and apply in practice the wording of the Protocol. Depending on the interpretation of the competent court, the burden placed on the liable operator can vary significantly.

The definition in the Protocol makes it clear that compensation for impairment of the environment shall be limited to the cost of measures of reinstatement of the impaired environment, actually undertaken or to be undertaken, and it cannot be based on an abstract quantification of damage calculated in accordance with theoretical models. However, uncertainties may still arise concerning the requirement of "reasonableness" of such measures. The definition of "measures of reinstatement" refers to the aim to reinstate or restore damaged or destroyed components of the environment, or to introduce, where reasonable, the equivalent of these components into the environment. It should be underlined that this definition undoubtedly does not introduce the concept of reinstatement of the impaired environment to its pre-existing condition. Namely, the desire to restore the environment to its condition prior to the nuclear incident shall be subject to the rule of reason. The highly complex nature of ecosystems may prevent attempts to achieve a meticulous reinstatement of the environment which in many cases may appear impossible and unreasonable in the technical or economic sense. Specific problems may be the assessment of natural regenerating processes and the necessity of

42. M. C. Maffei, *The Compensation for Ecological Damage in the "Patmos" Case, International Responsibility for Environmental Harm*, (ed. F. Francioni and T. Scovazzi), London, 1991, pp. 383-387. Also: *Italy and the Law of the Sea Newsletter*, No. 21, February 1990 (published by the Istituto di Diritto Internazionale, Via Università 12, 43100 Parma, Italy).

appropriate steps to promote or assist the reinstatement of the damaged environment in its natural recovery.⁴³

The definition of “reasonable measures” imposes a requirement of proportionality. This requirement implies a consideration of the cost of measures in the context of their reasonableness. The Protocol clearly establishes a basis for the competent court to examine the existence of a proper balance between the cost and the aim of measures, having in mind the prospect of the effectiveness of such measures at the time they are taken. At the same time, this requirement opens the question of admissibility of claims for the cost of such measures, the aim of which is to recreate with meticulous precision the exact state of the environment before the nuclear incident and which may be regarded as disproportionately expensive. Certainly, we have to assume that the consideration of the proportionality of the costs inevitably forms part of the process of determining the reasonableness of the measures. However, despite the guideline provided, embodied in the notion of the “nature and extent of the damage”, the high complexity of the different aspects of the environment leaves the problem open. The appropriateness of the clean-up and restoration costs will depend upon the environment in question and the nature and extent of the impact. Therefore, the competent court must establish clear criteria for determination of the reasonableness of the costs from a technical point of view, but at the same time sufficiently flexible to apply to very different types of environment and various ecosystems which are the components of the notion “environment”.⁴⁴

The reference to the relevant scientific and technical expertise in the context of determination of the reasonableness of the measures makes it clear that compensation may also cover reasonable costs incurred for specific studies necessary to quantify or verify the damage, to determine the effectiveness of the measures and their impact in helping to accelerate the natural regeneration processes.

Finally, it should be underlined that the reasonableness of the measures, which shall be determined by the law of the competent court, also implies the application of certain standards on the question of how deep the ground is to be. Therefore, the determination of the reasonableness of the measures shall, to a great extent, depend on the social and health priorities of

43. For Civil Liability for Oil Pollution Damage see CMI Guidelines, 12 (a).

44. See analysis of the problem in the context of liability for oil pollution damage in: Trotz, (note 19), p. 119.

the Contracting Party whose court shall have jurisdiction according to the provisions of the Protocol.

5. Preventive measures

In many legal systems the compensation for damage which results from a tort may be refused or reduced if a claimant fails to take reasonable steps to avoid or mitigate any loss, damage or expense. The costs of such measures should be compensated even in cases they prove to be ineffective, because they are taken in the interest of the liable person.

The definition of nuclear damage in the Protocol also covers the costs of preventive measures, and further loss or damage caused by such measures. “Preventive measures” are defined as reasonable measures taken after a nuclear incident has occurred to prevent or minimise nuclear damage. Such measures can be taken by any person but are subject to the approval of the competent authorities of the state where the measures are taken.⁴⁵

The costs of preventive measures also include further loss or damage caused by such measures, for instance, damage caused by use of the various means for decontamination or damage to roads caused by heavy machinery. Inclusion of further loss or damage caused by such measures may be considered as a response to experience derived from the Chernobyl accident when the USSR stated that damages abroad resulted mainly from action taken by authorities over-anxious to protect their populations against the over-estimated long-term risk of radiation exposure, claiming that such damages could not be considered as compensable.⁴⁶

The Protocol also revised the definition of nuclear incident. It is defined as “any occurrence or series of occurrences having the same origin which causes nuclear damage or, but only with respect to preventive measures, creates a grave and imminent threat of causing such damage”.⁴⁷ The widened

45. Art. 2, Para. 4 of the Protocol (Art. I (n) of the revised Vienna Convention).

46. See Günther Handl, *Transboundary Nuclear Accidents: The Post-Chernobyl Multilateral Legislative Agenda*, Ecology Law Quarterly, 1988, Vol. 15, No. 2, pp. 242-243.

47. Art. 2, Para. 3. of the Protocol (Art. I (l) of the revised Vienna Convention). At the Diplomatic Conference, the delegation of Israel submitted a proposal which defines “nuclear incident” as “any non-routine occurrence or series of occurrences ...”, arguing that normal activities, operations or maintenance of a

scope of the definition of nuclear incident permits the taking of preventive measures even in cases where there is no release of ionising radiation, but a grave and imminent threat of such a release. Certainly, in some cases, as the experience of the Three-Mile Island and Seveso incidents showed, whole cities need to be urgently evacuated. The formulation of the definition of “nuclear incident” makes costs of evacuation compensable in cases of “developing damages”, *e.g.* damages which could be foreseen before the incident actually occurs. However, such preventive measures may be compensable only in cases of “grave and imminent threat”. This phrase makes it clear that preventive measures cannot be taken on the basis of speculation that radiation might be released, but there must be a credible basis for believing that a release of radiation with severe consequences is likely to occur in the very near future.⁴⁸

In the same way as measures of reinstatement of impaired environment, preventive measures are subject to the standard of reasonableness, *i.e.* they have to be found by the competent court, on the basis of its national law, to be appropriate and proportionate, taking into account all relevant factors.⁴⁹ Although it is not explicitly declared, the requirement of “reasonableness” applies both to the measures themselves, and the cost they incur. However, the appraisal of the costs should also take into account the element of urgency in taking the appropriate measures, for example, whether it was necessary to employ a contractor without any attempt to invite tenders from

nuclear installation should not be covered by this definition (IAEA, Doc. NL/DC/L.17). The proposal was submitted to address concerns expressed by the Ukraine delegation, but in conjunction with the definition of “preventive measures”. Namely, the proposal of Ukraine suggested that the definition of “preventive measures” should not include situations which result from, “routine maintenance activities taken to ensure normal conditions of operation of a nuclear installation” (IAEA, Doc. NL/DC/L.4).

48. See an analysis of the identical definition contained in the Convention on Supplementary Compensation for Nuclear Damage in: Ben McRae, *The Compensation Convention: Path to a Global Regime for Dealing with Legal Liability and Compensation for Nuclear Damage*, *Nuclear Law Bulletin* No. 61, June 1988, p. 32.
49. At the Diplomatic Conference the delegation of Australia proposed a solution to decide on the acceptability of undertaken measures, by inserting, at the beginning of the definition, the words “measures which are found by the competent court to be appropriate and proportionate”. (IAEA, Doc. NL/DC/L.10 and Doc. NL/DC/L.29). However, the majority of delegations deemed that such solution results from the existing text anyhow.

other contractors who could compete in terms of costs. The compensation shall be limited to the costs of materials used or necessary acquisitions of equipment, but subject to a deduction for the residual value of such equipment or material after completion of the measures. Where the equipment used is owned by a claimant, the compensation may be limited to reasonable costs incurred to repair or clean the equipment after its use.⁵⁰

Reference to the “reasonableness” allows for compensation only in respect of costs of measures which were necessary and appropriate in the particular circumstances, judged on the basis of scientific and technical assessments of the justifiability of measures at the time when they were taken. Certainly, a claim should not be refused only for the reason that preventive measures prove ineffective, because such an approach could discourage the adoption of such measures, which would be, in some cases, contrary to the interest of the liable operator.

A particular problem which may raise difficulties in implementation of compensation of preventive measures is the question whether the government or other public body may claim compensation of regular expenses incurred in preventing or minimising the impact of a nuclear incident, since those costs, which may consist of salaries to their employees engaged in the taking of preventive measures, costs of maintenance of equipment used for preventing measures, and other types of fixed costs, would be incurred in any event. If such claims were admissible, the assessment of the extent of compensation of such costs may appear as extremely difficult. The main problem could be how to attribute the regular costs to the preventive measures applied in response to the incident concerned. However, despite of difficulties in assessment of fixed costs and lack of clear principles which should govern their assessment, there exists strong argument in favour of compensability of such regular expenses.⁵¹

50. For compensation of the damage resulting from oil pollution see CMI Guidelines, 10 (d) and (f).

51. The same measures taken in one state by a public authority could be in the another state affected by a nuclear incident taken by a private person. Therefore, if regular expenses were not compensable, it could lead to different treatment of claimants from different states, contrary to the principle of non-discrimination embodied in Article XII of the 1963 Vienna Convention (Article XII, Para. 1. of the revised Vienna Convention). The current practice of the International Oil Pollution Compensation Fund is to allow claims for fixed costs, but to adopt a restrictive approach when calculating claims of this sort. Only those expenses are allowed which correspond closely to the clean-up

6. Conclusion

The definition of nuclear damage is crucial for consideration of the achievements of the revision of the 1963 Vienna Convention. The definition answers the simple question: which values and interests are to be protected by the nuclear liability law? The broadened definition contained in the Protocol profoundly amended the nature of the protection which is to be afforded by the Convention and represents a serious effort to establish all prerequisites in order to ensure as complete compensation as possible to the victims of nuclear incident.

The Protocol contains a rather detailed definition of nuclear damage, which embraces almost all possible types of damage. However, the different legal traditions of states which negotiated in the Standing Committee on the revision of the 1963 Vienna Convention, together with the problem of how to employ terminology whose meaning is understandable and acceptable in different legal systems, determined the final result, providing flexibility which is particularly evident in respect to pure economic loss not related to the impairment of the environment.

A particular problem lies in the standard of reasonableness of the measures which aim to reinstate the impaired environment, and which must be decided by the competent court applying its own law. Therefore, the reasonableness shall, to a great extent, depend on the ecological standards established by the law of the competent court. On the other hand, the admissibility of claims for compensation of pure economic loss not related to the impairment of the environment is entirely left to the general provisions of civil law of the competent court.

The primary objective of the revision of the 1963 Vienna Convention was to increase the absurdly low minimum level of liability. At the same time, the adoption of the new definition of nuclear damage revealed the necessity to substantially increase the minimum level of compensation available for the potential victims of a nuclear incident, and this objective was largely met. The widened definition of nuclear damage may become operative only on condition that sufficient financial sources are provided, not only by the operator liable, but also under the established system of state intervention embodied in the Convention on Supplementary Compensation for Nuclear Damage. Nevertheless, the inclusion of economic loss, environmental damage and

period in question and which do not include remote overhead charges. Trotz, (note 19), p. 122. See also, CMI Guidelines, 10 (c).

preventive measures in the definition of nuclear damage may seriously influence the availability of financial resources for compensation of damage for loss of life, personal injury and loss of or damage to property. Therefore, in order to preserve the favourable status of the victims who are likely to suffer most damage from a nuclear incident, and to ensure a proper balance of fairness in compensation of damage, priority is to be given to claims relating to loss of life or personal injury in cases where the total cost of the damage or injury is likely to exceed the amount of money available for compensation.⁵²

52. Art. 10, Para. 2 of the Protocol (Art. VIII, Para. 2 of the revised Vienna Convention).

**NUCLEAR DAMAGE UNDER THE 1997 PROTOCOL:
CONVENTIONAL THINKING?**

**LE DOMMAGE NUCLÉAIRE SELON LE PROTOCOLE DE 1997 :
SAGESSE CONVENTIONNELLE ?**

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Résumé

Cette communication exprime le point de vue critique d'un assureur nucléaire sur le régime international de responsabilité civile nucléaire et aborde une série de questions que soulève la révision en cours de ce régime. Après avoir examiné la nature du risque nucléaire considéré sous l'angle de l'assurance, et rappelé les objectifs des Conventions nucléaires dans ce contexte, l'auteur exprime l'avis que les moyens de réparation prévus par ces Conventions peuvent convenir à un sinistre nucléaire de taille limitée mais seraient insuffisants pour faire face aux conséquences d'un accident grave.

L'auteur passe ensuite en revue une série de dispositions des Conventions qui ont été l'objet de discussions intenses au cours de l'exercice de révision de la Convention de Vienne et qui sont également à l'ordre du jour des travaux concernant la Convention de Paris. La première est l'introduction des mesures préventives dans le champ de la réparation, une mesure qui lui paraît de nature à conduire à des demandes déraisonnables justifiant les réserves que les assureurs éprouvent à couvrir ce type de risque. Une autre difficulté est soulevée par la couverture du dommage à l'environnement dans le cas particulier des émissions de radioactivité autorisées à partir d'installations nucléaires parvenues à leur dernier stade d'exploitation, car cela pourrait signifier que les assureurs devraient contribuer à la réhabilitation totale des sites.

L'auteur, enfin, analyse les effets pervers possibles de l'introduction de règles de priorisation des demandes en réparation ainsi que de l'allongement des délais de prescription de la responsabilité, en se référant notamment à des exemples empruntés aux législations américaine, française et britannique.

Note: The views expressed by Mr. Warren in this paper are his personal opinions and do not necessarily represent those of the British Insurance Market.

This week we are discussing the possible reform of the Nuclear Liability Regime, with a view to establishing – as we go into the 21st century – how a more comprehensive and substantial degree of compensation might be made available to victims as a consequence of damage arising from the activities of the nuclear industry.

In this paper I shall discuss the relevance of the international conventions on nuclear liability and question some of the underlying theory; I will consider some possibilities to improve matters and will touch upon some of the problems for the insurance industry which arise from the existing regime.

I am an insurer – my business is the provision of insurance cover for the nuclear industry and, try as I might to make my assessment as objective as possible, almost inevitably my thoughts will be coloured to some extent by the business environment in which I operate. For example, when the public considers the word “risk” in connection with a nuclear power station it will invariably consider the word as an expression of the likelihood of a nuclear disaster – another Chernobyl, for example – whereas a nuclear engineer will have an entirely different interpretation and a statistician yet another understanding. When I talk of risk, I mean the possibility of something happening which is going to cost me money – that is what insurers do, they pay money as the result of something which occurs which didn’t ought to have occurred. That “something” may be an accident which causes damage for which the insurer is liable – through his policyholder – to pay compensation; it may equally well be a legal action alleging “damage” for which the insurer will still have to pay compensation to his policyholder – even if the legal case is won, there remains the question of paying for the defence costs. This is particularly important when we look at the nuclear industry which, you will have realised, does not enjoy universal public support and which appears to be subject to attack on many fronts – one of which can certainly be reckoned these days to be its potential liability exposure. Thus the terminology employed by insurers is not necessarily that of the population at large and our assessment of risk certainly does not mirror purely the possibilities of a nuclear accident actually occurring. One of the problems set by the international conventions – from an insurer’s viewpoint – is the somewhat obscure wording, the precepts which have not perhaps been thoroughly thought out and the consequent inexactitude of the legal position. This would apply particularly to areas such as the equitable treatment of victims, the prioritisation of payments to victims, the question of preventive measures and damage to the environment. Although not a question of exactitude, the consideration of the prescription period or the time limitation period is another area of major consequence to the nuclear liability insurer. I will look at some of these problem areas in greater detail in a few moments – others will be handled later in the proceedings by some of my colleagues.

The nuclear industry is one of a number of high risk industries, by which I mean one with the capability of causing very high levels of damage. The oil industry – and the transport of oil – chemical industries, pharmaceutical industries – hydropower, airlines – all these are other examples. Nuclear is distinguished by its having the lowest frequency of loss but the highest potential for economic catastrophe; yet, perhaps strangely, more studies and more analyses have been made and there is a greater awareness of the potential regarding the problems of the nuclear industry than any other; because of the extreme paucity of statistical experience, there is a greater range of opinions as to both the probability of loss and the potential consequences than any other. This is one of the primary problems in addressing the subject of nuclear liability – for example, in the world-wide family of nuclear installations there has been only one catastrophic loss – that of Chernobyl which because of the differences in technology has been largely discounted – at least in the OECD. But even the situation at Chernobyl is not quite that simple; one of the most remarkable aspects of the accident at Chernobyl is the amount of abuse which the power station endured before the final explosion occurred. Despite the dismantling of the safety systems, despite the operation at a very low power range where problems were known to be inherent, they very nearly got away with it. To use a motoring analogy, having taken the vehicle to the top of the hill, disconnected the brakes, removed the steering wheel and jammed the accelerator to the floor, it was only at the very last corner at the bottom of the hill that the car left the road. The RBMK reactor system is routinely dismissed as “inherently unsafe” but it should be remembered that this inherent lack of safety does not mean that, left to its own devices, an RBMK reactor is bound to cause a nuclear disaster. It refers only to its inability to counter the human hazard. If you attempted to disregard totally the safety systems of a Western reactor – as they did at Chernobyl – it would close itself down – this was the major lesson learnt by the nuclear industry from TMI-2. The tragedy of Chernobyl was that the lesson had not been learnt in the Soviet Union.

Post TMI-2, the inherent safety of the Western style of reactor is not so much its fail-safe characteristics but rather that the intervention of man in its safety systems will cause the system to close down rather than go on working in an unsafe condition. Amongst the OECD countries, TMI-2 tells us of the inherent safety – in public protection terms – of the Western Light Water Reactor in that despite the fuel-melt which occurred, the release of radioactive materials to the environment consisted of no more than a minor quantity of noble gases. Whilst the psychological trauma of TMI-2 should not be underestimated, there was no damage to property and no physical health consequences for the surrounding population. Nevertheless, the total of liability insurance claims – paid and outstanding – today amounts to approximately United States dollars (USD) 100 million and a prudent insurer would have

reserved 100% of his participation in the USD 140 million insurance limit which applied in 1979: this is why insurers have a slightly individualistic approach to the concept of “risk” as I explained in my opening remarks.

Outside the former USSR and the USA, the world’s response to nuclear liability has been the introduction of two international conventions on the subject, those of Paris and Vienna; the concepts embodied in the conventions have been embraced in the nuclear legislation of non-Contracting Parties such as Japan, Korea or Canada all of whom could be considered as “Convention countries” for these purposes. In the former USSR, a somewhat different concept of liability obtained and there seems little point in examining the methods of compensation employed by the Soviet Government post-Chernobyl as a model for the rest of the world.

In the United States, the Price-Anderson Act has produced a regime which at first glance seems to have much to favour it. Based essentially upon a tort liability regime but expanding in certain circumstances (an Extraordinary Nuclear Occurrence) to – in effect – strict liability and incorporating a form of “economic channelling” rather than legal channelling, the Price-Anderson Act has succeeded in producing a user-friendly model for nuclear liability insurers by allowing the build-up of substantial reserves on a tax-free basis – which monies are returned to the nuclear operators if not utilised for the payment of claims – and by the incorporation of defence and other claims costs within the indemnity limit which has allowed legislators to dispense with a prescription period. The USD 200 million insurance limit is supplemented by a post-accident assessment or levy on the nuclear operator under which the US operator is liable for an amount of USD 88,1 million per reactor – subject to a maximum payment of USD 10 million per reactor per annum – and a total overall limit of USD 9,7 billion. Even though the costs of a major nuclear accident in the United States have been estimated as falling between USD 10 billion and USD 20 billion, nevertheless the US regime would appear to have much to commend it. However, the whole basis of the proposed compensation available under the Price-Anderson Act presupposes that these funds will actually be made available by the nuclear industry; I have to question whether or not in the first instance the State Commissioners would be prepared to allow the inter-state transfer of such significant sums of money and even further, I would question whether or not utilities would be permitted to continue to operate their nuclear facilities if one of them had suffered a loss that produced nuclear liability claims totalling billions of dollars: an industry with no income but with enormous liabilities in premature decommissioning might not be in a position to make available the sums required under Price-Anderson even if it were not actually technically bankrupt.

The international conventions appear to have had two objectives – the protection of victims and the encouragement of the then fledgling nuclear industry. The path of victims to claims compensation was eased by the imposition of strict liability and by legal channelling – but it must be remembered that legal channelling was also of considerable help to the nuclear industry itself, in obtaining the services and supply of components from contractors, fuel manufacturers and the like. The *quid pro quo* of limiting the operator’s liability in time and amount did more than simply compensate the nuclear industry for the imposition of strict liability. This left government as the implicit insurers of last resort in respect of claims which either exceeded the limit in liability amount or which became manifest after the expiration of the 10-year prescription period; as such they represent a subsidy to the nuclear industry but with that fact I have no problem – on an actuarial basis the subsidy is negligible and might be expected in other high risk industries where society, through government, has decreed that the benefits for society from a particular industrial endeavour outweigh the potential economic consequences if something goes wrong.

In the case of the nuclear industry, the potential for catastrophe – although so remote – is so great that only governments can respond; private insurance or other private financial instruments cannot meet the compensatory requirements of, say, a Chernobyl-type accident and I do not believe that they will ever be able to so respond. Neither can the nuclear industry itself – even acting in concert – make an adequate financial response; leaving aside my doubts about the situation in the United States, I am quite convinced that the nuclear industries of the world – whether privately operated or government owned – could not themselves respond to the consequences of another “Chernobyl”. Hence, whilst unlimited liability for the nuclear operator might be considered appropriate by certain countries it will not in itself produce much – if any – greater degree of compensation for the victims.

Given the benefits to society from the use of nuclear power, the remoteness of the catastrophe potential and the economic consequences of that extremely remote possibility, I am firmly of the belief that it is for society – in the form of government – to respond as it would for a natural disaster such as earthquake or volcanic eruption. The extent to which governments would seek the formal support of others – either by Conventions or other means – is a different question but let us not pretend that the Brussels Supplementary Convention or the Supplementary Funding Convention promulgated at the Vienna Convention revision meetings is the answer. At least not unless several zeros are added to the compensatory amounts available under either.

Let us consider the Conventions themselves – the Mother Conventions as they are affectionately known – the original Vienna Convention and the original Paris Convention making nodding reference at least to the revised Vienna Convention although I must confess I still continue to harbour doubts as to whether or not this Convention will ever enter into force – notwithstanding its recent ratification by Romania.

It seems to me that these international conventions are neither fish nor fowl; on the one hand they are comprehensive in their scope – the Protocol to amend the Vienna Convention has specified a range of prospective heads of damages; has incorporated a 30-year prescription period and like its original predecessor and the Paris Convention is very firmly linked to the provision of cover on a transboundary basis. As a legal instrument it is clearly designed to give a comprehensive degree of protection for society as a whole – until of course you get to the indemnity limit. A few 100 million Special Drawing Rights (SDRs) might be sufficient to deal with a TMI-sort of incident where the off-site release of radionuclides has been negligible – and whilst as an Insurer, the financial consequences of TMI-2 might have a serious effect on my balance sheet, in real terms these costs are negligible – but to ascribe such paltry amounts as adequate compensation for a major off-site release of radioactivity is clearly ridiculous; neither the Paris nor the Vienna Conventions – whichever Vienna model you look at – nor the Brussels Supplementary Convention nor the Supplementary Funding Convention make any attempt to address the consequences of a major nuclear disaster: the compensatory limits proposed fall short of the requirements of reality by several orders of magnitude.

I would suggest that governments have implicitly recognised this and that the true rationale underlying the international conventions remains – even in their revised form – the protection of the nuclear industry. Whether this is the case and even more whether it would ever be acknowledged is unlikely to be confirmed – but it is the effect of what has been achieved.

I have no particular objection to this rationale – my only objection to the current thinking is that it has rendered the nuclear operator less able to purchase whatever nuclear liability insurance is available by obscuring the true underlying intentions.

I would like to expand briefly upon a number of the problems which I mentioned earlier; some of these are, I know, the subject of more detailed interventions later in this Seminar and where this is the case I will make no more than a brief mention.

Preventive measures have for some reason been assumed to be a major problem for the nuclear liability insurance provider but this is not in fact the case. In the United Kingdom at the present moment it is not clear whether or not the nuclear operator would be responsible for meeting the costs of preventive measures undertaken by the authorities, neither is it clear as to whether or not these costs would fall to be dealt with as part of the indemnity limit prescribed by the Nuclear Installations Act in Great Britain. As an insurer to the British nuclear industry I am quite happy to provide cover for preventive measures in addition to the statutory liability limit so that my policyholder – the nuclear operator – should not be financially prejudiced by having to meet costs which were uninsured. Insurers' interventions during the long-running Vienna Convention revision saga were not concerned with the impossibility of providing cover for preventive measures – which in reality is only an extension of loss limitation expenses traditionally covered by insurers – but rather to attempt to achieve a solution which was both transparent and workable and which at the same time did not prejudice victims. By incorporating preventive measures costs within the umbrella of the indemnity limit you do of course reduce the amount of compensation otherwise available to victims who have suffered bodily injury, death or damage to their property. Furthermore there seems to me to be a necessity to ensure that the nuclear operator himself cannot reclaim from his liability insurance – at the expense of compensation to victims, you must remember – sums which he has been obliged to make available to improve the safety of the Station so as to avert the possibility of a nuclear occurrence actually taking place. Following the TMI-2 incident, insurers were presented with claims from families who had taken the evacuation order so seriously as to remove their families to Hawaii for several months; following the Chernobyl accident in 1986, government authorities in Western European countries who offered a degree of compensation to victims who had suffered damage were presented with claims for reimbursement of costs in spending a few weeks in the United States as a means of escaping the consequences of radioactive contamination from Chernobyl. I am quite sure that in drafting the Protocol to revise the Vienna Convention, the IAEA Standing Committee did not have in mind the payment of “claims” such as these but the reality of the situation is that there will always be individuals who seek to take advantage of discrepancies in the legal regime and it behoves the drafters of both legislation and international conventions to take account of this unfortunate characteristic of human behaviour. If they do not do so then they should not be surprised if Insurers seek to limit their own exposure in such areas and – in effect – return the ball to the court of the Contracting Parties.

Environmental damage is another area where insurers are perceived to be unwilling to provide the cover for the liability which legislators would seek to impose – let the polluter pay is the cry and of course as a philosophical

concept I do not find it objectionable. The problem with environmental damage cover will not be encountered if there is a major accident with a substantial off-site release of radioactivity from the nuclear installation; most likely, given the very low limits of compensation we are talking about under the international conventions, claims for environmental damage will not fall upon nuclear insurers anyway – their limits will have long since been paid in more immediate claims – but in any event the costs of making good the damaged environment, where possible, are capable of being quantified and indemnified. The problem for insurers is not in providing compensation following a nuclear accident – it is in providing compensation where no accident has actually occurred.

It has been agreed that the nuclear operator shall be liable for any release of nuclear materials which causes damage – including the release of nuclear materials within authorised limits as part of their day-to-day operations; all nuclear installations release radioactive substances – so for that matter do fossil fuel stations and to a considerably greater extent, but that is another matter. If we combine this particular concept of liability with the concept of “damage to the environment” it is but a short step before we see liability insurers being required to make good, or at least contribute to the costs of returning the site of the nuclear installation to a “green field” condition upon the end its useful life, even when no accident – or incident, if you prefer it – has occurred. If you think I am being fanciful in this suggestion then I would refer you to the literally thousands of cases which have occurred in recent years where insurers have been held liable under current legislative thinking for incidents which occurred tens of years ago in entirely different socio-economic circumstances when an somewhat different concept of liability obtained; I do not have a crystal ball – I cannot tell you how the courts of 2010 or 2020 will consider the claims with which they might be presented at that time but my experience as a liability insurer tells me that it is extremely unlikely that the juridical system of 20 or 30 years hence will exhibit a more friendly disposition to insurers than it does today.

The original Vienna Convention contained a requirement for an equitable distribution of compensatory amounts amongst victims; the protocol to amend that Convention extended the concept to include a prioritisation rule whereby priority is given to death and bodily injury claims, followed by property damage, environmental damage and preventive measures. This is a subject which Mr. Reitsma will be addressing later in this Seminar, so I will not describe the problem in any detail; however where nuclear insurance liability limits are low and not supported by public funds the problem is accentuated; we need also to consider the related area of claims administration and costs which I know is also to be dealt with subsequently during this Seminar by one of my colleagues and so I will make no comment upon those issues, other than an

observation that the question of how the compensation fund is to be administered in an equitable and prioritised manner and by whom and at what cost of settlement is one which I consider to be one of the most glaring oversights in the international conventions on nuclear liability.

One question I would like to deal with in some detail is that of prescription periods or limitation periods. The present Paris Convention, like the existing Vienna Convention stipulates that the operator's liability is limited in time to 10 years from the date of the occurrence (or last in a series of occurrences) giving rise to the damage. The Protocol to revise the Vienna Convention increased this prescription period to 30 years and it would not surprise me to learn that the Contracting Parties to the Paris Convention were considering a similar extension. In the course of frequent interventions during the Vienna Convention revision exercise I stated that an extension of the prescription period from 10 to 30 years would be unlikely to attract much – if any – insurance support and this applies equally to the Paris Convention revision exercise. I should perhaps add at this juncture that I am expressing a personal opinion; one which however is based upon over 25 years experience of industrial liability insurance and fourteen years concentrating in the area of industrial nuclear liability insurance. Nevertheless it is an opinion and should not be taken as a definitive answer to the question. Personally, I would not be prepared to insure the liability of a nuclear operator under either Convention if the prescription period were extended to 30 years but that is not of course to say that a 30-year prescription period is uninsurable – only that in my opinion it is uninsurable under the international conventions regime.

If we turn to the United States of America we find that there is no prescription period at all (except to the extent that cover ceases ten years after an insurance policy has been cancelled) and as I have mentioned earlier in this address, the USA enjoys a nuclear liability insurance limit of USD 200 million.

You will, I hope, recall that I mentioned that the Price-Anderson Act incorporates a number of provisions which are not to be found in the international conventions:

- It is a tort-based regime – expanding to “strict” liability only after the declaration of an Extraordinary Nuclear Occurrence.
- The insurance limit is a life-time aggregate limit which includes defence costs, interest awards and claims handling expenses within the indemnity limit.

- Insurers are permitted to establish tax-free funds, not as a multiple of premiums as is the case in Western Europe but as a multiple of the indemnity limit.

As an insurer I have little difficulty with US legislation and if the Contracting Parties to either the Vienna or the Paris Convention really want to incorporate a 30-year prescription period I would thoroughly recommend that they adopt the principles of the Price-Anderson Act as a basis for their new international instrument.

As to why insurers have such difficulties with the extension of the prescription period under the Convention, the answer really can be given in one word: causality. Solid cancers are only likely to manifest themselves some 20 to 30 years after exposure to radionuclides – the nuclear accident which triggers liability. Unfortunately these cancers will be no different in nature to those which would occur naturally – or perhaps, from other causes, would be a better description; approximately one third of the population will be subject to such cancers.

Where the degree of exposure to radioactivity has been high there will be a presumption of causality; the difficulty is in the area of very low level exposure to which thousands, or perhaps millions will be subject. Who is going to decide which of these cancers is to be indemnified? How will such a decision be achieved and to what extent?

To put the matter in perspective, the United Kingdom's National Radiological Protection Board has estimated that as a result of the Chernobyl accident between 3 000 and 6 000 people outside the former Soviet Union can expect to experience a cancer which either they would not otherwise have suffered or which they will suffer earlier than would otherwise have been the case: 3 000 to 6 000 people from an exposed population of hundreds of millions. Clearly it would be impossible to determine which cancers have been caused by exposure to radioactivity from the Chernobyl accident and which have not.

The question of the treatment or compensation for those affected by diseases where causation is unknown is one to be addressed by society as a whole; it cannot simply be laid at the door of the nuclear industry nor its insurers.

In France they have made some attempt to resolve this problem of causality; Section 10 of the relevant French legislation provides for the establishment by the Minister responsible of a list of disorders that shall be

presumed to have been caused by the nuclear incident. This certainly helps – it goes some way to addressing the societal problem of who should be compensated and who should not – but on the other hand the French procedures seem to be linked to a major nuclear accident where there has been a substantial release of radioactivity to the environment – the sort of loss that Probabilistic Safety Analyses (PSAs) estimate at one in a million or two in five million reactor years. You must remember that we are still talking about paltry indemnity limits – 300 to 600 million SDRs – the length of the prescription period or the argument of causality will be of little concern to insurers in these circumstances – we will have long since paid the entire insurance limit on immediate death/bodily injury claims, property damage and so forth. Solid cancers appearing 20 or 30 years after the nuclear accident will fall to be dealt with – if at all – from public funds. The problem for insurers stems from a rather more likely loss scenario than the major release of radionuclides; our problems come, if you like, from TMI-2 rather than Chernobyl but also – as with environmental damage – where no accident has occurred at all.

In the United Kingdom we have already seen the phenomenon of “speculative claims” which may or may not have been politically motivated but which have involved so-called “victims” in claims for injury or damage from the activities of the nuclear industry where causality was not merely unprovable but frankly extremely unlikely. The cases of course have to be defended and defence costs of upwards of United Kingdom pounds (GBP) 10 million have not been unknown; as you might well imagine there is a limit to which insurers might be expected to meet these costs and an extension of the existing prescription period to 30 years would, in my view, give rise to a substantial increase in such speculative claims where members of the population surrounding a nuclear installation might be persuaded to try to recover compensation for any cancer that might be suffered on the grounds that it “must have been” caused by the nuclear operations and from the normal day-to-day permitted releases of radioactivity where no accident had actually occurred. This is not a scenario with which insurers would wish to be involved.

The existing Conventions – even in their revised form (at least so far as Vienna is concerned, I have no information regarding Paris) failed to take into account the increased capacity available from not only the nuclear insurance market but from a world-wide financial institutions in general. Society – in other words government – might have to meet the consequences of a future Chernobyl but there is no reason why lesser more likely exposures should equally be excluded from the ambit of the nuclear operators’ liability.

So – and here I address myself primarily to the contracting parties of the Paris Convention – my plea would be for a simpler convention but one

which makes better use of the existing financial resources available. If you get the indemnity limit right, gear your scope of liability to that indemnity limit and then – most importantly – ratify your new instrument you can then concentrate on the rather more difficult task of debating what you are going to do about your respective governments’ potential exposure as the insurers of last resort should you – by some remote chance – be called upon to respond to a nuclear catastrophe.

In conclusion, the international conventions could be considered as a viable and efficient mechanism for dealing with the sort of nuclear incident that is more likely to occur; or I suppose I should say that is less unlikely to occur. However, the conventions do not address the problem of a nuclear accident – let alone a nuclear catastrophe – they have not been designed so to do and any revision of the terms which fails to address the inadequacy of the indemnity limit will merely confuse the situation.

The subsidy to the nuclear industry in the existing arrangements is negligible and may be easily justified by the benefit which the production of electricity from nuclear energy produces for society. The international conventions should be accepted as relevant only to relatively minor nuclear damage and should be drafted in a manner which not merely limits the nuclear operator’s liability but defines that liability in a way which protects not only the nuclear operator but society itself. The greater question of how to provide compensation in the event of a nuclear disaster is best addressed by governments by reference to naturally occurring disasters such as earthquake or volcanic eruption rather than by reference to other industrial man-made catastrophes. Whilst you can certainly bankrupt the nuclear operator by making him responsible for the consequences of an earthquake having wrecked his nuclear power station, you will not provide one penny more in compensation to the public. The need for an injection of government funds at the highest level does not however obviate the necessity to utilise the maximum capacity of the world’s financial institutions in providing compensation at the lower primary levels.

**ACCESS BY VICTIMS TO THE COMPENSATION REGIME
OF THE VIENNA CONVENTION ON CIVIL LIABILITY
FOR NUCLEAR DAMAGE**

THE QUESTION OF “GEOGRAPHICAL SCOPE”

**ACCÈS DES VICTIMES AU RÉGIME DE RÉPARATION DE
LA CONVENTION DE VIENNE SUR LA RESPONSABILITÉ CIVILE
EN MATIÈRE DE DOMMAGES NUCLÉAIRES**

LA QUESTION DU CHAMP D’APPLICATION GÉOGRAPHIQUE

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Résumé

L'auteur de cette communication commence son exposé en rappelant que les dispositions de la Convention de Vienne de 1963 relatives au champ d'application géographique ont mis en évidence de larges divergences de vue au cours des négociations sur le Protocole d'amendement, le texte de 1963 ne comportant pas de disposition spécifique à ce sujet. Après avoir remarqué que l'accident de Tchernobyl avait auparavant souligné l'importance du risque de dommages transfrontières, l'auteur expose les deux positions de base qui se sont affrontées au cours des négociations : d'une part le principe de « territorialité » selon lequel le régime d'indemnisation de la Convention ne devait profiter qu'aux ressortissants des États Parties, c'est-à-dire des États ayant accepté non seulement les droits mais aussi les obligations découlant de la Convention ; de l'autre, le principe « d'universalité » selon lequel les États qui autorisent l'exploitation sur leur territoire d'installations nucléaires créatrices de risque, doivent assumer la charge de l'indemnisation des victimes éventuelles, que celles-ci soient ou non des ressortissants des pays Parties à la Convention.

L'auteur qui représente un pays non-nucléaire, expose ensuite les arguments de nature politique et juridique qui sont en faveur du principe d'universalité. Il aborde également dans son étude les questions liées à l'extension du champ d'application de la Convention à la zone économique exclusive et à l'introduction de la notion de réciprocité.

L'auteur passe ensuite à une analyse détaillée de la nouvelle disposition sur le champ d'application géographique adoptée par le Comité permanent de l'AIEA. Il traite également les dispositions correspondantes que contient la nouvelle Convention sur la réparation complémentaire des dommages nucléaires, celle-ci instituant des droits différents selon l'origine des fonds mobilisés par cette Convention.

I should begin by indicating the standpoint from which I have approached the invitation to write a paper on the question of geographical scope in the revised Vienna Convention. I am a legal adviser to the Government of Ireland, and attended the great part of the negotiating sessions in that capacity. As Ireland has no nuclear power industry, the approach the Irish Government adopted throughout the negotiations, and which I also adopt in this paper is to examine the revised regime from the point of view of protection for the rights of victims of a nuclear incident. The views expressed in this paper are, however, entirely my own and do not necessarily represent those of my Government.

The negotiations which led to the Protocol to amend the Vienna Convention on Civil Liability for Nuclear Damage and the Convention on Supplementary Compensation for Nuclear Damage lasted for eight years. During much of this period there were major differences within the Standing Committee on many fundamental issues, to such an extent that at one point serious consideration was given to abandoning the negotiations altogether.

One of the questions on which there was a wide divergence of views between participants in the negotiations was that concerning the “geographical scope” of the Convention. The fundamental importance of this issue for the Convention arises from the fact that the 1963 Vienna Convention establishes a civil liability regime rather than a regime of state to state compensation. Under this regime victims who suffer loss or injury as a result of a nuclear incident in an installation situated in a state which is a party to the Convention (the Installation State) are entitled to legal redress in the courts of the Installation State under the terms set out in the Convention. The question of which victims are so entitled is determined by the question of the “geographical scope” of the Convention.

The 1963 Convention contained no specific provision giving it a wider scope than that of the territories of the states which were parties to it. Accordingly, in order for a victim of a nuclear incident to be entitled to legal redress under the terms of the Convention the injury would have to be suffered in the territory of a party to the Convention.¹ The Standing Committee on Civil Liability for Nuclear Damage took the view in April 1964 that the Vienna Convention was applicable only to damage suffered within the jurisdiction of Contracting States or on the high seas, even where the nuclear incident occurs on the high seas, or in a non-Contracting State. The Standing Committee did not

1. Article 29 of the Vienna Convention on the Law of Treaties provides that “Unless a different intention appears from the treaty or is otherwise established, a treaty is binding upon each party in respect of its entire territory.”

consider the Vienna Convention applicable to damage suffered in a non-Contracting State irrespective of where the nuclear accident occurred.^{2, 3}

Under the Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention, the geographical scope of each of these Conventions is extended to incidents occurring in the territory of Contracting Parties to the other Convention and to damage suffered in such territory.⁴

The Chernobyl disaster made the world aware of the huge potential for transboundary damage in the case of serious nuclear accidents. Even the far western fringes of Europe were covered by radioactive clouds within the week after the incident and experienced greatly increased levels of radioactivity in

2. See report of the Second Session of the Working Group on Liability for Nuclear Damage, Vienna, 30 October – 3 November 1989 (NL/2/INF.2).

3. By comparison, the Paris Convention provides as follows (Article 2):

“This Convention does not apply to nuclear incidents occurring in the territory of non-Contracting States or to damage suffered in such territory unless otherwise provided by the legislation of the Contracting Party in whose territory the nuclear installation of the operator liable is situated, and except in regard to rights referred to in Article 6(e).”

While excluding damage or incidents in the territory of a non-Contracting State, the territorial scope of the Paris Convention is not otherwise limited. The NEA Steering Committee recommended in 1968 that it be applicable to nuclear incidents occurring on the high seas and to damage suffered on the high seas. In 1971 it recommended that Contracting States utilize the option provided by Article 2 to extend by national legislation the application of the Paris Convention to damage suffered in a Contracting State or on the high seas on board a ship registered in the territory of a Contracting State, even if the nuclear incident causing the damage occurred in a non-Contracting State: Report of Second Session, footnote 2.

4. Article IV of the Joint Protocol provides as follows:

“1. Articles I to XV of the Vienna Convention shall be applied, with respect to the Contracting Parties to this Protocol which are Parties to the Paris Convention, in the same manner as between Parties to the Vienna Convention.

2. Articles 1 to 14 of the Paris Convention shall be applied, with respect to the Contracting Parties to this Protocol which are Parties to the Vienna Convention, in the same manner as between Parties to the Paris Convention.”

rainfall a few days after the initial explosion.⁵ Chernobyl put paid to any comfortable illusion that the effects of a disaster could be combined within the frontiers of the state where it has happened, or even its immediate neighbours.

In the ten years since Chernobyl the effects of that disaster have been reflected in a huge loss of public confidence in the nuclear industry throughout the developed world. As the Nuclear Energy Agency Committee on Radiation Protection and Public Health stated in 1995:⁶

“Several years after the Three Mile Island accident, in the United States, the Chernobyl accident completely changed the public’s perception of nuclear risk.”

“The way the accident was managed and the lack of information provoked a feeling of distrust in the minds of the public that was reinforced by the fact that radiation cannot be perceived by humans and also that it is easily detected even at a very low level.”

In the early 1960s when both the Vienna Convention and the 1960 Paris Convention on Third-Party Liability in the Field of Nuclear Energy were adopted, most at least of the developed world saw nuclear energy as representing the future. Those Western countries which did not have a nuclear industry tended to be relatively underdeveloped, but for the most part saw themselves as joining the nuclear energy club at some future date. From the perspective of the late 1990s, there has been a sea change. So far as the public in many Western countries is concerned the enthusiasm for nuclear energy has long since abated. Some developed countries which were non-nuclear energy producing countries in the 1960s due to relative underdevelopment at the time have remained non-nuclear because they have made a policy choice to do so. In at least one case, a country which had built a reactor never commissioned it. Other states have cut back on nuclear energy programmes or decided not to replace reactors at the end of their life. The outcome of this process is that there is a high degree of mistrust of, not to say outright opposition to, the nuclear industry in many developed countries.

5. *Chernobyl Ten Years On – Radiological and Health Impact*, OECD 1996, a report compiled by the Nuclear Energy Agency Committee on Radiation Protection and Public Health, at p. 35, contains maps showing the main body of the radioactive cloud on various days during the release.

6. *Ibid*, Foreword, p. 3.

This strand of opinion was strongly represented in the Standing Committee and at the diplomatic conference, and was reflected in the position taken by many states who considered that the 1963 Convention was designed with the interests of the nuclear industry in mind and with little regard to the interests of victims. Among the areas where the 1963 Convention was seen as weak from the point of view of victims were the derisory monetary levels of compensation provided for in the Convention, the definition of “nuclear damage” which confined compensation to loss of life and physical injury, but ignored environmental damage or economic loss, the short limitation periods which would have expired before many of the injuries caused by radiation would be likely even to manifest themselves, and the limitation of compensation to persons who were present in a Contracting Party of the Convention when they suffered damage in a nuclear incident.

There was a view expressed by some states in the Standing Committee that the compensation regime provided for by the Convention should benefit only persons in states which were party to the Convention. According to this view, persons should only be entitled to rely on the Convention if they belong to states which accept not only the benefits, but also the obligations, of the Convention. This I describe as the “territoriality” principle.

However, the representatives of other states regarded this approach as inadequate. It was argued that states which operate a nuclear-power industry operate an inherently risky procedure and should be responsible to compensate victims regardless of where they are or whether they are citizens of states party to the Convention. This view I describe as the “universality” principle and was supported by the following arguments:

- (1) That the Convention, although entered into between states, creates rights for individuals. It is, in this respect, similar to conventions in the field of human rights.⁷ It is invidious that the

7. It may be noted that some have identified an emerging human right to a clean environment – see, for example, Alexander Kiss *An introductory note on a human right to environment* published in *Environmental change and international law: New challenges and dimensions* United Nations University Press, 1992. Protection of the environment may be considered as an aspect of the right to protection of life and health and environmental questions may in turn attract the procedural safeguards guaranteed in human rights instruments. See, for example, *Balmer-Schafroth -v- Switzerland* (1998) 25 E.H.R.R. 598 where the European Court of Human Rights considered an application by Swiss nationals living near a nuclear power station for, *inter alia*, a ruling that a decision to extend the operating licence and allow increased production at the power station, amounted to a determination of the civil rights and obligations of the applicants on which they were entitled to a

right of individuals should differ depending on where they happen to be when they suffer an injury caused by a nuclear accident in a third country. The traditional view of public international law, that states rather than individuals are the subject of international law, does not sit easily with international instruments which create rights for individuals.

- (2) Citizens of countries with no nuclear power industry, and whose countries do not, therefore, contribute to the risk of a nuclear accident, should not be deprived of compensation because those countries have not acceded to the Convention.

fair and public hearing by an independent and impartial tribunal pursuant to Article 6(1) of the European Convention on Human Rights, and that the making of an unreviewable decision by the Swiss Federal Council amounted to a breach of that Article. By a majority of 12 votes to 8 the Court rejected this aspect of the claim. In a strong dissenting opinion Judge Pettiti, joined by seven other judges, considered that Article 6(1) was applicable and had been infringed. He criticized the majority for failing to draw any distinction between:

“the original political decision to use nuclear energy, and the decisions relating to licences, public works contracts and specifications, which are not sovereign attributes to the State and cannot escape judicial scrutiny.

What applies to the supervision of quarries, motorways and waste-disposal sites applies *a fortiori* to nuclear energy and the operation of power stations required to comply with safety standards. If there is a field in which blind trust cannot be placed in the executive it is nuclear power, because reasons of State, the demands of government, the interests concerned and pressure from lobbyists are more pressing than in other spheres. George Washington said that governments, like fire, are dangerous servants and fearsome masters. In the past (1939-1945), as in the present, we have been only too aware of the shortcomings of which authorities and operators have been capable, regardless of people’s rights. That is why, in order to protect democracy, it was sought through the European Convention to establish machinery to review any administrative acts capable of causing injustice to the individual.”

“... The majority appear to have ignored the whole trend of international institutions and public international law towards protecting persons and heritage, as evident in European Union and Council of Europe instruments on the environment, the Rio agreements, UNESCO instruments, the development of the precautionary principle and the principle of conservation of the common heritage. United Nations Resolution No. 840 of 3 November 1985 on the abuse of power was adopted as part of the same concern. Where the protection of persons in the context of the environment and installations posing a threat to human safety is concerned, all states must adhere to those principles.”

The right to compensation should derive from the fact of suffering damage from an activity beyond the control of the state where the damage is suffered, especially in the case of an ultra-hazardous activity. There were numerous precedents, both in conventions and in international case-law, for the proposition that one state causing damage to another gives rise to an obligation to compensate victims of damage,⁸ arising from the duty to prevent, reduce and control pollution and environmental harm.

8. These include the following:

1. Article 11 of the Convention on International Liability for Damage caused by Space Objects which provides that:

“A launching State shall be absolutely liable to pay compensation for damage caused by its space object on the surface of the earth or to aircraft in flight”.

2. Article 235 of the United Nations Convention on the Law of the Sea:

“1. States are responsible for the fulfilment of their international obligations concerning the protection and preservation of the marine environment. They shall be liable in accordance with international law.

2. States shall ensure that recourse is available in accordance with their legal systems for prompt and adequate compensation or other relief in respect of damage caused by pollution of the marine environment by natural or juridical persons under their jurisdiction.”

3. Principles 21 and 22 of the Stockholm Declaration state:

“21. States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.”

22. States shall cooperate to develop further the international law regarding liability and compensation for the victims of pollution and other environmental damage caused by activities within the jurisdiction or control of such states to areas beyond their jurisdiction.”

4. Cases in which states have been declared entitled to compensation for transboundary damage include the Trail Smelter Arbitration, 33 A31L (1939) 182; 35 A31L (1941), 684, and the Gut Dam Arbitration, 8 ILM (1968), 118.

- (3) The widest possible geographical scope is consistent with the well-established and internationally recognized doctrine that the polluter should pay for the damage it causes – that is, that in order to foster a world economy in which economically inefficient and environmentally harmful subsidies are not given to polluting activities, the international legal system should ensure that the state which engages in an activity which has a risk of pollution should bear the full costs of that risk. This doctrine is recognized in Principle 13 of the Rio Declaration on Environment and Development.⁹
- (4) There were, in any event, serious anomalies resulting from the application of the old Vienna rules. The 1963 Convention contained no provision which would enable a citizen of a state which was party to it to sue for an injury he received while outside the territory of his own state, or of some other State Party to the Convention. Conversely, because the Convention contains a non-discrimination clause,¹⁰ citizens of any other state, whether or not it is party to the Convention, can sue if they suffer injury while in the territory of a Contracting State. This, of course, is merely to point out that application of the normal rule of territoriality contained in Article 29 of the Vienna Convention on the Law of Treaties is bound to create such anomalies where a Treaty does not merely regulate interstate conduct but creates individual rights which can be exercised in the municipal courts of the country where an accident takes place.

An additional technical problem concerning the territorial concept, as it existed in the 1963 Convention is that territory was confined to the land territory and the territorial waters of Contracting States, since the 1963 Convention predated the United Nations Convention on the Law of the Sea (UNCLOS), and subsequently took no account of developments under UNCLOS, in particular the concept of the exclusive economic zone. It was

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9. “States shall develop national law regarding liability and compensation for the victims of pollution and other environmental damage. States shall cooperate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction.”
 10. Article XIII of the Convention provides that “This Convention and the national law applicable thereto shall be applied without any discrimination based upon nationality, domicile or residence.”

generally agreed that if a state was party to the Vienna Convention, claims ought to lie in respect of damage suffered within the exclusive economic zone of such a state party. In addition, it was argued that it would be wrong and illogical to exclude damage suffered in vessels belonging to a state party which were on the high seas. Such considerations led to some highly complex proposals being tabled during the course of the negotiations to try to avoid the difficulties referred to. These problems could, of course, be resolved in passing if the proposal to apply the Convention to all damage, wheresoever suffered, were to be accepted.

To supporters of the “territoriality” principle, such a radical proposal was unacceptable. They argued, not unreasonably, that it would be inequitable to require a state which was a party to the Convention to compensate victims of another state which had no reciprocal obligations to compensate victims of the first state in the event that the accident had occurred in its own territory.

Opposition to the “universality” principle based on the reciprocity argument is, of course, narrower than the refusal to compensate persons who suffer damage in the territory of a state which is not a party to the Convention in any circumstances. As had been pointed out, in particular by representatives of states possessing no nuclear power industry, such states present no risk of causing damage through a nuclear incident, and hence for them the question of reciprocity does not arise.

The acceptance of the “reciprocity” principle enabled a compromise to be worked out between supporters of the universality principle and those states whose support for the territoriality principle arose from their concern that it would be unfair if one state were forced to compensate victims from another state which would not itself be prepared to pay compensation in similar circumstances. In the process, the problems which had been identified in relation to damage suffered on the high seas or in the exclusive economic zones of states were also enabled to be resolved.

The Provisions of the Protocol Concerning Geographical Scope

The compromise which was worked out is contained in Article 3 of the Protocol which inserted a new Article I A into the 1963 Convention. The new Article I A provides as follows:

- “1. This Convention shall apply to nuclear damage wherever suffered.
2. However, the legislation of the Installation State may exclude from the application of this Convention damage suffered:
 1. in the territory of a non-Contracting State; or
 2. in any maritime zones established by a non-Contracting State in accordance with the international law of the sea.
3. An exclusion pursuant to paragraph 2 of this Article may apply only in respect of a non-Contracting State which at the time of the incident:
 - a. has a nuclear installation in its territory or in any maritime zones established by it in accordance with the international law of the sea; and
 - b. does not afford equivalent reciprocal benefits.
4. Any exclusion pursuant to paragraph 2 of this Article shall not affect the rights referred to in sub-paragraph (a) of paragraph 2 of Article IX and any exclusion pursuant to paragraph 2(b) of this Article shall not extend to damage on board or to a ship or an aircraft.”

It can be seen, therefore, that the new provision has the following elements:

1. The basic principle is that of universal jurisdiction, that is, that the Convention applies to nuclear damage wherever suffered.
2. A state is, however, free to exclude damage suffered in another state but *only* if that state has a nuclear installation on its territory *and* does not provide for reciprocal benefits. It follows that damage suffered in a non-nuclear installation state can never be excluded from compensation by a convention state.

The Convention confers rights on persons who are not nationals of, or residing in, a Convention State. This may create problems. While it would seem that an individual who suffers damage in a non-nuclear installation state which is not a party to the Convention must, under the terms of the Convention, be entitled to sue for damages in the courts of the Installation State, the question arises how he can assert that right if the Installation State denies it to him and his own state is not a party to the Convention. While the possibility of an international claims tribunal was canvassed during the negotiations this proposal was not accepted. The text contains a provision relating to arbitration or judicial settlement of disputes, but this procedure is not compulsory since states may opt out of the new Article XXA of the revised Vienna Convention (as inserted by Article 17 of the Protocol). In any event, a dispute resolution mechanism which contained no right for an individual to make a complaint would not assist a victim who is a national of a non-Contracting State. It would seem that the state of his nationality would be entitled to rely on the Convention in proceedings brought on behalf of its citizens against the Installation State notwithstanding that it was not a party to the Convention. Indeed, in certain circumstances the position of a citizen in a non-nuclear state could be stronger if that state had not acceded to the Convention than if it had.¹¹

Under the terms of Article 1A(3) the exclusion of a non-Contracting State from the benefits of the Convention applies only in respect of a non-Contracting State which *at the time of the incident* has a nuclear installation *and* does not afford equivalent reciprocal benefits. Concerns have been expressed¹² that in the event of a nuclear incident outside the former Soviet Union the Installation State could refuse to compensate victims from within the successor states of the Soviet Union on the grounds that no compensation was paid for the extra-territorial damage caused by the Chernobyl incident. These concerns would not seem to be well-founded provided that the successor state in question *at the time of the incident* has in place legislation providing for the payment of

11. Greenpeace International have pointed out that a non-nuclear state's adherence to the amended Vienna Convention could result in it limiting its rights of recourse for damage suffered as a result of an incident in a State Party to the unamended Vienna Convention. To avoid this result they suggest that a non-nuclear state adhering to the amended Vienna Convention should make an expression of intent, pursuant to Article 19 of the Protocol, that it would not be bound by the unamended Convention in relation to states that are parties only to the unrevised Vienna Convention. (Briefing Notes prepared by Mr. Simon Carroll of Greenpeace International for delegates to the 17th Session of the IAEA Standing Committee on Nuclear Liability February 1997).

12. V. Lamm *The Protocol amending the 1963 Vienna Convention (Nuclear Law Bulletin No. 61, June 1998)*.

compensation for extra-territorial damage equivalent to that required to be provided under the revised Vienna Convention.

Serious anomalies can still arise under the new provision. The combined effect of Article 1A and the non-discrimination provision contained in Article XIII¹³ mean that citizens of states which are not parties to the Convention and which could be excluded from the benefit of the Convention under the reciprocity clause may nevertheless claim compensation provided they suffer damage outside the territory of their own state (including its maritime zones). Conversely, citizens of states which are parties to the Convention may be excluded from benefit if they suffer damage while present in the territory of a non-Contracting State excluded under the reciprocal clause. In the event of a nuclear accident occurring which produced damage in a number of states this could produce some highly anomalous results.

The Geographical Scope Provisions of the Supplementary Funding Convention

The Supplementary Funding Convention provides for two additional tiers of funding to compensate nuclear damage, over and above that provided for in the basic rules contained in the Vienna or Paris Conventions or in their national legislation consistent with the provisions of the Annex to the Supplementary Funding Convention. The first additional tier of 300 million SDRs to be made available by the Installation State is to be distributed without discrimination on the basis of nationality, domicile or residence, provided that the law of the Installation State may, subject to obligations of that State under other conventions on nuclear liability, exclude damage suffered in a non-Contracting State.¹⁴

13. On the relationship between non-discrimination and reciprocity clauses see Emmanuel Decaux: *La réciprocité en droit international. Librairie générale de Droit et de Jurisprudence*, Paris, pp. 129-59.

14. Article III.2.(a) of the Supplementary Funding Convention.

So far as concerns the second tier, the funds to be made available by all the Contracting Parties under the provisions of Article III.1.(b) according to the formula set out in Article IV, Article V of the Supplementary Funding Convention provides as follows:

“Geographical Scope

1. The funds provided for under Article III.1.(b) shall apply to nuclear damage which is suffered:
 - a. in the territory of a Contracting Party; or
 - b. in or above maritime areas beyond the territorial sea of a Contracting Party:
 - i) on board or by a ship flying the flag of a Contracting Party, or on board or by an aircraft registered in the territory of a Contracting Party, or on or by an artificial island, installation or structure under the jurisdiction of a Contracting Party; or
 - ii) by a national of a Contracting Party;excluding damage suffered in or above the territorial sea of a State not Party to this Convention; or
 - c. in or above the exclusive economic zone of a Contracting Party or on the continental shelf of a Contracting Party in connection with the exploitation or the exploration of the natural resources of that exclusive economic zone or continental shelf;

provided that the courts of a Contracting Party have jurisdiction pursuant to Article XIII.
2. Any signatory of an acceding State may, at the time of signature of or accession to this Convention or on the deposit of its instrument of ratification, declare that for the purposes of the application of paragraph 1(b)(ii), individuals or certain categories thereof, considered under its law as having their habitual residence in its territory, are assimilated to its own nationals.

3. In this Article, the expression “a national of a Contracting Party” shall include a Contracting Party or any of its constituent subdivisions, or a partnership, or any public or private body whether corporate or not established in the territory of a Contracting Party.”

Under Article III.2.(b) the funds provided under the second tier must be distributed without discrimination on the basis of nationality, domicile or residence. The general effect of these provisions is to confine funding provided under the second tier to damage suffered in the territory of Contracting Parties to the Supplementary Funding Convention, but in addition compensation is payable in certain cases where damage is suffered elsewhere provided that damage is not suffered in or above the territory of a non-Contracting Party (including its territorial sea). The cases include damage suffered on flag ships and aircraft of Contracting Parties, by nationals of Contracting Parties (notwithstanding the provisions of the non-discrimination clause) and by persons exploring or exploiting natural resources in the exclusive economic zone or the continental shelf of a Contracting Party.

Since the compensation paid under the second tier is provided by all the States who are Party to the Supplementary Compensation Fund, only one of whom will have been the Installation State responsible for the incident, the provisions effectively confining the benefit of this tier of Supplementary Funding to Contracting Parties or their nationals is easier to justify than a provision which would confine an Installation State’s liability to other Contracting Parties. It may be noted also that under Article XI at least 50% of this second tier is reserved for damage suffered outside the Installation State.

Conclusion

While the revised Vienna Convention continues to have many shortcomings from the point of view of victims of a nuclear accident, notably the low levels of monetary compensation to be provided which remain woefully inadequate to provide adequate compensation for any major accident, its provisions concerning geographical scope will represent a considerable advance in ensuring access by victims to compensation for nuclear damage if the Convention succeeds in obtaining widespread adherence. Insofar as the new provisions will permit victims access to the courts of an Installation State in the event of a nuclear accident regardless of where the damage has been suffered, they are more consistent with the obligation of States not to cause damage and environmental harm to persons who live outside their jurisdiction than are the provisions of the unrevised Vienna Convention.

**INCREASED LIABILITY AMOUNTS UNDER THE 1997 VIENNA
PROTOCOL AND ELSEWHERE**

**LES MONTANTS DE RESPONSABILITÉ PRÉVUS PAR LE
PROTOCOLE DE VIENNE DE 1997 ET AILLEURS**

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Résumé

Après avoir rappelé que l'objectif des Conventions sur la responsabilité civile nucléaire est de garantir aux victimes potentielles un système de réparation simple, rapide et adéquat, l'auteur de cette communication souligne les deux graves insuffisances de ce système à la veille des négociations de révision de la Convention de Vienne : un nombre insuffisant de pays participants et le niveau très bas de la garantie financière illustré par une série d'exemples empruntés principalement aux législations des pays d'Europe de l'Est.

Il constate qu'au début de ces négociations, un accord s'est fait pour conserver le caractère de responsabilité civile de la Convention ainsi que la fixation d'un niveau minimum de responsabilité. L'auteur analyse ensuite les dispositions de la Convention de Vienne révisée en commentant les raisons de l'adoption d'un montant de 300 millions, le changement de l'unité de compte, l'introduction d'un mécanisme d'augmentation progressive des montants, qui pour ce dernier, vise à attirer de nouveaux États qui autrement auraient pu être découragés par les nouveaux montants. L'auteur traite également de l'impact des nouveaux montants sur d'autres dispositions de la Convention relatives notamment aux transports, du recours à un système de responsabilité illimitée, ainsi que de la clause de révision de ces montants.

Après avoir noté que la référence explicite à l'utilisation des fonds publics pour couvrir la responsabilité de l'exploitant nucléaire, constitue une des innovations du Protocole d'Amendement de 1997 de la Convention de Vienne, l'auteur conclut en formant le vœu que celui-ci aura un effet stimulant sur les Parties à la Convention de Paris et favorisera une plus large adhésion à l'avenir au Protocole Commun de 1988 relatif à l'application de la Convention de Vienne et de la Convention de Paris.

Liability for nuclear damage in some way mitigates the consequences of a nuclear incident. It provides potential victims with simplified access to prompt and adequate compensation and creates clearly defined liability conditions necessary for nuclear operations. The Chernobyl disaster clearly showed that a nuclear accident could cause enormous damage, not only in the Installation State. It highlighted two major problem areas with the existing international liability regime governing nuclear damage, *i.e.* a lack of widespread adherence to the regime and especially the inadequacy of the liability and compensation cover provided pursuant to the 1963 Vienna Convention on Civil Liability for Nuclear Damage when compared with the possible scale and nature of a possible damage caused.

The necessity to revise the 1963 Vienna Convention was recognised by Resolution GC(XXXII)/RES/499 of the IAEA General Conference on 22 September 1988, which emphasised that the existing civil liability regime “does not cover all liability issues that might arise in the event of a nuclear accident”. This led to the creation of the Standing Committee on Liability for Nuclear Damage, and after about 8 years of negotiations its work led to the Diplomatic Conference to revise the 1963 Vienna Convention which was held in Vienna in September 1997 and which resulted in the adoption of the Protocol amending the Vienna Convention.

My task in this invited paper is to describe briefly the main results of the revision process, especially regarding the liability amounts under the Protocol and other relevant issues.

It is worth saying that in the first stage of the negotiations in the Standing Committee, the question of replacing the civil liability regime of the Convention with a regime of State liability was discussed. But the final outcome of the discussion was represented by a decision to retain the conceptual basis of the Vienna Convention and to uphold its civil liability character. However, as it is going to be shown further on, the Protocol expressly provides also for compensation from public funds. It can be seen as one of the major improvements in the 1963 Vienna Convention.

It is also known that the 1963 Vienna Convention essentially provided for an unlimited liability amount, but it could be set by national legislation to very low minimum liability limit. The liability regime established by the Protocol is also based on a limited liability limit. It means in principle that regardless of the number of victims and the extent of damage, the amount of compensation payable by the operator or from the public funds is a specified sum. The redefinition by the Protocol of the concept of nuclear damage to include certain forms of environmental damage or indirect damage is bound to increase the number of victims of a nuclear incident to be compensated. It

should be taken into account also that the extension of the geographical scope of the 1963 Vienna Convention under the new Protocol may result in a larger number of victims of a nuclear incident to be compensated. Also the deletion of the exoneration of the operators liability in the case of a natural disaster means that the damage caused by a nuclear incident due directly to a natural disaster is to be compensated by the operator. This means that, in order to ensure as full compensation as possible to victims of nuclear damage, it was necessary to adjust the minimum liability amounts.

There was general agreement that the minimum liability limit set in the Vienna Convention at United States dollars (USD) 5 million in terms of gold on 29 April 1963 (USD 35 per one troy ounce of fine gold) would be insufficient to provide adequate compensation in the event of a major nuclear accident. This lowest amount at which the liability of the operator may be established under the 1963 Vienna Convention, became unrealistic in view of the extent of damage that might result from an eventual nuclear incident.

As the following examples of the amounts set by national legislation as the lowest limits for liability of operators show, the 1963 Vienna limits are very low from today's point of view. So in Bulgaria, the limit for nuclear power stations is levas equivalent to 15 million SDRs (for other types of nuclear facilities levas equivalent to 5 million SDRs); in the Slovak Republic, the limit is 2 billion Slovak crowns (approximately 35 million SDRs); in Ukraine, the amount of operator's liability is limited to the equivalent of 50 million SDRs; as may be determined by the laws of Ukraine; in Lithuania, liability is limited to the amount in litas equivalent to the minimum set in the Article V of the 1963 Vienna Convention, *i.e.* USD 5 million, and shall be calculated in accordance with the official litas and USD exchange rate at the day when the damage was inflicted (today approximately equivalent to 15 million SDRs); in Slovenia, starting on 1 January 1999, an increased amount has been introduced equivalent to USD 42 million per nuclear incident; in Hungary the liability of the licensee is limited to 100 million SDRs for nuclear plants and 5 million SDRs for nuclear accidents in other nuclear facilities or during the transportation or storage of nuclear fuel. Nuclear damage in excess of these sums shall be compensated by the State of Hungary to a total amount not higher than 300 million SDRs; in the Czech Republic, the liability of licensees for nuclear damage is limited for nuclear installations used for power generation purposes, storage facilities and repositories of spent fuel assigned to these installations, to 6 billion Czech crowns (CZK) (today approximately 125 million SDRs) and regarding other nuclear installations and shipment of nuclear materials to the amount of CZK 1 500 million.

Even if these examples do not include other states with nuclear power which are party to the 1963 Vienna Convention (Argentina, Mexico, Brazil, Armenia), it can be seen that liability limits are generally rather low and that their increase through the amendment of the 1963 Vienna Convention was necessary. It is also clear that except for Hungary and the Czech Republic, it will be necessary to change the national legislation and the liability limits in the countries mentioned above in such a way to allow at all – and this even by using the phasing-in mechanism – a ratification of the amended Vienna Convention.

The issue of increasing the amount of liability was discussed at length during the negotiations in the Standing Committee. According to the revised Article V of the Vienna Convention (Article 7.1 of the Protocol), the legislation of the Installation State may limit the operator's liability for any nuclear incident to not less than 300 million SDRs (currently this amounts to approximately USD 410 million). This amount may be assigned to the operator entirely or divided between the operator and the Installation State. So, the Installation State Party to the Convention as amended by the Protocol may decide to exempt an operator for up to half of his liability which must not be less than 150 million SDRs but in doing so, it must make public funds available to raise the amount to at least a minimum of 300 million SDRs required. Naturally, the upper limit of the operator's liability may be a higher amount.

This amendment retains the concept of specifying a lower limit but changes the unit of account from US dollars to Special Drawing Rights (SDRs) as defined by the International Monetary Fund and used by it for its own operations and transactions. This approach is more suitable to maintain the value of the compensation to be provided. This unit was already used as the unit of account under the Paris Convention.

This provision of the Protocol introduces into the Vienna Convention the concept of the Installation State relieving the operator of a portion of the operator's liability. The figures are compromise results of many deliberations within the Standing Committee. They are based on the feeling of the Standing Committee that the overall amounts for liability in the Vienna Convention could not be as high as 500 million SDRs, which was suggested at the very beginning of the discussions as a possible reasonable sum, but rather between 200 to 300 million SDRs. As far as the operator's amount is concerned, 150 million SDRs proved to be within the range of a possible agreement of all parties to discussions. It must be also said that while higher limits represent an improvement of the original 1963 Vienna Convention, some experts and states participating in the negotiations of the Standing Committee expressed their opinions that the amounts are still lower than the potential costs of a major nuclear incident which the transboundary consequences could have, and that the new minimum limits would not ensure an adequate compensation of victims.

It should be noted that the original amount of liability will continue to apply in the event of an incident where a State Party to the unamended 1963 Vienna Convention is an Installation State. Unless a State Party makes an expression of intent that it would not be bound by the unamended Vienna Convention in relation to States that are only Parties thereto (Article 19 of the Protocol), it will be bound by the original limit under such circumstances. By making such an expression of intent, the State Party to the Protocol would not be however bound by the limits of liability, channelling or jurisdiction provisions of the Convention with respect to a State Party to the unamended Convention.

Under the Protocol amending the 1963 Vienna Convention, those States that may have difficulties in immediately implementing the increased liability amount may phase-in this amount during a fixed time period. The provisions (Article 7.1.c of the Protocol) for a phasing-in mechanism were included in Article V.1(c) of the revised Vienna Convention on the request of certain States who are presently coping with significant economic difficulties. Under the phasing-in provision, the operator's liability may be limited to not less than 100 million SDRs for a maximum of 15 years from the date on which the Protocol was opened to signature (that is from September 1997). The provision makes it possible for the Installation State to fix an even lesser amount within the phasing-in period, but in that case public funds should be provided to make up for the difference.

The underlying rationale behind the 15-year phase-in is to encourage participation in the revised regime by States with nuclear installations which might be dissuaded from joining the new regime by increased limits. On the other hand, many experts participating in the negotiations in the Standing Committee were of the opinion that the inclusion of this phasing-in mechanism creates the problem that the total funds available for compensation would be reduced. It is also the case that during the 15-year phasing-in, a State might choose to limit the operator's liability to rather low amounts, assuming almost all the exposure itself and allowing the operator to run a nuclear installation without almost any direct liability exposure in the event of incident. Many opponents of the phasing-in principle criticised that in such a case the operator would have a lessened incentive to ensure the safe operation of nuclear installations. But having in mind that not only the 300 million SDRs liability amount established by the Protocol, but also the phasing-in amount of liability is much higher than the amount required under the 1963 Vienna Convention, one can believe that the phasing-in mechanism will promote accessions to the Protocol.

Article 7.2, which adds a new Article V.A to the Vienna Convention, belongs to the new amendments made by the Protocol. It states that interests and costs awarded by a court in actions for compensation of nuclear damage shall be payable in addition to the liability amount as stated in Article V. While there is little difference as compared to the wording contained in the 1963 Vienna Convention, it makes it more explicit that any interest and costs awarded by the court shall be payable in addition to the established limits, and this ensures that all funds required under the Convention as amended by the Protocol are to be made available for compensation of damage.

Under national legislation, it is possible to provide for the operator's unlimited liability. To reconcile the unlimited liability under the national legislation with the Vienna Convention provisions fixing the amount of financial security, the Protocol contains Article 9.1. This provision adds an amendment to Article VII of the 1963 Vienna Convention, providing that where the liability of the operator is legally unlimited, the Installation State may establish a limit of financial security of the operator liable (but not lower than 300 million SDRs).

Taking into account the risks involved, a lower amount of liability may be established, but not less than 5 million SDRs according to revised Article V of the Vienna Convention (Article 7.1 of the Protocol). If the actual damage exceeds the reduced liability amount, the Installation State must ensure the availability of public funds up to the general liability limit, *i.e.* at least 300 million SDRs. In order to ensure that the operators liability is always covered by financial security, the liability amounts fixed by the Installation State of the liable operator would apply regardless of the place of the nuclear incident.

Amendments of Articles IV.5 and IV.6 of the Vienna Convention make the operator liable and increase the liability amount for damage to the means of transport upon which the nuclear material involved was at the time of the nuclear incident. At present, the operator is not liable under the unrevised Vienna Convention for nuclear damage caused to such means of transport (but the Installation State may provide by legislation for such liability). Compensation for nuclear damage caused to the means of transport should not, however, reduce the liability of the operator in respect of other damage to an amount less than either 150 million SDRs or a higher amount established by the legislation of the State Party, or an interim phasing-in amount.

The Protocol establishes in Article V D of the revised Vienna Convention the procedure for fast and simplified revision of the limits of liability established under Article V in order to reflect inflation and other factors, such as the risk of damage resulting for a nuclear accident and the capacity of the insurance market. It allows the liability amount to be raised without the need to use the usual time-consuming procedure generally followed in respect of amendments of treaties. This simplified procedure makes it possible for the liability amount to be amended rather quickly if necessary.

As it was said above, the fact that the Protocol expressly provides for compensation for nuclear damage to be made available from public funds is one of the greatest novelties in the revision process. It will occur only if the Installation State exempts an operator for up to half of his/her liability or, during the phasing-in period, even more. In this case, it must make public funds available to ensure a total amount of compensation as required by Article V.1. In order to protect public funds, the Protocol also incorporates some guaranties. It is provided in the amendment to Article II of the Vienna Convention that the Installation State may limit the liability amount payable for public funds in cases where several operators are jointly and severally liable. It ensures that only one payment is made in respect to one incident. The new Article V C in the Vienna Convention provides that in cases where the competent court is not the court of the Installation State, then the Installation State has to reimburse the State of the competent court by making all the payments from public funds. Another new provision allows the Installation State to intervene in proceedings and to participate in any settlement concerning compensation. This provision, added to Article X of the Vienna Convention, extends the right of recourse to the Installation State which has provided public funds for compensation of victims.

It is to be believed that the revision of the Vienna Convention can have also a positive impact on Paris Convention Countries, especially taking into account the existence of the Joint Protocol. In order for the Joint Protocol to operate most effectively, the two Conventions ought to be harmonised to the greatest extent possible. One hopes that the ongoing revision of the Paris Convention will help to achieve this goal. As far as the operator's amount of liability is concerned, the Parties to each Convention have a real interest in the amounts provided under the other Convention. The harmonisation as much as possible of amounts under the two Conventions would be of significant benefit for both Vienna and Paris countries. It means for countries party to the Paris Convention, that their citizens would be able, in the event of a nuclear incident for which an operator in a revised Vienna Convention country is liable, to claim against a fund of 300 million SDRs. Even though the time-limited phasing-in mechanism included in the revised Vienna Convention diminishes this possible benefit, it can be said that the 100 million SDRs minimum limit is still

substantially greater than the limit under the 1963 Vienna Convention. It is to be hoped that such an increase of the liability amounts in the revised Vienna Convention will encourage those countries who have not already joined the Joint Protocol to do so and to make the Joint Protocol fully effective.

**LA GARANTIE DE LA RESPONSABILITÉ DE L'EXPLOITANT :
LE PRINCIPE DE RÉALITÉ**

**INSURANCE OF OPERATORS' LIABILITY:
THE REALITY PRINCIPLE**

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Abstract

The author's observations commence with an overview of the principal amendments proposed in relation to the revision of the Paris Convention, in particular the inclusion of preventive measures, the definition of nuclear damage, the notion of reasonableness in respect of preventive measures and measures of reinstatement, increased liability amounts and extended prescription periods. He examines to what extent the insurance industry of today would be able to cover such risks, and the problems or doubts that it may encounter in doing so.

This presentation also raises other questions which as yet remain unanswered, in particular the question of priorities and the role that complementary funding, namely the Brussels Supplementary Convention, will play in compensating victims. The author concludes by commenting on the current state of the insurance market. He suggests that before making irreversible political decisions in this field, Contracting Parties should, *inter alia*, carry out detailed analyses on the adequacy of the financial guarantees, in order to attain existing objectives and eliminate the obstacles which prevent the nuclear insurance market from being a competitive one. The author suggests that it might be in the interests of European nuclear operators to promote an insurance mechanism along the same lines as their American colleagues.

Note: Ce document n'engage que son auteur et en aucune façon ses mandants.

Préambule

Ces réflexions sont écrites en mars-avril 1999. Elles s'appuient sur les informations disponibles alors. Elles reflètent un point de vue lié à un contexte national tant sur le plan du droit que des possibilités de garantie des obligations de l'exploitant nucléaire.

I. Rappel des principales modifications envisagées pour la Convention de Paris

- a) Les mesures préventives « partie » d'un accident nucléaire.
- b) Le dommage nucléaire fait l'objet d'une définition qui renvoie pour les points les plus délicats au droit du tribunal compétent :
 - mesures de restauration de l'environnement ;
 - tout manque à gagner en relation avec une utilisation ou une jouissance quelconque de l'environnement ... ;
 - mesures préventives et toutes pertes ou dommages en résultant ;
 - tout autre dommage immatériel d'une origine strictement nucléaire (rayonnement ionisant).
- c) Les mesures de restauration et les mesures préventives visées doivent être « raisonnables ».
- d) Élévation du niveau de responsabilité de l'exploitant : 300-600 millions de DTS.
- e) Délai de prescription porté à 30 ans pour les dommages corporels avec possibilité d'extension par la loi nationale.

II. Qui peut couvrir les nouvelles obligations mises à la charge de l'exploitant ?

1. Les risques suivants sont-ils transférables à l'assurance ?
 - Mesures de restauration de l'environnement. Des doutes sérieux apparaissent lorsque l'on connaît les limites des garanties délivrées par ailleurs en matière de pollution.
 - Tout manque à gagner en relation avec l'utilisation, la jouissance de l'environnement. Que veut-on exactement garantir ? Ce risque est-il assurable ?
 - Mesures préventives et toutes pertes en découlant. Même question que ci-dessus. Les assureurs sont-ils prêts à couvrir ce risque ?
 - Tout autre dommage immatériel ... Même interrogation.
2. Un délai de prescription de 30 ans éventuellement extensible, est-il pratiquement gérable par l'assurance ?

Principe de réalité : si, en l'état actuel du marché de l'assurance, une capacité de 400 millions de DTS peut être trouvée, quelle sera l'étendue exacte des garanties ? Y a-t-il vraiment adéquation entre les objectifs politiques et la réalité économique ?

Un exemple pour illustrer cette question :

En 1998, le coût des catastrophes naturelles est estimé à 90 milliards de dollars, l'assurance prendra en charge environ 15 milliards de dollars soit 17 % du total.

En extrapolant ce constat au nucléaire, on peut se demander si la vraie question à se poser n'est pas « comment payer ? » plutôt que « qui doit payer ? ». On peut en effet penser que l'assurance est dans l'incapacité de couvrir toutes les conséquences d'un accident nucléaire ; de la même façon qu'elle ne garantit que moins de 20 % du coût des catastrophes naturelles.

III. D'autres questions sans réponses à ce jour

1. Les indemnisations à caractère économique apparaîtront en premier. Les dommages corporels (cancers, etc.) apparaîtront plus tard.

Comment seront réglés les seconds si les premiers ont largement entamé les réserves comme ceci est vraisemblable ? N'y a-t-il pas un risque pour l'exploitant d'avoir à payer deux fois ?

2. Comment seront organisés le financement des garanties complémentaires au-delà de la garantie de l'exploitant ? Comment sera adaptée, par exemple, la Convention de Bruxelles ?

À ce stade une lisibilité totale fait défaut.

IV. Une appréciation du marché actuel de l'assurance nucléaire

1. Le marché a été profitable pour les assureurs.
2. Les assurés n'ont que peu profité de cette situation.
3. L'organisation des pools nucléaires confortée par :
 - L'exclusion du risque nucléaire de la libre prestation de services (LPS) dans la Communauté européenne (directive 88/357) ;
 - Le règlement 3932/92 de la même Communauté européenne ;est certes, en mesure de fournir les capacités requises mais avec quelles garanties et à quel prix ?
4. Y a-t-il vraiment concurrence sur ce marché, quand on connaît la position dominante d'un pool national en Europe ?
5. Certaines solutions alternatives à l'assurance (type captives) sont devenues impossibles à mettre en œuvre dans certains pays du fait de l'évolution de la législation fiscale.

V. Quelques suggestions

Avant d'arrêter des positions politiques définitives :

1. Avoir une vision complète de tous les mécanismes de réparation d'un accident nucléaire ;
2. Procéder à une analyse sérieuse pour vérifier l'adéquation des marchés de garanties (assurances, État...) aux objectifs fixés ;
3. Supprimer les obstacles à la création d'un marché d'assurance véritablement concurrentiel pour le risque nucléaire ;
4. Pour les exploitants nucléaires européens, promouvoir une organisation d'assurance s'inspirant des modèles de leur collègues américains.

**L'ÉVOLUTION DES CONVENTIONS
SUR LA RESPONSABILITÉ CIVILE NUCLÉAIRE :
ENJEUX POUR ÉLECTRICITÉ DE FRANCE**

**THE EVOLUTION OF NUCLEAR
THIRD PARTY LIABILITY CONVENTIONS:
CHALLENGES FOR ÉLECTRICITÉ DE FRANCE**

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Abstract

This paper refers to new questions which arise in the international nuclear third party liability regime, including issues related to waste – and its long-term management, environmental impact, the precautionary principle, emergency measures and differences in risks according to whether a nuclear incident takes place at a fixed installation or during the course of transport. The author notes that from industry's point of view, the amendments to the Vienna Convention which were adopted in September 1997 can be divided into three categories: those which are positive and should appear in a revised Paris Convention; those which are sensitive and require careful thought with a view to their improvement before incorporating them into the Paris Convention; and lastly those which may compromise the efficiency of the system.

Among those amendments that the author suggests incorporating into the Paris Convention are the increase of liability amounts and the extension of geographic scope. He expresses some reservations in relation to the inclusion of preventive measures in the definition of nuclear accident, and the extension of the prescription period to thirty years for loss of life and personal injury. The author concludes by citing certain proposed modifications which he believes may threaten the existence of the regime. These include the proposal to expressly provide for the possibility of unlimited liability, along with the raising of the existing ceiling to an amount situated between 300 and 600 million SDRs; the extension of existing guarantees; the recent choice of certain States to reject the principle of channelling liability to the operator and the insertion of the notion of environmental damage into the regular mechanisms of third party liability without adaptation to the particular circumstances. The author expresses the opinion that risk cover and victim protection can and should be extended during the revision process, but within reasonable limits in order to ensure the viability of the regime financially, and in terms of its operational capacity.

La question de la responsabilité civile nucléaire fait l'objet de développements importants qui intéressent directement EDF. La révision des conventions internationales met en effet en lumière des questions nouvelles :

- Les risques et les enjeux apparaissent différents selon qu'ils concernent des installations fixes, ou les transports.
- Les déchets appellent des solutions spécifiques prenant en compte le long terme.
- Le principe de précaution, qui a connu l'une de ses premières applications en droit nucléaire avec la radioprotection, voit sa portée élargie et est utilisé de plus en plus fréquemment par les opposants au nucléaire.
- Les scénarios de gestion de crise deviennent plus sophistiqués avec le développement de mesures d'indemnisation d'urgence et l'intervention des pouvoirs publics dans la reconnaissance des situations accidentelles.
- Dans un contexte où les préoccupations environnementales rencontrent un écho croissant, la responsabilité est désormais recherchée, au delà des dommages aux personnes et aux biens classiquement entendus, vis à vis du milieu naturel, de la préservation du patrimoine génétique des espèces animales et de la flore.
- Enfin, les principes même qui sous-tendent la responsabilité civile nucléaire finissent par être remis en cause, et d'autres voies de recours et d'indemnisation sont parfois préconisées .

Ces questions, et bien d'autres, sont depuis plusieurs années l'objet de réflexions et de débats.

Le 12 décembre 1997, après 7 années de travaux, s'est achevée la révision de la Convention de Vienne. Elle a conduit à l'adoption de mesures de nature à améliorer les possibilités de recours et l'indemnisation des victimes d'un accident éventuel. L'industrie nucléaire en général, et EDF en particulier, en comprennent les finalités. La plupart d'entre elles constituent en effet désormais la base d'un régime international de responsabilité civile nucléaire, et l'intérêt de l'industrie, comme des victimes éventuelles, semble passer par une harmonisation des systèmes conventionnels.

On peut toutefois s'interroger sur le point de savoir si les mesures adoptées à Vienne constituent un bloc, ou si leur transposition dans le dispositif de Paris peut être modulée eu égard à la situation différente des États parties, et aux spécificités des droits nationaux.

Il nous semble que si certaines modifications positives peuvent être reprises (1), d'autres apparaissent complexes et délicates à mettre en œuvre (2). Certaines, enfin, pourraient remettre en cause l'efficacité globale du système (3).

1. Certaines dispositions adoptées à Vienne pourraient être reprises dans la Convention de Paris.

Ainsi de l'augmentation raisonnable des montants de responsabilité et de l'élargissement du champ d'application géographique.

- Alors qu'étaient légitimement reprochés au dispositif de Vienne des montants trop faibles, le plafond de la responsabilité des exploitants, porté à 300 millions de DTS (soit environ 2,43 milliards de francs), a été sensiblement augmenté. Il peut toutefois être limité par la loi à 150 millions de DTS (soit environ 1,22 milliard de francs), sous réserve qu'au delà de ce montant, et jusqu'à 300 millions de DTS, des fonds publics puissent être alloués par l'État.
- Par ailleurs, de manière à étendre la protection des victimes et à éviter les discriminations, le champ d'application de la Convention de Vienne est devenu mondial, et couvre les dommages subis en dehors des limites des juridictions nationales, ou dans les territoires d'États non parties.

Dans la mesure où cette évolution comporte des exceptions, comme « l'exigence de réciprocité », elle paraît également acceptable et susceptible d'améliorer le système de couverture.

2. D'autres modifications méritent réflexion, à fin d'amélioration.

Il en va ainsi de l'inclusion des mesures préventives dans la définition de l'accident nucléaire, et de l'allongement à 30 ans du délai de recours.

- À Vienne, la notion d'accident nucléaire a été considérablement élargie pour inclure la menace grave ou imminente de dommages nucléaires dont le champ couvre désormais, outre les mesures préventives, les pertes économiques, les pertes de revenus consécutives à un dommage à l'environnement et le coût des mesures de restauration de celui-ci.

Si l'on comprend la finalité de cet élargissement de la couverture, il est permis de s'interroger, cependant, sur l'opportunité de l'insertion des mesures préventives dans la définition de l'accident nucléaire.

Selon le texte adopté à Vienne, « un accident nucléaire signifie tout fait ou succession de faits de même origine qui cause un dommage nucléaire ou, mais seulement en ce qui concerne les mesures préventives, crée une menace grave et imminente de dommage de cette nature ».

Il serait toutefois paradoxal d'inclure les mesures préventives dans la définition de l'accident. Il en résulterait en effet une difficulté éventuelle pour la computation des délais de recours et une perception négative dans l'opinion.

Il aurait été préférable de distinguer les mesures préalables à l'accident – destinées à l'éviter – de celles, postérieures, visant à en réduire les conséquences dommageables. Il serait possible de prévoir l'indemnisation des suites de ces mesures soit dans un article indépendant, consacré aux mesures préventives (quitte à les imputer exclusivement à l'exploitant, si ce parti était retenu), soit par leur inclusion dans la définition des dommages nucléaires, dont l'exploitant est responsable (ce qui est discutable, s'il n'en est ni l'initiateur, ni le maître d'œuvre). Il serait sans doute suffisant de faire référence aux mesures préventives dans la définition du dommage, ce qui serait sans incidence vis-à-vis du Protocole de révision de la Convention de Vienne quant à l'applicabilité du Protocole commun.

- À Vienne, d'autre part, la prescription a été portée à 30 ans au lieu de 10 pour les dommages corporels.

Il convient de ne pas sous-estimer les difficultés pratiques d'une telle extension des délais de recours, qui pourrait conduire à substituer aux montages d'assurance actuels un système de capitalisation, voire une garantie publique – ce qui représenterait un véritable changement qualitatif.

De même, cet allongement du délai de recours pourrait rendre plus difficile à appliquer la hiérarchie des indemnisations au profit des dommages corporels, dans la mesure où ceux-ci peuvent se manifester tardivement alors

que les pertes économiques, désormais indemnisables, risquent d'épuiser les fonds disponibles.

3. Certaines dispositions envisagées pourraient remettre en cause l'efficacité globale du système.

Telle pourrait être la conséquence d'une augmentation massive des montants de responsabilité, d'un élargissement accru des garanties, ou de l'abandon des mécanismes spécifiques de la responsabilité civile nucléaire.

- S'agissant des montants, les discussions entre les pays signataires font état d'une possibilité de retenir le principe d'une responsabilité illimitée et d'augmenter le plafond de l'exploitant jusqu'à un montant compris entre 300 et 600 millions de DTS (de 2,43 à 4,86 milliards de francs environ).

Les conséquences financières de ces propositions seraient extrêmement lourdes et pourraient conduire à substituer aux montages d'assurance actuels d'autres dispositifs moins maîtrisables.

D'autres modifications, parfois discutées, s'avèreraient irréalistes ou contre productives.

- Un élargissement supplémentaire des garanties, préconisé par certains États, serait difficilement supportable. Il en va ainsi de l'inclusion des émissions radioactives durant le fonctionnement normal, de l'admission en tant que principe du caractère illimité de la responsabilité, ou de l'obligation d'aligner les montants de responsabilité à la charge des exploitants, déterminés jusqu'ici par les États parties, en fonction des systèmes nationaux d'organisation (Cette mesure étant toutefois souhaitable, à fin de supprimer des distorsions de concurrence, en matière d'activités à risque réduit comme les transports de combustibles neufs).
- Par ailleurs, l'éventualité et l'évaluation des conséquences de la recherche d'indemnisation par les victimes sur la base d'autres régimes juridiques (pour les dommages non pris en compte par le régime de la responsabilité civile nucléaire ?) sont envisagées ouvertement désormais. Certains États, non parties aux Conventions, remettent en cause le principe même de la responsabilité civile nucléaire, et notamment la canalisation de la responsabilité sur l'exploitant, au nom d'une meilleure protection des victimes,

dans l'attente d'un système de couverture encore amélioré. Très pénalisantes pour les fournisseurs, ces politiques ne seraient pas, en pratique, favorables aux victimes d'un accident éventuel à l'Est, avec des conséquences transfrontières.

- Enfin, la couverture du dommage environnemental suscite aujourd'hui des recherches en droit et législation comparés. Son intégration pure et simple dans les mécanismes de responsabilité civile nucléaire existants leur ferait sans doute perdre leur cohérence, et leur efficacité.

Le maintien de l'option nucléaire parmi les choix énergétiques possibles à l'avenir nécessite une amélioration du système de la Convention de Paris, élargissant la couverture des risques et la protection des victimes éventuelles, mais dans des limites raisonnables, assurant sa faisabilité financière et son caractère opératoire.

**PARIS CONVENTION ON THIRD PARTY LIABILITY
IN THE FIELD OF NUCLEAR ENERGY**

*Progress report on negotiations
to revise the Convention*

**CONVENTION DE PARIS SUR LA RESPONSABILITÉ CIVILE
DANS LE DOMAINE DE L'ÉNERGIE NUCLÉAIRE**

*Rapport d'étape sur les négociations
de révision*

Håkan Rustand

Chairperson

OECD/NEA Group of Governmental Experts
on Third Party Liability in the Field of Nuclear Energy

Résumé

Après avoir observé que les pays Parties à la Convention de Paris ont activement participé aux huit années de négociations qui ont abouti à l'adoption d'un Protocole d'amendement de la Convention de Vienne et à la signature de la Convention sur la réparation complémentaire des dommages nucléaires, l'auteur de cette communication remarque que ces pays étaient donc logiquement disposés à entreprendre des travaux de mise à jour de leur propre Convention. Ces travaux ont été engagés au début de l'année 1998 et se poursuivent activement.

La méthode de travail utilisée par le Groupe rassemblant les Parties Contractantes consiste principalement à passer systématiquement en revue les amendements apportés à la Convention de Vienne, en s'aidant d'un aide-mémoire préparé par le Secrétariat de l'AEN.

Parmi les points étudiés par les Parties Contractantes et exposés dans la présente communication figurent en particulier l'augmentation des montants de responsabilité, en se référant à l'évolution de la capacité du marché international de l'assurance ; un montant de l'ordre de 300-600 millions de DTS semble envisageable. L'harmonisation des montants moins élevés applicables aux transports ou à d'autres activités à risque réduit est également recherchée.

Les autres points étudiés sont notamment la faculté pour un pays d'opter pour la responsabilité illimitée de l'exploitant et l'introduction d'une procédure d'amendement simplifiée des montants.

L'auteur relève qu'en dépit de progrès significatifs, certains points continuent de soulever des difficultés. Il s'agit par exemple de la définition du dommage nucléaire, du champ d'application géographique ou encore la question de la compétence juridictionnelle pour les demandes en réparation résultant d'accidents survenus dans la zone économique exclusive.

L'auteur conclut en indiquant que compte tenu de l'avancement des travaux, il lui paraît vraisemblable que les Parties Contractantes pourront achever leurs travaux dans le temps qui leur a été imparti initialement, soit d'ici la fin de l'année 2000.

Introduction

In September 1997, following eight years of negotiations within the IAEA's Standing Committee on Nuclear Liability, the 1963 Vienna Convention on Civil Liability for Nuclear Damage was amended by the adoption of the Protocol to Amend the Vienna Convention (Vienna Protocol). At the same time, a new Convention on Supplementary Compensation for Nuclear Damage (CSC) was adopted, providing for additional compensation for nuclear damage over and above that called for under the Paris Convention, the Vienna Convention, or national legislation reflecting the principles contained in those two Conventions.

Delegations from countries belonging to the western European regional liability regime constituted by the Paris Convention and the Brussels Supplementary Convention, took an active part in these negotiations. Their aim was to contribute, as much as possible, to the improvement of the international nuclear liability regime covered by the Vienna Convention, a matter of particular importance in light of the 1988 Joint Protocol linking the Paris and Vienna Conventions.

After the adoption of the Vienna Protocol and the CSC, the Paris Convention countries naturally felt committed to attempt to improve their own Convention, and during the autumn of 1997 they agreed to embark upon a revision exercise which would concern, initially at least, the Paris Convention, but which would probably extend to a revision of the Brussels Supplementary Convention at a later stage.

Since January 1998, the Contracting Parties to the Paris Convention have held six negotiating sessions, four of which have taken place under the auspices of the OECD Nuclear Energy Agency in Paris. The remaining two sessions took place in Berlin and London, at the kind invitation of the German and United Kingdom Governments respectively. During most of these sessions, one Observer from both the IAEA and the European Insurance Committee (EIC) has been in attendance. It is expected that at least three years will be required for the completion of the negotiations and at this stage, the Contracting Parties have reached approximately the half-way mark in that schedule.

Method of Work

With regard to the method of work adopted by the Contracting Parties, it was agreed from the beginning that the articles of the Paris Convention would be examined in simple numerical order to determine which were in need of

amendment. Once that preliminary determination had been made, the articles to be amended were divided into two categories: first, those amendments which were likely to result in difficult negotiations, and secondly, those which were more simply drafting matters.

Delegations are now examining each of those articles in turn, by looking at all corresponding amendments made to the 1963 Vienna Convention, and by reviewing those provisions contained in the Vienna Protocol for which there is no corresponding article in the Paris Convention. The Contracting Parties are also taking into account the relevance and impact of the various Decisions, Recommendations and Interpretations which have been adopted over the years by the OECD Council and by the NEA Steering Committee regarding the application and interpretation of the Paris Convention. And finally, they are taking into consideration the need to maintain compatibility between a revised Paris Convention and the new CSC.

To assist the Contracting Parties in their work, the NEA Secretariat has prepared and kept up-to-date, a Preliminary Study of Amendments to the Paris Convention in the form of an *aide-mémoire*. It has also prepared several versions of a draft Protocol to revise the Paris Convention, with each version corresponding to what has been agreed by the Contracting Parties at the conclusion of each of their negotiating sessions.

Principal Issues

(i) *Liability Amount*

One of the most important issues is, of course, the amount of the operator's liability. Under the existing Convention, that amount may vary between 5 and 15 million Special Drawing Rights (SDRs), notwithstanding that today, most of the Contracting Parties have established much higher amounts under their national legislation. In 1990, the NEA Steering Committee adopted a Recommendation to fix the operator's liability amount at a level not less than 150 million SDRs. Many Contracting Parties have already followed that Recommendation, and some have gone even further than that. However, there still remain a few countries whose national legislation establishes fairly modest and probably insufficient liability amounts to offer reasonable compensation in the case of a nuclear incident. This is a situation that the Contracting Parties are examining very closely.

The Paris Convention provides that the liability of an operator must be covered by insurance or other form of financial guarantee. Consequently, the

Contracting Parties are keen to learn more about the present capacity of the international nuclear liability insurance market. They have approached national nuclear insurance pools, where they exist, in order to obtain more details on the actual available capacity. During one of the negotiating sessions, the Observer from the EIC informed Delegations that the capacity of the nuclear insurance pools has increased by approximately 10%. He also noted that additional insurance coverage from sources outside the nuclear pools might also be available to operators, up to a total amount of 1 billion SDRs. On the basis of all information received to date, the Contracting Parties have decided that the aim of the negotiations should be to significantly increase the operator's liability amount. At this stage of the negotiations, it is envisaged that the liability amount could be set somewhere in the range of 300-600 million SDRs.

In considering what would be an appropriate operator liability amount, the Contracting Parties have also debated whether the costs of handling claims for nuclear damage should be reimbursed from outside the liability amount, as is the case under the existing Convention, or whether they should be reimbursed from the liability amount itself, as is the case under the Price-Anderson Act in the United States. This debate has led the Contracting Parties to study more closely the precise components of claims handling costs, what limit, if any, should be placed upon those costs, and whether such costs might not be more properly paid from some alternate source of funding.

It is clearly premature to attempt to determine the liability amount that will eventually be agreed upon by the Contracting Parties; they are currently in the midst of deliberations as to what that amount should be, and the final result will largely depend upon the capacity of the insurance market. However, it is realistic to believe that the liability amount will be increased significantly and probably to a level within the 300-600 million SDRs range referred to earlier. Such an increase would indeed be a most desirable outcome of these negotiations.

It is worth noting that the operator's minimum liability amount called for under the Convention is also likely to be increased in order to better match the increased capacity of the nuclear insurance market. This minimum amount would normally apply where a nuclear incident has occurred in the course of transporting nuclear substances or in connection with the operation of research reactors. In the course of determining an appropriate amount of liability for such lower-risk nuclear installations and activities, the Contracting Parties have been examining the various criteria used to assess the level of risk associated with these installations/activities and consequently to assess the corresponding liability limit.

Serious attempts are also being made to try to harmonise national liability amounts, thereby avoiding large discrepancies in liability amounts as between one Contracting Party and another, discrepancies which can interfere with the ability of operators in different countries to freely compete on an equal basis.

(ii) *Unlimited Liability*

Another positive achievement is that the Paris Convention countries have agreed, in principle, that the revised Convention will contain a provision expressly permitting a Contracting Party to establish the unlimited liability of its operators. One Paris Convention country has already adopted that approach and it is reflected in its national legislation. However, over the years questions have been raised as to whether unlimited liability is in conformity with the Convention's requirement that the liability amount must be covered by insurance or other form of financial security.

The revised Convention will do away with this uncertainty, permitting a Contracting Party to opt for the unlimited liability of its nuclear operators, should such an option be deemed appropriate. In such a case, the financial security required of the operator to cover that liability will be limited to a specified amount with the remainder being guaranteed by the State concerned. This option should be welcomed by a number of countries.

(iii) *Definition of "nuclear damage"*

During the negotiation that resulted in the adoption of the Vienna Protocol, there was much debate over the heads of damage that should be covered by the definition "nuclear damage". The accident at Chernobyl had led many States to take the position that damage to the environment, economic loss and the costs of preventive measures should be expressly covered by that definition, primarily because such heads of damage constituted the majority of damage resulting from that accident. Others expressed concern that compensating such a wide range of damage could unfairly reduce the amount of compensation available for claims for personal injury, loss of life, and property damage.

That debate has been carried on, to some extent, within the context of the revision of the Paris Convention, but with a different outcome. In principle, the Contracting Parties have agreed to adopt the definition of "nuclear damage" appearing in the Vienna Protocol and in the CSC, but with the deletion of its

sub-paragraph (vii)¹ and with the addition of the word “direct” before the words “economic interest” in sub-paragraph (v) to ensure that compensation will not be awarded for damage that is too remote.

(iv) *Simplified Amendment Procedure*

Another issue being seriously considered by the Contracting Parties is the introduction of a simplified amending procedure into the Convention. Such a procedure would eliminate the need for organising a full diplomatic conference in the event that the Contracting Parties wish to change the liability or financial security amounts set forth in the Convention. It has been suggested that the NEA Steering Committee could be entrusted with the task of deciding on both revised liability amounts and corresponding financial security amounts in the future. In this way, all Contracting Parties would be obliged to revise their liability and financial security amounts at the same time, thereby contributing to the harmonisation of such amounts.

However, a number of countries have indicated that they might have constitutional difficulties with this option and others have questioned whether such a provision is really necessary, given that Paris Convention countries are free to increase their national liability and financial security amounts whenever and as often as they wish. The Contracting Parties will need to consider this mechanism in further detail before it can be eventually agreed upon.

Other Issues

It is clear that there are strong grounds for optimism at this mid-way point in the negotiations. The spirit of co-operation between the Contracting Parties and their willingness to seek compromise solutions to delicate problems should be emphasised and applauded.

However, one cannot disguise the fact that there are differences of opinion amongst the Paris Convention countries on several important questions. This is not surprising, especially considering the many years of negotiation required for resolution of these same, highly complex issues in connection with the Vienna Protocol. Such issues include, but are not limited to the geographical scope of application of the Convention, financial security coverage during

1. Sub-paragraph (vii) of the definition of “nuclear damage” contained in the Vienna Protocol and in the CSC reads as follows: *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.*

extended prescription periods, priority for claims for personal injury and loss of life over claims for property damage, new dispute resolution procedures, and jurisdiction over claims for damage arising from a nuclear incident occurring in the exclusive economic zone of a Contracting Party. All of these questions are of a complicated nature and they have turned out to be as difficult to resolve in connection with the Paris Convention revision as they were in connection with the Vienna Protocol.

Future Prospects

The negotiations have so far been very productive. In a relatively short period of time, the Contracting Parties have decided upon a number of improvements to the existing Convention, all of which are designed to provide potential victims of a nuclear incident with a better liability and compensation regime.

A good foundation for an amending protocol has been laid and further progress can be expected in the near future. At their last meeting, the Contracting Parties took the process one step further by reaching the decision to begin work on revising the Brussels Supplementary Convention. At this point in time, the Paris Convention countries have every reason to hope that they will successfully conclude their revision work within the time frame that they themselves originally set.

Session I – Séance I : Discussions

QUESTIONS TO / À : V. SOLJAN, M. JACOBSSON

Mr. J. Martinez-Favini

Mr. Jacobsson, in January of this year there was an oil-spill in Argentina, and the mayor of the neighbouring town made a claim for USD 50 million against the Shell company. What is your opinion on this issue?

Mr. M. Jacobsson

This is a somewhat delicate question, firstly because Argentina is not yet a Member of the International Oil Pollution Fund. We understand that ratification of the 1992 Fund Convention is before Parliament at the moment and should ensue in the near future. Secondly, as the Fund is not directly involved, I don't have any first-hand information on the effects of this accident, although the expert with whom I have spoken indicated that the consequences are not very serious for two reasons: first a large part of the oil went out from the coast rather than in towards the coast, and secondly this type of oil is not as toxic as some other types. However, I do appreciate that the area is composed of marshland which often proves very difficult, if not impossible, to clean. On the whole, although there will be some short-term effects, I have difficulty in seeing how the claim made by the mayor for USD 50 million in respect of environmental damage could be successful. In any case, we do not feel that this theoretical damage assessment is correct. As my colleague Mr. Soljan said this morning, the environment does not have a quantifiable market value. In order to put a price tag on the environment, you have to make some fairly sweeping assumptions as to the relationships between the various elements of the ecosystem. The outcome is necessarily arbitrary. We also feel that it is not correct to pay compensation for something that you cannot repair. Reinstating the impaired environment is a different matter, and reasonable costs for this purpose should be made available. However, one must realise that in some cases, there is very little man can do to reinstate the impaired environment and indeed in many cases, man makes it worse. We have seen examples where chemicals and hot water have been used in cases of oil pollution, thereby cleaning the oil but also killing all bacteria and resulting in a sterile environment. It is very hard to know to what extent man should intervene at all in such cases, or if it would not be preferable to leave it to nature to respond to such pollution as best it can. As for the Argentinean incident, I can't make any specific comments as I don't have sufficient facts at my disposal.

M. J. Martinez-Favini

M. Soljan, je me réfère à une phrase qui figure dans votre présentation, qui constate que “any calculation of environmental damage would be necessarily arbitrary”. Si vous étiez juge, quels sont les critères que vous utiliseriez afin de bien appliquer le droit et d’arriver à un certain équilibre ?

Mr. V. Soljan

We have no experience in this respect with regard to nuclear damage. The revised Vienna Convention followed to a certain extent the experience already acquired in the sphere of oil pollution damage. I refer you to the Patmos case, which I mention in my paper, where the Italian Court of Appeal recognised the Italian government’s claim in respect of the economic character of ecological damage, and decided that as it could not be estimated in monetary terms, they would rely on the principle of equity. We know that this notion is not very precise. Therefore, in order to avoid such uncertainties, we have to rely on the approach clearly established by the revised Vienna Convention, based on the premise that compensation for impairment of the environment shall be limited to the cost and measures of reinstatement of the impaired environment, actually undertaken or to be undertaken. The main problem arises in relation to the definition of reasonableness. There are three requirements which should help guide national courts in different countries to streamline their approach to this: the damage should be a consequence of contamination; there should be an economic interest established by the claimant; and the damage should be significant. All of these conditions have to be established before the competent court. The major difference therefore between the oil pollution conventions, and the conventions on nuclear damage, is that there have been real cases in practice in the oil pollution field, and therefore it was necessary to establish guidelines in order to equip the court with the information necessary to make just and fair decisions according to set criteria.

Mr. M. Jacobsson (*in relation to the same question*)

If I may expand on that, I think that as regards oil pollution damage, the situation is quite clear: environmental damage per se is not admissible at all and the conventions on this field clearly say so. The reason behind this is the experience which we have gained from various jurisdictions: take for example the Colocotroni case: in that particular example, the Court of first instance examined the marine organisms which had died and the commercial cost of their replacement from a biological laboratory. This amounted to an astronomical figure. In one Italian case, the Court concluded that they could not determine what the damage to the environment was, but it estimated that it was

about one-third of the clean-up costs. This can lead to anomalous situations as, if this logic is adopted, the more you clean up, the more you have to pay for environmental damage. In a system such as the oil pollution one, and to a certain extent the nuclear field, where contributors in one state may be required to pay for damage which occurred in another state, it is necessary to have established criteria in order to achieve a reasonable degree of uniformity of application. Otherwise, I believe that the political tensions would be so great that the system might not survive.

Mr. V. Soljan

In addition to Mr. Jacobsson's comments, I would just like to point out that there was very strong pressure to enlarge the notion of damage in the Vienna Convention, particularly taking into account public awareness of the threat that nuclear power can pose. The same awareness does not exist in relation to oil pollution.

Prof. U. Magnus

Mr. Soljan, you referred to the expression "the damage can be compensated ... to the extent that the competent court so provides" in the new definition of damage in the 1997 Protocol. In your opinion, what is the precise meaning of this provision: if the national law does not provide for compensation for those heads of damage cited in this provision, what solutions could be envisaged?

Mr. V. Soljan

I think that the Protocol is quite clear on this point. The economic loss which is compensable under the regime of the revised Vienna Convention is divided into three different categories. The consequential damage which results from damage to the claimant's property is certainly compensable, and such claims would be admissible in most legal systems. The same applies to loss of income resulting from the impairment of the environment. On the other hand, pure economic loss which is not related to the impairment of the environment is an optional part of the definition. The admissibility of such claims is left entirely for the competent court to determine. Therefore, the competent court must interpret the notions of *inter alia* "impairment of the environment" and "loss of income".

Ms. N. Horbach

Mr. Jacobsson, if we take the example of the Amoco Cadiz case of 1978, which occurred on French territory and involved a Liberian-registered tanker, claims were entered before the US courts, due to the fact that the operator of the tanker was American, despite the fact that both Liberia and France were Contracting Parties to the 1969 International Convention on Civil Liability for Oil Pollution Damage. This established therefore a forum-shopping incident. Could you please explain how this was possible, and also indicate if there are any other recent examples of forum shopping. If this is the case, how could it be prevented, since it also poses a risk for the nuclear liability regime?

Mr. M. Jacobsson

The situation in 1978 was quite different, as the 1971 Fund Convention had not yet come into force. The only amount of compensation available at the time was the limit of the ship-owners liability under the 1969 Convention which was at that time USD 18 million. The French State took out proceedings, not against the ship-owner, but against the management company in the United States. The oil pollution conventions are not as far-reaching as the nuclear conventions as regards channelling. In the nuclear field, as you know, liability is essentially channelled to the registered operator. This is not so in the maritime conventions and especially not in the old conventions. In my view the French government was entitled to seek compensation before the courts of the United States against persons other than the registered ship-owner. In addition, the USA, not being Party to the 1969 Convention, was in any event not bound to observe its rules. The Convention can only govern the rights and obligations of Contracting Parties. One could of course have argued that the USA courts should have applied *lex loci delicti*, *i.e.* the substantive law of the place where damage took place, which was France. As I recollect, the court attempted to do that and the presiding Judge said that, as they did not have any authoritative information as to what precisely the French law was in this case, that they would assume that it was the same as US law. I think in the end, the Court arrived at a result not very different from what a French court would have done. The Court did apply criteria very similar to those which the Fund would have applied. Whether the terminology employed refers to remoteness or proximity or causation, any judge would say that a limit must be drawn somewhere between admissible and non-admissible claims. There is a very famous statement of New York Supreme Court Judge Cardozo which refers to the floodgates argument, *i.e.* not opening the floodgates to an unlimited number of claims of indeterminate scope. It is clear that if, in a major incident where the total amount of all the established claims exceeds the amount available for compensation, claims by second-, third- and fourth-ranking persons are held to

be admissible, then the primary victims will receive less compensation. The question of how many groups of claims should be admitted is really a political decision. I acknowledge that the compensation available under the US regime was unlimited, as opposed to the limited amount applicable within the oil pollution regime. However, unlimited liability does not necessarily mean extra compensation as most companies would quite simply go bankrupt. One must also realise that it took more than ten years before any compensation was paid in the Amoco Cadiz case, whereas two years later, there was a less-publicised incident in the same area of France – the Tanio – which was almost as big, and which took place when the 1971 Fund Convention was in force. In that case, nearly all claimants were paid within three years.

QUESTIONS TO /À : G. WARREN, J. HAMILTON

Mr. E. Damasceno

Mr. Warren, taking into account the increased amounts of state liability introduced by the 1997 Convention on Supplementary Compensation for Nuclear Damage, and the increased civil liability amounts foreseen under the 1997 Vienna Protocol, would you agree, as an insurer, that the amount of insurance cover provided for nuclear installations would have to decrease accordingly?

Mr. G. Warren

Both the increased state involvement and the Supplementary Compensation Convention are intended to supplement the operator's liability so as to produce a greater compensatory fund. They are not intended to replace the operator's obligations, one of which would normally be of course the obligation to insure. Most countries are moving towards a lessening of their government/state financial involvement, either by reducing the amount of state funding or by raising the ceiling at which they would become involved (or by both). If, however, a government decided that it wished to retain a very low limit of indemnity and/or wished to avoid any insurance involvement (for example to save the amount of premium that would otherwise have to be paid in hard currency), then it could do so with or without the Vienna Protocol of 1997. These instruments do not actually affect the position one way or the other.

Mr. T. Melchior

Mr. Warren's statement was a refreshing, critical view of almost ten years' work, and in response to this presentation, I would like to make the following comments:

- a. You suggest that the Vienna Convention limits are too low: whilst this is true as regards a major disaster, they represent the best that could be achieved at the time; furthermore you make no indication of what in your view would be the alternative. We must acknowledge that it is a major step in the right direction.
- b. You express difficulties in relation to the concept of damage, and in particular that of environmental damage, yet the developments made are a significant step towards clarification and harmonisation. The problems relating to environmental damage and the coverage of environmental damage as specified in the Vienna Convention were not invented by the Protocol – many jurisdictions already covered such damage under the old conventions. The new definition provides that damage to the environment can only be compensated if reasonable and actual reinstatement costs are incurred, so that is in fact in many respects a limitation.
- c. You have indicated that the problem for insurers is not in providing compensation following a nuclear incident but rather in providing compensation when no incident has actually occurred. As you know, according to the nuclear liability conventions, an incident is necessary to trigger the operator's liability.
- d. As regards prescription periods, and the extension of the time limit from ten to thirty years, in drafting these provisions, we were all well aware of the difficulty of providing insurance, and for exactly that reason the Vienna Protocol provides that the Installation State must supply compensation if the operator's insurance cover is insufficient.
- e. We are aware of the difficulties on causation but it would surely not be legitimate to rule out claims where causation could be proved.
- f. If the claim is purely speculative then the claimant will not succeed. In many jurisdictions, at least in my own, the claimant

would be ordered to pay the defence costs of the opponent, either the nuclear operator or the insurance company.

Mr. G. Warren

In response to Torben Melchior's comments, I would like to add the following points:

- a. On limits: if the present limits are the best that could be achieved, it is a fairly damning indictment – after all, private insurance alone could provide twice the limit under the Vienna Convention. You asked my opinion of what could be attained: I would suggest that you impose an indemnity limit – say 2000 million SDR – approximately twice the insurance capacity, and leave the operators to sort it out. This would certainly work in respect of the Paris Convention: the nuclear operators would very rapidly devise a solution. You would, of course, have to revise the amount regularly.
- b. On environmental damage: as I said in my presentation, environmental damage is not a problem if an actual incident/accident has occurred – probably insurers would not even be involved, having already paid the entire limit on other damages. Our fears are more related to releases during normal day-to-day operations.
- c. On the issue of nuclear incidents: it may require an incident to trigger liability – however, an incident is not necessary to trigger a court action.
- d. On prescription periods: insurers will be relieved to receive Mr. Melchior's comment on state involvement.
- e. On causation: where a nuclear incident has occurred, causality is unlikely to be a problem for insurers – it is more likely to be a problem for society in determining a fair system of treatment for cancer sufferers whose disease may or may not be radiogenic in origin – court action hardly seems the most considerate way of treating people who might be terminally ill.
- f. On speculative claims: unfortunately not every country agrees to pay (successful) defence costs from public funds when the plaintiff has received legal aid to bring his case. Possibly, also,

Denmark would never have permitted public funds to be used to bring some of the cases seen in other countries.

QUESTIONS TO / À : F. SURANSKY, H. RUSTAND

Mr. D. Cutoiu

In relation to Mr. Suransky's presentation, I should just like to point out that in the old Romanian nuclear act, which dated from 1974, the liability limit was the equivalent of approximately USD 6 million. However, this was repealed in 1996, when new legislation provided that the international conventions should be directly applied henceforth, and that the government should submit a draft law on nuclear liability to the parliament. This has been duly done, and we expect that this law should enter into force at the end of this year. Until that time, the Vienna Convention would be applied. By way of example, the Romanian nuclear power plant at Cernavoda is insured for USD 60 million.

M. P. Reyners

Nous avons beaucoup parlé cet après-midi de questions de montant; je ne me propose pas d'offrir un avis particulier sur le niveau auquel il convient de fixer à l'avenir le montant de responsabilité et de garantie financière obligatoire. Je voudrais revenir sur un point qui a été évoqué par M. Rustand pendant sa présentation et qui concerne la mise à jour de ces montants, qui a été un point de faiblesse constante dans le régime de responsabilité civile nucléaire. L'harmonisation des législations nationales est incontestablement un objectif important du régime spécial de responsabilité civile. Dans ce contexte l'harmonisation des montants de responsabilité et de garantie financière me paraît particulièrement utile. Dans le passé, les montants de responsabilité n'ont pas ou ont peu été réévalués. Je me souviens toujours du relatif échec de l'exercice de révision de la Convention de Paris en 1982 qui s'était révélé incapable d'augmenter le montant de responsabilité de l'exploitant nucléaire. Cet échec a entraîné une véritable explosion du système d'harmonisation des montants: nous avons vu des pays augmenter leurs montants de façon importante et d'autres qui n'ont pas réévalué ces montants depuis les premiers jours de la Convention. L'objet de cette intervention est de plaider pour inscrire dans la Convention un mécanisme de mise à jour des montants de responsabilité et de garantie financière. M. Rustand a évoqué la possibilité qui, jusqu'à présent, n'a pas été soutenue, qui serait de confier à l'organe directeur de l'AEN, son Comité de Direction, déjà doté de larges pouvoirs en matière d'application de la Convention de Paris, cette responsabilité particulière. Un certain nombre de pays ont émis des objections de caractère juridique ou

constitutionnelle dont il faut prendre acte mais il me paraît très important d'intégrer une forme de mécanisme, qu'il s'agisse de celle qui figure dans la Convention de Vienne ou d'une autre méthode. Enfin, je ne crois pas que l'on puisse s'en remettre à la sagesse des gouvernements ou des parlements pour songer à mettre à jour périodiquement ces montants. L'expérience passée indique qu'il n'en est rien. Il est donc important qu'un organisme qui est l'expression de la volonté collective de coopération des pays pour l'application de ces Conventions, puisse à ce sujet donner l'impulsion politique nécessaire pour que des travaux s'engagent et que des propositions soient faites pour la révision de ces montants.

M. J. Martinez-Favini

Nous avons aussi un montant de 80 millions de dollars dans notre régime de responsabilité civile nucléaire en Argentine : cela représente plus ou moins l'actualisation du montant de la Convention de Vienne d'origine, plus le coût des procès, etc. Cependant, je voudrais poser une question : je crois que le gouvernement, en matière nucléaire, ne peut pas être neutre. Soit le gouvernement est pour, soit il est contre, parce qu'il s'agit d'une activité à risque. Or, la participation de l'État dans l'autorisation de la construction, le fonctionnement, le démantèlement, la gestion de déchets radioactifs, etc., est trop importante pour qu'un gouvernement puisse avoir une centrale nucléaire sur son territoire et sous sa juridiction tout en restant neutre. Lorsqu'on parle des montants de responsabilité, le choix de ces montants demeure une question éminemment politique. Notre nouvelle Loi prévoit que l'exploitant doit disposer d'une garantie financière qui s'élève à 80 millions de dollars ; si cette assurance ne suffit pas, l'État aura la responsabilité de combler le déficit. Je crois qu'en réalité la responsabilité n'est jamais illimitée : la responsabilité est fixée par un tribunal.

Mr. W. Gehr

Mr. Rustand, I would like to know whether it is the intention of the Paris Convention States to amend a regime which may be of value in relation to nuclear incidents of limited scope, or whether they wish to create a new regime which will provide comprehensive compensation in the case of a major nuclear accident, as in our view is the case with the Price-Anderson Act. Are the Parties to the Paris Convention willing to provide the international community with a credible alternative to the Price Anderson Act, or are they trying to limit themselves to an exercise of a rather minor value? If the latter is the case, perhaps it should be made clear.

Mr. H. Rustand

It is true that the Paris Convention regime is mainly set up to deal with incidents of restricted scope. A major nuclear accident would of course necessitate the mobilisation of additional funds. However, I would like to remind our Austrian colleagues that there is provision for such funds, in particular through the Brussels Supplementary Convention, which is expected to be revised following the completion of the Paris revision exercise. Let us assume that the Paris Convention revision exercise leads to a liability figure of 600 million SDRs, and the revised Brussels Supplementary Convention would add a further, say, 300 million SDRs to that sum. If we also take into account the possibility that the Supplementary Compensation Convention would come into play on a world-wide basis, and that we could find a formula to connect that world-wide instrument with the regional Brussels Supplementary Convention: this would mean that some 1.3 billion SDRs would be available in the case of a major nuclear accident, which would go a considerable way to compensating victims. As far as I understand, the type of nuclear installations operating in Western Europe are not likely to create accidents of that magnitude in any case.

M. P. Kayser

Je souhaite faire un bref commentaire sur la communication de M. Rustand. Tous les États Parties à la Convention de Paris ont donné en 1997 lors de la Conférence Diplomatique à Vienne leur accord en ce qui concerne la définition du dommage nucléaire, lorsqu'a été adopté le Protocole d'Amendement de la Convention de Vienne. Il me paraît donc étrange que cette définition puisse être remise en cause à ce stade.

Mr. H. Rustand

I am not fully aware of to what extent, if any, Paris States agreed to incorporate exactly the same definitions as appear in the revised Vienna Convention, into a revised Paris Convention. There were no binding commitments of either a political or legal nature made to this effect in Vienna. Personally I hope that we will end up with a revised Paris Convention which will, to all extent possible, be compatible with the revised Vienna Convention, especially in relation to the most essential definitions.

Session II – Séance II

**OPTING FOR A NEW GLOBAL REGIME OF CIVIL
NUCLEAR LIABILITY**

**UN NOUVEAU RÉGIME GLOBAL DE
RESPONSABILITÉ CIVILE NUCLÉAIRE**

Chairperson / Président : Håkan Rustand

Chairperson, OECD/NEA Group of Governmental Experts
on Third Party Liability in the Field of Nuclear Energy

**MAIN FEATURES OF THE CONVENTION ON SUPPLEMENTARY
COMPENSATION FOR NUCLEAR DAMAGE – AN OVERVIEW**

**PRÉSENTATION DES CARACTÉRISTIQUES FONDAMENTALES
DE LA CONVENTION SUR LA RÉPARATION COMPLÉMENTAIRE
DES DOMMAGES NUCLÉAIRES**

Vladimir Boulanenkov

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Résumé

L'auteur de cette communication entame son exposé en rappelant que le Comité permanent de l'AIEA sur la responsabilité nucléaire a poursuivi ses travaux dans deux directions : améliorer le régime existant de responsabilité civile nucléaire et mettre en place un système global de responsabilité nucléaire. Cette dernière approche a abouti à l'adoption en septembre 1997 de la Convention sur la réparation complémentaire des dommages nucléaires (CSC).

Un des constats à l'origine de la CSC est le fait que le régime établi par les Conventions de Paris et de Vienne, ainsi que par le Protocole commun de 1988, n'est pas parvenu à regrouper l'ensemble des pays dotés de programmes électronucléaires. Un autre concerne le fait que les montants de responsabilité prévus par les Conventions précitées peuvent s'avérer insuffisants pour assurer l'indemnisation des dommages nucléaires, ce qui a conduit à concevoir un nouvel instrument qui se superposerait aux Conventions de Paris et de Vienne.

L'auteur passe ensuite à l'analyse des dispositions de la nouvelle Convention : il souligne d'abord le caractère autonome de la Convention, ce qui permet à des pays non Parties aux Conventions de Paris et de Vienne d'y adhérer directement en utilisant le mécanisme de l'Annexe destinée à vérifier que les législations nationales des pays concernés sont conformes aux principes internationaux de responsabilité civile nucléaire, exception faite du cas particulier de la clause dite des droits acquis qui vise les États-Unis. Sont successivement examinés le champ d'action géographique, le système de réparation complémentaire au-delà de la garantie financière de l'exploitant, le mode de contribution des États Parties au financement complémentaire de la réparation, la répartition de ces fonds, la clause d'augmentation provisoire des montants, la clause de compétence juridictionnelle, les responsabilités de l'AIEA en tant que dépositaire de la Convention et la clause d'entrée en vigueur.

Note : The facts and views set forth in this presentation do not necessarily reflect the opinion of the IAEA.

Introduction

The Chernobyl accident prompted widespread awareness of the need for improved protection of the public from the consequences of nuclear accidents. It was generally recognised that urgent efforts should be undertaken to strengthen the international nuclear liability regime based on two civil law conventions, namely the 1963 Vienna Convention on Civil Liability for Nuclear Damage and the 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy. The work initiated by the Agency – it was assigned to the Standing Committee established in 1990 – followed a two-track approach: to improve the existing civil liability regime, including revision of the Vienna Convention for which the IAEA is depositary; and, to develop a comprehensive international liability regime. The issue of compensation additional to that available under the two basic conventions received full attention in the negotiations.

In the latter context, this work resulted in the adoption by a diplomatic conference convened by the IAEA in September 1997 of a new instrument, *i.e.* the Convention on Supplementary Compensation for Nuclear Damage (the CSC). The vote was: 66 in favour to 1 against with 2 abstentions. To date, 13 states have signed and 1 state has ratified the Convention.

Objectives of the CSC

The CSC, as spelt out in its preamble, addresses certain specific concerns about the state of the nuclear liability regime, namely the inadequate compensation amounts provided for under the two basic conventions and the absence of a uniform global regime.

It should be noted that, while many states have now joined the nuclear liability instruments, they do not yet enjoy worldwide adherence. The Paris Convention which is a regional treaty concluded within the framework of the OECD, has 14 West European countries party to it. The Vienna Convention, which is a treaty of universal character, has currently 32 parties – a significant increase since the negotiations on revision of the Vienna Convention began when there were only ten parties. The adoption in 1988 of the Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention (the Joint Protocol) which combined the two instruments into one system marked a substantial step towards the establishment of a uniform regime on a global scale.

Notwithstanding these positive developments, the effectiveness of the Vienna/Paris Conventions system is reduced due to limited participation. Thus, the Joint Protocol has currently 22 parties of which 6 are parties to the Paris Convention; they all account for less than ten percent of the total number of nuclear power reactors that were in operation at the end of 1998. A number of states with nuclear power programmes have thus far refrained, for various reasons, from joining any of the nuclear liability instruments. Roughly half of the total number of nuclear power reactors operated in the world are situated in these states. Also, many non-nuclear power generating states have so far remained outside the Vienna/Paris Conventions system.

The absence of treaty relationships with respect to nuclear liability between many States actively involved in the international transfer of nuclear equipment and technology negatively affects international co-operation in nuclear safety. The CSC is also aimed at encouraging regional and global co-operation to promote higher levels of nuclear safety.

The idea of supplementary compensation is not new. The fact that liability amounts assigned to the operator under the Vienna and Paris Conventions may be insufficient to provide adequate compensation and may therefore need to be supplemented by state involvement or by other means was recognised already at the time of adoption of both instruments. The Paris Convention contains a specific provision providing for such an option. Apart from national law, this option was implemented on a regional basis in the Brussels Supplementary Convention which provides for additional funding by the Installation State and jointly by all states parties.

While the Vienna Convention does not provide for such state intervention, the 1963 Diplomatic Conference on the adoption of the Vienna Convention, in a resolution requesting the IAEA to establish a Standing Committee to review issues relating to that Convention, raised the issue of an international compensation fund. In particular, it recommended as one of the Committee's tasks "to study the desirability and feasibility of setting up an international compensation fund for nuclear damage and the manner in which such a fund would work" to enable operators to meet the liability under the Convention, "including ways of covering nuclear damage exceeding the amount therein provided".¹ However, at the time, that suggestion did not receive sufficient support and was not explored further.²

1. IAEA, Legal Series No. 3, p. 515.

2. IAEA, CN-12/SC/9, p. 6.

The idea of supplementary funding attracted renewed interest in the aftermath of Chernobyl. One of the proposals made for the IAEA programme of international co-operation in the field of nuclear safety suggested establishment of a nuclear emergency assistance fund to help developing countries to cope with the consequences of a nuclear accident.³ Also, a proposal was put forward to study the feasibility of developing a new instrument on state liability for transboundary damage which could complement the civil liability conventions and provide a framework for establishing a comprehensive nuclear liability regime.⁴

The issue of supplementary funding was given thorough consideration in the IAEA Standing Committee. Various alternative approaches were explored, *e.g.* the establishment of additional tiers of compensation by the Installation State, through pooling of operators and by states parties collectively, or allocation of supplementary funds to compensate transboundary damage only. This issue was also discussed, as part of the Standing Committee's mandate, in the context of state liability and its relationship with the regime of civil liability. Eventually, the Standing Committee decided on a mechanism embodied in the CSC which provides for supplementary compensation of both domestic and transboundary damage made available through contributions by all states parties on the basis of international solidarity rather than state liability.

Main provisions of the CSC

The Convention on Supplementary Compensation is a free-standing instrument. While there is an intimate link between the CSC and the Vienna and Paris Conventions, it works equally with the national legislation of states not party to those conventions which contains comparable liability rules. The CSC is therefore open to adherence by all states irrespective of whether they are party to the two basic conventions. The importance of the free-standing character of the CSC is underscored by the fact that at present a large number of States, both nuclear power generating and non-nuclear, do not participate in the liability system based on the Vienna and Paris Conventions. Adherence to the CSC provides them with an alternative possibility to join the international nuclear liability regime.

3. GC(SPL.1)/12,GOV/INF/512.

4. GC(SPL.1)/8.

The Annex, which is an integral part of the CSC, offers a mechanism through which states not party to either of the two basic liability conventions may adhere. As stated in the introduction of the Annex, such states will be required to bring their national legislation into line with the liability provisions laid down in the Annex. These provisions are in general equivalent to those contained in the two basic conventions, including the revised Vienna Convention. States may, if their constitutional law so allows, apply the Annex rules directly without transformation into national legislation. Also, a state having no nuclear installation is permitted to have only that legislation which is necessary to enable it to give effect to its obligations under the Convention. This responds to concerns repeatedly voiced by non-nuclear states both in the Standing Committee and at the diplomatic conference that to require such states to enact full-fledged liability legislation as a pre-requisite for their participation in the Convention would complicate their adherence.⁵

The Annex contains a provision [Article 2.1] which allows a state whose legislation on liability and compensation for nuclear damage is based on the concept of “economic channelling” and which meets certain requirements to participate in the CSC without changing its legislation (the “grandfather” clause). Such national legislation is deemed to be in conformity with the basic liability provisions of the Annex if, on 1 January 1995, it provided for: (i) strict liability for substantial off-site nuclear damage; (ii) indemnification of any person other than the liable operator insofar as that person is legally liable to provide compensation; and (iii) compensation for nuclear damage at the level of at least 1 billion SDRs in respect of a civil nuclear power plant and at least 300 million SDRs in respect of other civil nuclear installations.

The “grandfather” clause is designed to address the special situation of the United States whose national law on nuclear liability and compensation predates the basic liability conventions. Since it is based on the concept of “economic channelling” which, in practical terms, leads to the same result as legal channelling, this difference prevents, however, the United States from joining the Vienna or Paris Conventions.⁶ Thus, the “grandfather” clause serves

5. Diplomatic Conference Convened to Adopt a Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage and to Adopt a Convention on Supplementary Compensation, Summary Records of the Plenary Meetings, NL/DC/SR.1, pp. 13 and 30.

6. Ben McRae, *The Compensation Convention: Path to a Global Regime for Dealing with Legal Liability and Compensation for Nuclear Damage*, *Nuclear Law Bulletin*, No. 61, p. 29.

the purpose of bringing all states into one global legal framework governing liability and compensation for nuclear damage.

The CSC applies to nuclear damage [Article I(f)], for which an operator of a nuclear installation used for peaceful purposes and situated in the territory of a Contracting Party is liable under either of the two basic Conventions or national legislation consistent with the Annex. The nuclear damage is defined in the same way as in the Protocol to Amend the Vienna Convention. A detailed provision on geographical scope [Article V.1] imposes a certain limitation on the use of supplementary compensation: given the fact that public funds are involved, supplementary compensation is not intended to cover nuclear damage in non-contracting states. Specifically, the supplementary funds apply to nuclear damage suffered: (a) in the territory of states parties; or (b) in or above maritime areas beyond the territorial sea by a national of a state party, or on board or by a ship flying the flag of a state party, or on board or by an aircraft registered in the territory of a state party, or on or by an artificial island, installation, or structure under the jurisdiction of a state party; or (c) in or above the Exclusive Economic Zone of a state party or on its continental shelf in connection with the exploitation or the exploration of the natural resources. This is subject to the requirement that the courts of a state party have jurisdiction pursuant to Article XIII.

This is a more restrictive scope of application than that of the Protocol to Amend the Vienna Convention. The latter extends the coverage of the Vienna Convention to nuclear damage wherever suffered. Only one exception is permitted, namely in respect of nuclear damage suffered in a non-contracting state, including its maritime zone, if that state has a nuclear installation in its territory or maritime zone and does not afford reciprocal benefits. The rationale of the approach taken in the CSC was to underscore the solidarity character of the supplementary funding and to encourage the broadest participation possible.

The CSC is intended to generate funds to supplement the system of compensation available under national law of states parties which either implements the Vienna or Paris Conventions or which complies with the provisions of the Annex [Article II.1]. Supplementary funds are provided in addition to the national compensation amount of at least 300 million SDRs, the availability of which is ensured by the Installation State. This threshold for triggering the system of supplementary compensation corresponds with the minimum level of operator liability under the revised Vienna Convention. The Convention does not prescribe the arrangements through which the national compensation amount is made available, leaving the choice to the Installation State (*e.g.* through operator's insurance, pooling, regional arrangements or public funds). Given economic realities, States in difficult economic

circumstances are allowed to adhere with a lower national compensation amount by making use of a phasing-in mechanism which establishes a higher standard than the one in the revised Vienna Convention. In particular, a transitional amount of at least 150 million SDRs may be set for a maximum of 10 years from the date of the opening of the CSC for signature in respect of a nuclear incident occurring within that period, *i.e.* until September 2007. [Article III.1]

The contribution of a state party is calculated according to a special formula on the basis of its installed nuclear capacity of nuclear reactors (1 unit for each MW of thermal power multiplied by 300 SDRs) and its United Nations rate of assessment. The latter part of the supplementary funds, provided by both nuclear power generating and non-nuclear states, constitutes 10% of the total calculated on the basis of installed nuclear capacity. However, states parties on the minimum United Nations rate of assessment with no nuclear reactors shall not be required to contribute [Article IV,1(a) and (b)].

For the purpose of calculating contributions, the IAEA Director General, as Depositary, is required to maintain an up-to-date list of nuclear reactors with the necessary particulars which is to be circulated annually to all contracting states. Such a list is established on the basis of information provided by each contracting state at the time of expressing consent to be bound; modifications to be made to the list must be promptly communicated to the Depositary. In the case of addition of an installation to the list, the communication must be made at least three months before the expected date when the nuclear material will be introduced into the installation. States parties may challenge the information provided by other states parties – objections are to be addressed to the Depositary regarding the particulars or modifications communicated by any contracting state. The Depositary informs as soon as possible states parties of such communications and objections [Article VIII].

In order to avoid a situation where one or more states parties having a large nuclear power capacity would have to provide an excessively large portion of the supplementary funds, especially during the initial period with a limited number of participants, a percentage limitation (“cap”) for the contribution of an individual state party is included in the calculation. The cap amounts to the United Nations rate of assessment expressed as a percentage plus 8 percentage points. It will start to phase out when the total installed nuclear capacity reaches the level of 625 000 units (the “cap” increases by one percentage point for each additional 75 000 units). The cap is not, however, applicable to the Installation State of the liable operator [Article IV.1(c)].

The allocation of supplementary funds was a subject of intensive negotiation. The aim was to achieve a balance between the requirement of non-differential treatment among victims in and outside the territory of the Installation State of the liable operator and a certain proportionality between the national compensation amount and compensation of nuclear damage suffered in that state and transboundary damage. Under the Convention, the supplementary funds are allocated as follows:

- 50% of the funds are devoted to the compensation of nuclear damage in or outside the Installation State; and,
- 50% of the funds are devoted exclusively to the compensation of transboundary damage to the extent that it has not been compensated from the former amount.

In the event that an Installation State avails itself of the phasing-in provision, the allocation of supplementary funds will be adjusted. In particular, the amounts of compensation for both domestic and transboundary damage will be reduced by the percentage by which the national compensation amount is less than 300 million SDRs and the amounts reserved for the compensation of transboundary damage only will be increased by the same percentage. On the other hand, if the national compensation amount is 600 million SDRs or greater, then all supplementary funds will be used to compensate nuclear damage in and outside the Installation State [Article XI].

The CSC does not provide for the establishment of a supplementary compensation fund with an organisational structure like the International Oil Pollution Compensation Fund nor does it require states parties to set aside such funds in advance. The state party whose courts have jurisdiction informs other parties as soon as it appears that the nuclear damage caused exceeds or is likely to exceed the national compensation amount of the Installation State of the liable operator and that supplementary funds may be required. Thereafter, following the request from the state party whose courts have jurisdiction, other parties provide their contributions to the extent and when they are actually required. The state party whose courts have jurisdiction has exclusive competence to disburse such funds [Article VII.1].

The CSC contains a jurisdiction clause comparable to that included in the revised Vienna Convention regarding jurisdiction of a coastal state party over actions in connection with nuclear incidents occurring in its Exclusive Economic Zone. Such jurisdiction is accorded only for the purposes of the CSC and may not be exercised in a manner which is contrary to the international law of the sea, including the United Nations Convention on the Law of the Sea. A

proviso is added, however, that if the exercise of such jurisdiction is inconsistent with the obligations of that state party under Article XI of the Vienna Convention or Article 13 of the Paris Convention in relation to a state not party to the CSC, jurisdiction must be determined according to those Conventions [Article XIII.1 and 2].

The Convention enters into force when 5 states with a minimum total of 400 000 units of installed nuclear capacity adhere to it. It constitutes about 40% of the world total. This creates favourable conditions for bringing the CSC into operation early with a meaningful size of the fund. The Convention is open for signature by all states. However, the instruments of expressing consent to be bound may be accepted only from states party to the Vienna or Paris Conventions, or states whose national legislation complies with the provisions of the Annex. In the case of a state having a nuclear installation on its territory, it must also be a contracting state to the Convention on Nuclear Safety of 17 June 1994 [Article XX.1]. The latter requirement emphasises concern for safety: participants to a supplementary compensation scheme based on solidarity are expected to operate nuclear installations at generally acceptable levels of safety culture.

To summarize, the system of supplementary compensation is intended to operate as follows. National legislation implementing the Vienna Convention or the Paris Convention as well as national legislation consistent with the requirements set out in the Annex to the CSC, establishes the rules for operator liability, including the principles of no-fault liability and channelling of liability to the operator of the nuclear installation. When the national compensation amount (not less than 300 million SDRs to be provided by the operator or by the operator and public funds of the Installation State) is exhausted, additional compensation is provided from the supplementary funds comprised of contributions paid in accordance with a specific formula by states parties to the CSC. The phasing-in mechanism allows a state to join the CSC with an interim, lower amount of liability.

Conclusion

The CSC is a product of many years of multilateral negotiations and represents a balance of various legal, economic and political considerations. While not all concerns may have been fully met, it represents a significant improvement in the protection of the public from the consequences of nuclear accidents.

**OVERVIEW OF THE CONVENTION ON SUPPLEMENTARY
COMPENSATION**

**APERÇU DE LA CONVENTION SUR LA RÉPARATION
COMPLÉMENTAIRE**

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Résumé

L'auteur de cette communication explique en introduction de son exposé que la nouvelle Convention sur la réparation complémentaire des dommages nucléaires a été inspirée par la volonté d'offrir à la communauté internationale la possibilité d'intégrer les règles de responsabilité et de réparation des dommages nucléaires dans un régime global auquel participeraient tous les pays exploitant des centrales nucléaires ainsi que la plupart des autres pays. Un tel régime favoriserait également la coopération internationale visant à améliorer le niveau de sûreté nucléaire.

L'auteur se propose ensuite d'analyser les réponses à un certain nombre de questions qui sont importantes pour la compréhension de la nouvelle Convention. Ces questions sont les suivantes :

- Les raisons du besoin d'un régime global (illustrées par des tableaux).
- Les Conventions existantes (Paris, Vienne et le Protocole Commun) sont-elles suffisantes à cet égard ?
- Comment la nouvelle Convention crée-t-elle la base d'un régime global et pourquoi des pays pourraient souhaiter y adhérer autrement qu'en participant aux Conventions de Paris et de Vienne ?
- Comment la Convention garantit-elle le respect des principes juridiques de la responsabilité civile nucléaire ?
- Comment la Convention détermine-t-elle avec certitude la juridiction compétente pour statuer sur un accident nucléaire ?
- Quel est l'intérêt des pays Paris-Vienne – ou non parties à ces Conventions, d'adhérer à la nouvelle convention ?
- Quelle est la clause des droits acquis et s'applique-t-elle à d'autres pays que les États-Unis ?
- Quelles sont les obligations financières de l'État de l'installation dans le cadre de la Convention ?
- Comment le fonds international va-t-il fonctionner, y compris le mécanisme de plafonnement des contributions ?

- Comment ce fonds international traite-t-il des dommages transfrontières ?
- Un pays peut-il effectuer des réparations additionnelles à celles prévues par la Convention ?

L'auteur conclut son exposé en indiquant qu'une analyse plus détaillée de la Convention sur la réparation complémentaire a été publiée dans *le Bulletin de droit nucléaire* n° 61, juin 1998, disponible en français et en anglais.

What is the Convention on Supplementary Compensation for Nuclear Damage (Compensation Convention)?

The Compensation Convention was developed under the auspices of the International Atomic Energy Agency and adopted at a Diplomatic Conference in September 1997. It provides for (1) treaty relations among all countries that accept the basic principles of nuclear liability law and (2) an international fund to compensate nuclear damage in the event of a nuclear incident.

Why was the Compensation Convention developed?

The Compensation Convention was developed to provide the world community with the opportunity to deal with legal liability and compensation for nuclear damage through a global regime that includes all countries that operate nuclear power plants (nuclear-power-generating countries) and most countries that do not operate nuclear power plants (non nuclear-power-generating countries). Such a global regime can remove legal uncertainty as an impediment to (1) ensuring the highest level of safety in nuclear activities and (2) arranging international cooperation in nuclear projects, while guaranteeing the availability of meaningful compensation in the event of a nuclear incident.

Why is there a need for a global regime?

There currently exists considerable uncertainty as to what courts would have jurisdiction and what legal principles would apply in the event of a nuclear incident. Tables 1 and 2 at the end of this paper demonstrate the current uncertainty and the beneficial effects of the Compensation Convention in removing this uncertainty. In considering the existing situation, it should be noted that Table 1 does not reflect the full range of uncertainty because (1) it does not address the possibility of multiple lawsuits on the same claims in the country where the accident occurred, the country where the damage occurred, and the countries where nuclear suppliers are located and (2) it is based on an accident at a nuclear facility and does not deal with the more complicated case of an accident during transportation.

Are the existing international nuclear liability instruments (the Paris Convention, the Vienna Convention and the Joint Protocol) sufficient to create a global regime?

Many countries, and especially non nuclear-power-generating countries, 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. Even among nuclear-power-generating countries, adherence to the Paris Convention or the Vienna Convention is not universal. Of the ten countries with the largest amount of installed capacity (Canada, France, Germany, Japan, the Republic of Korea, the Russian Federation, Sweden, Ukraine, the United Kingdom, and the United States), only half (France, Germany, Sweden, Ukraine, and the United Kingdom) are either Paris States or Vienna States and only one (Sweden) is a member of the Joint Protocol that links the Paris Convention and the Vienna Convention. Overall, those nuclear-power-generating countries that do not belong to the Paris Convention or the Vienna Convention account for more than half of worldwide installed capacity.

How does the Compensation Convention create the basis for a global regime?

The Compensation Convention is a free-standing instrument open to all countries. As a free-standing instrument, it offers a country the means to become part of the global regime without also having to become a member of the Paris Convention or the Vienna Convention. The Compensation Convention thus provides the basis for treaty relations to link Paris States and Vienna States with those countries that do not belong to either the Paris Convention or the Vienna Convention but are willing to accept the basic principles of nuclear liability law in the context of the Compensation Convention.

Why would a country be willing to accept the basic principles of nuclear liability law in the context of the Compensation Convention but not in the context of the Paris Convention or the Vienna Convention?

The Compensation Convention addresses the primary issues that have discouraged many countries from joining the Paris Convention or the Vienna Convention. Specifically, the Compensation Convention contains enhanced provisions on the amount available to compensate nuclear damage, the definition of nuclear damage, and the treatment of maritime nuclear incidents.

Many countries, and especially non nuclear-power-generating countries, are unwilling to enter into treaty relations on the basis of the compensation amounts potentially available under the Paris Convention and Vienna Convention.¹ The Compensation Convention addresses these concerns by providing for a substantial increase in the amount that is guaranteed to be available to compensate nuclear damage. First, it requires a member country to ensure the availability of at least 150 million SDRs to compensate nuclear damage during the period prior to 29 September 2007, and at least 300 million SDRs thereafter. Second, it provides the basis for an international fund of up to approximately 300 million SDRs to supplement the compensation available under national law. And third, one-half of the international fund is reserved exclusively for transboundary damage.

The Compensation Convention responds to longstanding concerns over the definition of nuclear damage by explicitly identifying the types of damage that are considered nuclear damage. In addition to personal injury and property damage, the enhanced definition deals explicitly with damage relating to impairment of the environment, preventive measures, and economic loss.

The Compensation Convention enhances the jurisdiction provisions in the Paris Convention and the existing 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 provides that the courts of a member country will have exclusive jurisdiction over claims for nuclear damage resulting from a nuclear incident in its Exclusive Economic Zone (EEZ). This EEZ jurisdiction is only for purposes of the Compensation Convention and relates only to the adjudication of claims for nuclear damage. The Compensation Convention does not create any rights or obligation concerning actual shipments.

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1. Article 7 of the Paris Convention permits a Paris State to limit the liability of an operator (and thus the amount of compensation available) to 15 million SDRs. The Steering Committee of the Nuclear Energy Agency has recommended that Paris States limit the liability of an operator to no less than 150 million SDRs, but several Paris States have not implemented this non-binding recommendation fully. Article V of the existing Vienna Convention permits an existing Vienna State to limit the liability of an operator to 5 million 1963 United States gold dollars (approximately 60 million SDRs). Article V of the revised Vienna Convention permits a revised Vienna State to limit the liability of an operator to 100 million SDRs during the first 15 years after the revised Vienna Convention enters into force and thereafter to limit the liability of an operator to 300 million SDRs.

How does the Compensation Convention assure certainty concerning what legal principles will apply to a nuclear incident?

The Compensation Convention is consistent with the basic principles of nuclear liability law set forth in the Paris Convention and the Vienna Convention, such as (1) channelling all legal liability for nuclear damage exclusively to the operator, (2) imposing absolute liability on the operator, (3) granting exclusive jurisdiction to the courts of the country where a nuclear incident occurs, and (4) limiting liability in amount and in time. The Compensation Convention achieves this consistency by requiring a member country either to be a Paris State or a Vienna State or to have national legislation consistent with the provisions of the Annex to the Compensation Convention (that is, to be an Annex State). The provisions of the Annex set forth the basic principles of nuclear liability law in the same manner as the Paris Convention and the Vienna Convention.

How does the Compensation Convention assure certainty concerning what court will have jurisdiction over a nuclear incident?

The Compensation Convention reaffirms the basic principle of nuclear liability law that exclusive jurisdiction over a nuclear incident lies with the courts of the country where the incident occurs. Specifically, Article XIII commits all member countries to recognising the jurisdiction of the courts of other member countries and provides that only one member country's courts will have jurisdiction over a nuclear incident.

The Compensation Convention is clear that its jurisdictional provisions apply to all member countries and take precedence over similar jurisdictional provisions in the Paris Convention and the Vienna Convention. The likelihood of a different jurisdictional outcome is very slight and can only occur in a situation where a nuclear incident occurs in the territory or EEZ of a member country during the transportation of nuclear material. Giving precedence to the provisions of the Compensation Convention in these situations ensures that jurisdiction will lie with the member country most affected by a nuclear incident, namely the country where the incident occurs.

What would a Paris State or a Vienna State have to do to join the Compensation Convention?

To the maximum extent practicable, the Compensation Convention has been developed to be compatible with the Paris Convention and the Vienna

Convention. As a result, no changes to the Paris Convention or the Vienna Convention is needed in order for a Paris State or a Vienna State to join the Compensation Convention. A Paris State or a Vienna State would have to change its national law only to the extent necessary to reflect the provisions in the Compensation Convention that apply to all member countries. These provisions include (1) ensuring the availability of at least 150 million SDRs to compensate nuclear damage until 2007, and at least 300 million SDRs thereafter, (2) implementing the enhanced definition of nuclear damage, and (3) extending coverage to include all members countries. None of these actions would be inconsistent with the Paris Convention or the Vienna Convention.

What would a country that is not a Paris State or a Vienna State have to do to join the Compensation Convention?

A country that is not a Paris State or a Vienna State must ensure its national law reflects the provisions in the Compensation Convention that apply to all member countries. In addition, it must ensure its national law is consistent with the provisions of the Annex. A country can incorporate the provisions of the Annex directly into its national law as self-executing treaty obligations to the extent it recognises this concept. Furthermore, a country with no nuclear installations on its territory is required to have only those provisions in its national law that are necessary for that country to give effect to its obligations under the Compensation Convention.

What is the Grandfather Clause?

The Compensation Convention takes into account the special situation of the United States whose national law on legal liability and compensation for nuclear damage predates both the Paris Convention and the Vienna Convention. Although the national law of the United States is generally consistent with the basic principles of nuclear liability law set forth in the Paris and Vienna Conventions, it uses a different legal theory to achieve the same practical result of making the operator exclusively responsible for nuclear damage. This difference prevents the United States from satisfying all the requirements of the Paris Convention or the Vienna Convention and thus becoming a Paris State or a Vienna State. It also prevents the United States from satisfying the provisions in the Annex that are based on these requirements.

The Compensation Convention addresses this situation through the Grandfather Clause (Article 2 of the Annex) under which the national law of the United States is deemed to satisfy certain requirements of the Annex. By

permitting the United States to join the Compensation Convention as an Annex State, the grandfather clause removes a major impediment to achieving a global regime.

Does the Grandfather Clause apply to any country other than the United States?

Although the grandfather clause does not refer specifically to the United States, it is the only country that met the conditions set forth in Article 2.1 on 1 January 1995 and thus the only country that can use the grandfather clause to qualify as an Annex State. Since the conditions in the grandfather clause only apply to a country that is making use of the clause to qualify as an Annex State, these conditions apply to no Annex State other than to the United States.

How much is the minimum compensation that a country must make available under the Compensation Convention if it is the Installation State for a nuclear incident?

Article III.1(a) provides that the Installation State must ensure the availability of the first tier of compensation. Article III.1(a)(i) establishes 300 million SDRs as the first tier amount. Article III.1(a)(ii), however, permits a country to establish a transitional first tier amount of no less than 150 million SDRs during the period prior to 29 September 2007. This transitional amount reflects the current availability of private insurance and the liability limits in many existing national laws.

The Compensation Convention does not specify how a country should ensure the availability of the first tier amount. Thus, a country has the flexibility to choose the funding mechanism from options such as private insurance, an operator pool, or a regional agreement. Although a country does have the obligation to use public funds to ensure the availability of the first tier amount if other funding mechanisms are insufficient, there is no obligation to set aside any public funds for this purpose prior to the time, if ever, that the first tier amount is needed to compensate nuclear damage.

How does the international fund operate?

Article III.1(b) provides that the second tier of compensation will come from an international fund to which member countries contribute. This

international fund should provide up to approximately 300 million SDRs to compensate nuclear damage if its operation is triggered by a nuclear incident.

Article IV.1(a) establishes a contribution formula under which more than ninety percent of the contributions come from nuclear-power-generating countries on the basis of their installed nuclear capacity, while the remaining portion comes from all member countries on the basis of their United Nations rate of assessment. Since nuclear-power-generating countries generally have high United Nations rates of assessment, this formula should result in more than 98% of the contributions coming from nuclear-power-generating countries.

Specifically, Article IV.1(a)(i) provides that each member country with one or more nuclear reactors shall contribute 300 SDRs for each Megawatt (thermal) of installed capacity. Article IV.1(a)(ii) provides that an amount equal to 10% of the contributions under Article IV.1(a)(i) will come from contributions allocated among all member countries on the basis of their United Nations rate of assessment. Article IV.1(b) provides that no contribution will be required from member countries on the minimum United Nations rate of assessment with no nuclear reactors.

Article VII.1 provides that a member country shall make contributions to the international fund only to the extent and when such contributions are actually needed. There is no obligation to set aside public funds for this purpose prior to the time they are needed.

What is the “cap” and how does it operate?

Article IV.1(c) provides for a cap on the contributions from any one member. Specifically, Article IV(c) provides that the contribution of a member country to the international fund shall not exceed a specified percentage of what the total fund would be in the absence of the cap. The specified percentage is a member country’s United Nations rate of assessment expressed as a percentage plus eight percentage points.

This cap is intended to ensure that countries with relatively large amounts of installed capacity are not obligated to provide an inordinate share of the international fund during the early stages of the growth to a global regime. To minimize the effects of the cap, Article IV.1(c) provides for the cap to phase-out as more nuclear-power-generating countries join the Compensation Convention and further provides that the cap shall not operate to benefit the member country that is the Installation State with respect to a nuclear incident that triggers the operation of the fund. Specifically, Article IV(c) provides for

the phase-out by increasing the specified percentage as the total installed capacity of members countries increases, that is as more nuclear-power-generating countries join the Convention. The specified percentage increases by 1% when total installed capacity reaches 625 000 Megawatts and thereafter by 1% for each additional 75 000 Megawatts increase in total installed capacity.

How does the international fund treat transboundary damage?

Article XI.1(a) provides that half of the international fund will be used to compensate either nuclear damage in the Installation State or transboundary damage (that is, nuclear damage outside the Installation State). Article XI.1(b) provides that the other half of the international fund will be allocated exclusively to cover any transboundary damage not compensated under Article XI.1(a). Article XI.1(c) contains a special rule for the case where an Installation State uses the transition rule in Article III.1(a)(ii) to make available a first tier amount of less than 300 million SDRs. In such a case, Article XI.1(c) provides for adjustments in the amounts identified in Article XI.1(a) and (b) that result in more than half of the international fund being reserved exclusively for transboundary damage.

The reservation of half of the international fund exclusively for transboundary damage recognises the importance that the international community attaches to compensating transboundary damage. Moreover, it provides an important incentive for joining the Compensation Convention to non nuclear-power-generating countries, as well as any nuclear-power-generating country that does not expect one of its operators to be responsible for a nuclear incident that triggers the operation of the fund.

The reservation of half of the international fund exclusively for transboundary damage also reflects the fact that a first tier amount of 300 million SDRs is considerably lower than many countries would have preferred. In order to give member countries an incentive to provide a larger first tier amount, Article XI.2 eliminates the reservation for transboundary damage if the Installation State ensures the availability of a first tier amount of no less than 600 million SDRs. The combination of such a first tier amount and the second tier international fund would make almost 1 billion SDRs available to compensate nuclear damage.

Can a country make additional compensation available in excess of that provided under the Compensation Convention?

Article XII.2 recognises the right of a member country to establish a third tier of compensation in addition to the first and second tiers. The Compensation Convention does not govern the distribution of this third tier, except that a member country cannot use lack of reciprocity as a basis to exclude damage from compensation under the third tier if such damage occurs in another member country having no nuclear installations on its territory.

Where can a more detailed discussion of the Compensation Convention be found?

A more detailed discussion of the Compensation Convention can be found in *The Compensation Convention: Path to a Global Regime for Dealing with Legal Liability and Compensation for Nuclear Damage*, Nuclear Law Bulletin No. 61 (June 1998) (OECD Nuclear Energy Agency). This article is available on the internet at www.gc.doe.gov.

Table 1: JURISDICTION WITHOUT COMPENSATION CONVENTION

Accident In Country:	Damage in Country A, Jurisdiction In Country:	Damage in Country B, Jurisdiction In Country:	Damage in Country C, Jurisdiction In Country:	Damage in Country D, Jurisdiction In Country:	Damage in Country E, Jurisdiction In Country:
A	A	B	C	D	E
B	A	B	B	D	E
C	A	C	C	D	C
D	A	B	C	D	D
E	A	B	E	E	E

Table 2: JURISDICTION WITH COMPENSATION CONVENTION

Accident In Country:	Damage in Country A, Jurisdiction In Country:	Damage in Country B, Jurisdiction In Country:	Damage in Country C, Jurisdiction In Country:	Damage in Country D, Jurisdiction In Country:	Damage in Country E, Jurisdiction In Country:
A	A	A	A	A	A
B	B	B	B	B	B
C	C	C	C	C	C
D	D	D	D	D	D
E	E	E	E	E	E

Tables 1 and 2 compare jurisdiction over damage under the existing situation and under a global regime in which the country where the accident occurs and the country where the damage occurs are both members of the Compensation Convention. The tables assume: Country A does not belong to the Paris Convention or the Vienna Convention; Country B belongs to the Paris Convention; Country C belongs to the Paris Convention and the Joint Protocol; Country D belongs to the Vienna Convention; and Country E belongs to the Vienna Convention and the Joint Protocol.

**THE NEED TO BRING THE NEW GLOBAL REGIME
OF CIVIL NUCLEAR LIABILITY TO LIFE**

**NÉCESSITÉ DE METTRE EN ŒUVRE LE NOUVEAU RÉGIME
GLOBAL DE RESPONSABILITÉ CIVILE NUCLÉAIRE**

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Résumé

En Australie comme dans de nombreux autres pays, remarque l'auteur de cette communication, c'est l'accident de Tchernobyl qui a précipité une prise de conscience des insuffisances du régime spécial de responsabilité civile nucléaire. Ceci explique pourquoi l'Australie, au même titre que divers autres Etats non dotés de programmes nucléaires, a choisi de participer activement aux travaux du Comité permanent de l'AIEA sur la responsabilité pour les dommages nucléaires et de se concerter avec les autres pays non-nucléaires au sein de ce Groupe.

L'Australie porte, selon l'auteur, un jugement dans l'ensemble favorable à la nouvelle Convention sur la réparation complémentaire des dommages nucléaires. Elle présente notamment l'avantage de prévoir des fonds spécifiquement affectés à l'indemnisation des dommages transfrontières, de couvrir le dommage à l'environnement, de faire supporter l'essentiel du fardeau financier de la réparation aux États producteurs d'énergie nucléaire, d'accorder la compétence juridictionnelle aux États dotés d'une zone économique exclusive.

Il est en revanche reproché à la nouvelle Convention de réserver au droit national du tribunal compétent le soin de déterminer l'étendue du dommage et d'exiger pour que la Convention puisse jouer qu'il se soit produit une émission de rayonnements.

L'auteur envisage donc une ratification par l'Australie de cette Convention tout en notant la difficulté de devoir passer une législation d'application appropriée. Au cas, cependant, où la Convention sur la réparation complémentaire ne parviendrait pas à entrer en vigueur, il resterait à l'Australie à examiner les avantages et inconvénients respectifs d'une adhésion à la Convention de Paris ou la Convention de Vienne, sous leur forme révisée. Les vœux de l'Australie vont cependant à la nouvelle Convention, en raison notamment de sa vocation globale.

In opening, I would first note that the Government of Australia has not yet given formal consideration to the ratification of the new instruments on nuclear liability adopted in September 1997. This presentation therefore does not necessarily reflect considered Australian government views, but rather constitutes the personal reflections of someone who was centrally involved in the negotiations for the new global regime.

Prior to the mid-1980s, the regime of civil nuclear liability was something that Australia did not concern itself overly about. The nuclear power generation industry was conducted far from our shores; and awareness of the potential for significant transboundary impacts from nuclear incidents was low. So Australia did not give serious consideration to adherence to either the Vienna or the Paris conventions on civil liability for nuclear damage. If we had, we would have had to consider which of the two competing international regimes we would adhere to, given that there were no links between the two.

Then the Chernobyl accident raised consciousness around the world about civil liability issues. People in Australia and elsewhere looked at the existing international nuclear liability regime and concluded that it was inadequate. The amount of compensation available under the regime was too low. The regime did not cover environmental damage. And nor did the regime cover compensation for tourism and fisheries income-related losses. Australian consciousness about the issues was further increased by the commencement in the early 1990s of shipments of radioactive waste and other nuclear materials between France and Japan, some of which passed – and continue to pass – through the South Pacific. Not only was there consciousness about possible damage to the territory and population of Australia, but Australia was looked to by the small island states of the South Pacific to take a lead in protecting their interests. The issue is of continuing importance to the members, including Australia, of the South Pacific Forum.

Consequently, Australia decided to take an active role in the proceedings of the Standing Committee on Nuclear Liability. Other speakers have discussed the workings and products of that Committee, and I will not repeat what they have said. One important aspect, though, was that for the first time countries without nuclear power plants, their consciousness roused by Chernobyl, formed a cohesive and articulate group in the negotiations. Although some of the states that had traditionally dominated discussions on liability issues were uncomfortable about the active role and the demands of this new group – the Non-Nuclear Power Generating States – the group was, not without the occasional hiccup, able to secure outcomes that, by and large, protected the interests of its members.

Specifically, Australia was pleased that the Convention on Supplementary Compensation, and the Protocol to the Vienna Convention, provided for:

- A dedicated fund for transboundary damage;
- The inclusion of environmental damage within its scope;
- The lion's share of the contributions to the international fund established under the Convention to be borne by nuclear power generating states, with those non-nuclear power generating states on the minimum UN rate of assessment being exempt from the payment of any contributions;
- Jurisdiction over actions concerning nuclear damage from a nuclear accident in a Party's territory or Exclusive Economic Zone (EEZ) to lie with the courts of that Party. The inclusion of that provision was vital for Australia and the other States of the South Pacific, as it enabled us to accept the insistence of a number of nuclear power states that the extent of damage which is compensable would be determined by the competent court;
- Compensation to be payable for the cost of reinstating damage to the environment and economic loss arising from such environmental damage.

Of course, no multilaterally negotiated Convention is perfect from the point of view of any state. In the course of its development, compromises have to be made. From Australia's point of view, the Convention and Protocol fall short in two areas:

- The extent to which particular damage, apart from personal injury or property damage, is compensable is to be determined by the law of the competent court (although, as I said before, this has been mitigated for island and coastal states by the inclusion of the provision concerning jurisdiction in the EEZ; and
- There has to be an actual emission of ionising radiation for the Convention to take effect. One can easily imagine instances where a vessel carrying nuclear material sinks or runs aground but the integrity of the containers holding the material is maintained, so that there is no emission of ionising radiation.

Nevertheless, tourism operators or fishermen in the area may suffer economic loss because of understandable, even if strictly unwarranted, fears.

Notwithstanding those concerns, on balance Australia's view of the Convention on Supplementary Compensation is positive. Having listened to the foregoing assessment of the Convention on Supplementary Compensation, you may ask: If Australia is so enamoured of that Convention, why hasn't it yet ratified it? To answer that question, one must first look at Article XX, paragraph 1 of the Convention. Paragraph 1 of Article XX provides:

“This Convention shall come into force on the ninetieth day following the date on which at least 5 States with a minimum of 400 000 units of installed nuclear capacity have deposited an instrument [of ratification, acceptance or approval].”

There is thus little that Australia, or any other state without nuclear power reactors, can do to advance the entry into force of the Convention. Indeed, it was always envisaged during the course of the negotiation of the Convention that the United States, as the state with the largest nuclear power industry in the world, would have to be among the first to ratify in order for the Convention to enter into force. The recent ratification by the US Senate of the Convention on Nuclear Safety, a precondition for their adherence to the Convention on Supplementary Compensation [Article XVIII(1)] has raised our hopes somewhat on this score.

Some might argue that Australian ratification would nevertheless send a political signal of support for the Convention. But ratification is not a cost-free exercise for Australia. The Convention applies not only to power generating reactors, which as you know Australia does not possess, but also to all activities that could result in the release of ionising radiation from a nuclear installation. If one looks at the definitions in the Convention and its Annex, that could extend not only to research reactors but also to waste depositories and even, conceivably, tailings dams at uranium mine sites. Australia conducts a number of those activities. It presently has a 10-megawatt research reactor, which is scheduled to close in 2005. Shipments of spent fuel rods from that research reactor to reprocessing facilities overseas have taken place over the last few years, and more are planned for the future. Plans for construction of a 20-megawatt multi-purpose research reactor in its place are well under way. Initial planning has also started for the construction of a waste repository in South Australia for short-lived intermediate level waste, together with a possible co-located facility for long-lived intermediate level waste. There are

presently two uranium mines, with their concomitant tailings dams and milling facilities, in operation in Australia, with another two approved.

So for Australia to ratify the Convention, we would have to pass the full legislation which is envisaged by the Annex. And there are some problems with that:

Firstly, the Australian Parliament, like most parliaments, has a crowded legislative program, where a Bill regarded by the responsible Department of State as a priority issue may have to wait up to 12 months to be drafted and put on the parliamentary agenda. At a time when the entry into force of the Convention appears no more than a distant prospect, it is difficult to persuade the Government and the Parliament that the parliamentary drafters should devote any time to the preparation of the detailed legislation required by the Annex.

Secondly, passage of the legislation would not be an entirely uncontroversial matter. As you well know, anything associated with the word “nuclear” is prey to misconceptions, deliberate as well as accidental. Australia’s nuclear activities, limited as they might be, remain a subject of occasionally intense political debate. That debate has been fuelled by recent arguments regarding the construction of the planned new research reactor that I referred to earlier. In reality, adherence to the Convention will have no effect upon the ability of people in the area to recover compensation through common law, which has no statutory limit on the amount of compensation, for damage caused by a nuclear incident at that reactor. Further, the Australian Nuclear Science and Technology Organisation (ANSTO), which is responsible for the operation of the existing reactor and will be responsible for the operation of its replacement, has a Deed of Indemnity with the Australian Government covering it and its staff against any loss or liability, incurred by them arising from any claim against them for injury to persons or damage to property caused by ionising radiation. The deed does not contain any limit of liability. ANSTO therefore has practically unlimited resources to meet any claims. To this end, the Deed of Indemnity provides a greater degree of assurance to members of the public than the 300 million Special Drawing Rights (SDRs) provided for in Article 4 of the Annex to the Convention. Nevertheless, opponents of the new reactor may seize on that latter provision as an admission that the reactor could cause that degree of damage. Arguments about the requirements of international law are unlikely to cut much ice with politicians or the local population.

Thirdly, the potential impact of the Convention on tailings dams associated with mining operations will also require further consideration. We note that the *Exposé des motifs* of the Paris Convention states, in part: “Some

activities, as for example, mining, milling and the physical concentration of uranium ores, do not involve high levels of radioactivity ... hence, these activities do not fall within the scope of the exceptional regime of the Convention.” We note further that the Preamble to the Convention on Supplementary Compensation indicates that that Convention “supplements and enhances” the Paris and Vienna Conventions, and that Article 1(1)(e) of the Annex defines “radioactive products or waste” as “any radioactive material produced in ... the production or utilisation of nuclear fuel”. It is therefore probable that the Convention on Supplementary Compensation does not apply to mining and milling wastes. Nevertheless, lawyers are cautious beasts, and Australian legal authorities may wish to have a decision from the IAEA’s Board of Governors under Article 1(2) of the Annex confirming that such wastes are indeed excluded from the scope of the Convention. The inclusion of such wastes within the scope of the Convention could cause substantial difficulties for mining companies and/or government in making provision for the theoretical liability of up to 300 million SDRs in the event of an incident at the site.

Finally, no government today is immune from the constant search for financial savings. The Australian government is no different – indeed, the budget of my own Department, the Department of Foreign Affairs and Trade, has incurred significant cuts to its budget in nominal terms – even more in real terms – over the last three years. In that climate, any proposal that could incur financial costs is subject to a rigorous cost-benefit analysis. Although Australia’s maximum contribution to the International Fund established by the Convention would be relatively low, we would still need to demonstrate to Finance Ministries that adherence to the Convention will confer benefits on Australia. It may be necessary to demonstrate that the Australian people could benefit from the funds provided under the Convention – in other words, that the Convention would provide compensation in the event of a possible incident affecting Australia. And given that the current economic crisis in Asia has led to the indefinite postponement of plans to construct and operate nuclear power plants in our immediate region, it may only be the adherence to the Convention of the State or States responsible for the shipments of nuclear material through the region which prompts the Australian Government to give serious consideration to ratification of the Convention.

What happens if the Convention on Supplementary Compensation does not enter into force? Australia’s alternatives would be adherence to the Vienna Convention, as amended by the 1997 Protocol, or adherence to Paris. The doubts that attach today to the entry into force of the Convention on Supplementary Compensation must also apply to the entry into force of the 1997 Protocol to Vienna. We are encouraged by the ongoing work in Paris

aimed at bringing that Convention into line with today's practice, as reflected in the Convention on Supplementary Compensation and the revised Vienna Convention. If those discussions were to result in a Convention substantially identical to those other two instruments, Australia, as a member of the OECD, could consider adherence to that Convention. Adherence by France, which we understand to be the Installation State in respect of shipments of nuclear material through the South Pacific, to a revised Paris Convention would be particularly helpful in that regard.

But I must stress that we would clearly see that as a second best option. The adoption by all nuclear power generating states of a single global regime on nuclear liability, with modern definitions of damage and generous ceilings on liability, is, in my view, essential for the future of the nuclear industry. Eroding public support for nuclear power in Western Europe has prompted a number of governments to take steps directed at the phase-out of the nuclear power option. That public concern is largely, although not wholly, influenced by memories of the events at Chernobyl, where not only was there significant damage, but that damage went largely uncompensated. In terms of the international liability of Ukraine and Russia for incidents at their nuclear power facilities under the international regime, little has changed since 1986. Russia has signed, but not ratified, the old Vienna Convention. Ukraine has acceded to the old Vienna Convention – with its inadequate liability limits – and signed the 1997 Protocol thereto – encouraging steps, but given that they have not adhered to the Joint Protocol, offering little real comfort to the states or people of Western Europe.

Transit states too are legitimately concerned that in the case, however unlikely, of significant damage caused by an incident involving nuclear material in the course of its carriage, proper compensation would be paid. Perhaps if they were convinced that that was the case, calls for shipping states to advise and seek the consent of transit states, which are presently heard both in the IAEA and in the IMO, might abate. Further, the Review Meeting under the Convention on Nuclear Safety, held in Vienna in April, illustrated again the priority attached to the upgrading of safety of reactors of VVER and RBMK design – something which would be facilitated if western companies interested in such work were protected by a global nuclear liability regime.

I would therefore conclude by suggesting that the early entry into force of, and wide adherence to, the Convention on Supplementary Compensation is not only in the interests of possible victims of a nuclear incident, but also in the interests of the industry worldwide, and of national governments.

**A NEW GLOBAL REGIME OF CIVIL NUCLEAR LIABILITY:
CANADIAN MEMBERSHIP IN THE INTERNATIONAL
CONVENTIONS**

**UN NOUVEAU RÉGIME GLOBAL DE RESPONSABILITÉ CIVILE
NUCLÉAIRE : LA QUESTION DE LA PARTICIPATION DU CANADA
AUX CONVENTIONS INTERNATIONALES**

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Résumé

L'objet de la présente communication est triple : informer les participants sur l'état du droit canadien sur la responsabilité civile nucléaire ; exposer les travaux actuels visant à réformer cette législation ; indiquer les perspectives d'une adhésion du Canada à l'une des Conventions internationales dans ce domaine.

Les auteurs analysent le contenu de la législation nucléaire canadienne en général, et de la loi de 1976 sur la responsabilité nucléaire en particulier, en remarquant que cette dernière est restée inchangée depuis plus de vingt ans. Sa mise à jour est donc à l'étude en vue notamment de la mettre en conformité avec les normes internationales dans ce domaine et d'augmenter la garantie financière disponible tout en limitant l'engagement financier du Gouvernement fédéral.

Sous l'angle international, le Canada n'est Partie à aucune des Conventions sur la responsabilité civile nucléaire, notamment pour des raisons liées à la géographie, et sa législation ne couvre pas les dommages subis à l'étranger à l'exception d'un accord de réciprocité conclu avec les États-Unis. Le Canada voit toutefois dans le régime international de responsabilité nucléaire, outre le fait de servir de cadre à la réparation des conséquences d'un accident nucléaire, l'objectif de contribuer au renforcement de la sûreté nucléaire et d'encourager les échanges nucléaires, objectif affirmé par le Sommet de Moscou du G-7 en avril 1996. Le Canada a donc appuyé l'adoption du Protocole d'amendement de la Convention de Vienne et de la Convention sur la réparation complémentaire des dommages nucléaires en 1997.

Les auteurs considèrent en conclusion qu'une adhésion du Canada à la Convention de Vienne révisée servirait les intérêts des victimes potentielles au Canada d'un accident nucléaire se produisant à l'extérieur, serait également avantageux pour les industriels nucléaires opérant à l'étranger et serait dans le même temps un signal de solidarité internationale. Ces arguments sont également valables en substance pour la Convention sur la réparation complémentaire.

1. Introduction

The objective of this paper is three-fold: (i) to provide information on the Canadian regime for third party nuclear liability; (ii) to provide an overview of current efforts to revise and update Canadian legislation in this area; and (iii) to present Canada's perspective on international nuclear liability and the prospect of joining one of the international conventions in the area.

Canada has a mature nuclear power industry. Three Canadian electric utilities include nuclear generation in their supply mix and total Canadian nuclear generating capacity amounts to roughly 16 000 MW at 22 nuclear power units. Canadian nuclear generating capacity ranks sixth among domestic nuclear power capacity worldwide. In 1998, roughly 14% of Canadian electricity generation came from nuclear facilities. In addition, Canadian nuclear facilities include uranium mines, uranium refining and conversion facilities, nuclear fuel fabrication facilities, numerous research reactors, and nuclear fuel waste storage facilities.

2. The Canadian domestic regime for third party nuclear liability

The Canadian nuclear industry has developed within the context of a domestic framework established by two statutes. The primary element of this framework is the *Atomic Energy Control Act* which was proclaimed in 1946. That Act established the Atomic Energy Control Board as Canada's independent nuclear regulator. The Act, while quite a short document, is very broad enabling legislation that gives extensive discretionary power to the regulator. It relies on associated regulations, a comprehensive licensing system, and various regulatory guidance documents to ensure that the use of nuclear energy in Canada does not pose undue risk to health, safety, security, and the environment.

After more than 50 years, the *Atomic Energy Control Act* was revised in 1997 when the *Nuclear Safety and Control Act* received Royal Assent. This new legislation will replace the *Atomic Energy Control Act*, which is now more than 50 years old. The new legislation will come into force when the revised regulations are approved. That is expected later this year.

The second element in the Canadian framework of nuclear legislation is the *Nuclear Liability Act*. The issue of nuclear liability was initially addressed through the passage of government orders in 1955 which authorized Atomic Energy of Canada Limited to indemnify suppliers and contractors with whom it

entered contracts. In 1970, new legislation, the *Nuclear Liability Act* was passed by the Canadian Parliament and was proclaimed in 1976. The Act was modelled after the Vienna and Paris Conventions and embodied the same principles of absolute and exclusive liability of the operator, mandatory financial security, and limited operator liability in both amount and time. The maximum limit of operator liability for third party damages under the Act was fixed at Canadian dollars (CAD) 75 million and the time limit on claims was set at 10 years from the date of an incident.

The *Nuclear Liability Act* contains provision for both a judicial and administrative system for dealing with third party claims. The philosophy is that for minor incidents, the judicial system will be relied upon, while for major incidents – those which could result in claims exceeding the maximum limit of operator financial liability – an administrative system will be used. The Act establishes the framework for the administrative system, known as the Nuclear Damage Claims Commission. Details on its operation are left to be determined at the time of the nuclear incident.

3. Revisions to the Nuclear Liability Act

When the legislation was being debated by Parliament, it was agreed that the Act should be reviewed after five years of operational experience. This review was intended to bring appropriate amendments to the Act to address any inherent shortcomings in dealing with third party liability legislation. Such a review should have been completed in 1982, however, for a number of reasons, the review has been deferred to the present day. As a consequence, over twenty years have passed now and we continue to work with the same legislation. While it has stood both the test of time and a recent legal challenge quite well, we recognize that a comprehensive review and update to the Act is essential.

The recent adoption by the International Atomic Energy Agency (IAEA) of the *1997 Protocol to Amend the Vienna Convention and the Convention on Supplementary Compensation for Nuclear Damage* has, on the one hand, provided us with added incentive to review the *Nuclear Liability Act*. At the same time, the revision process to the international regime has been instructive to us, defining issues and indicating approaches that might be incorporated in our own domestic legislation.

In 1996, we prepared preliminary proposals for revising the *Nuclear Liability Act* and circulated them among major stakeholders including federal departments, provincial ministries of energy and emergency preparedness in provinces that rely on nuclear power, nuclear utilities, and the insurers. The

proposed revisions, in many respects, parallel the revisions made to the Vienna Convention. Our consultations on these matters continue.

Our goal in the review is to: (i) improve the compensation regime, (ii) reduce federal liabilities, and (iii) address technical problems with the Act. All these are being addressed within the context of recent international developments in the area.

To improve the compensation regime, we seek to:

1. increase the financial limit on operator liability for third party nuclear damage to international standards;
2. permit operators to use alternative forms of financial security to cover their third party nuclear liabilities;
3. provide a more positive statement on the availability of public funding;
4. increase the claims limitation period for personal injury and death to thirty years; and
5. make greater use of the Nuclear Damage Claims Commission administrative process as a preferred means to deal with the claims.

In terms of limiting federal government liabilities, our objective is to:

1. reduce the need for the federal government to reinsure third party risks by adopting clearer definitions of compensable damages;
2. more clearly define the liability limit for small facilities and eliminate the need for supplementary federal liability on these facilities; and
3. require federal nuclear facilities to carry financial security for third party nuclear damages.

Finally, we seek to address certain technical problems with the Act by elaborating on existing provisions – in particular, the operations of the Nuclear Damage Claims Commission – and by simplifying the legislation and making it easier to update through the development of associated regulations.

At this time, we are in the process of consulting further with stakeholders on the proposed revisions. By the end of the year, we hope to come forward with recommendations to the Minister on revisions to the Act that, subsequently, would be transformed into drafting instructions for legislative amendments.

4. Canada and the international nuclear liability regimes

As we move forward with the revision to our domestic legislation, we will also review our international position on nuclear liability. Under the *Nuclear Liability Act*, operators are not liable for injury or damage occasioned outside Canada, and no court in Canada has jurisdiction to hear claims or grant relief to claims resulting from nuclear injury or damage occurring outside Canada.

The Act does provide for agreements of reciprocity when the Canadian government is satisfied that suitable arrangements exist in another country to compensate victims in Canada for damage resulting from a nuclear incident in that country. Canada has entered into one such agreement with the United States.

Canada, however, is not a member of any of the international nuclear liability conventions. The decision was taken for two main reasons: (i) our geographic location, and (ii) our historic concern regarding the limits of financial liability in both the Paris Convention and the Vienna Convention.

Because Canada is geographically removed from Paris Convention and most Vienna Convention countries, the effects of contamination on Canada from a nuclear accident occurring in a convention member state would likely be minimal, and typically the conventions would benefit those countries in the vicinity of the accident. It was more expedient that Canada establish a reciprocity agreement with the United States. This was accomplished in 1964 through an exchange of letters and subsequent regulations. The agreement ensures that compensation is available to victims on either side of the Canada-United States border.

With respect to liability limits, Canada took the position that the financial provisions for operator liability were not sufficient. The Vienna Convention provided that operators must carry only a minimum of United States dollars (USD) 5 million financial coverage. Furthermore, it did not permit the amount to be increased for material in transit.

Although not party to the conventions, Canada has always recognized the importance of the international regimes of nuclear liability. Indeed, our decision not to sign the Vienna Convention in 1963 was made with the view that improvements would be made eventually to that Convention and, at that time, we would reassess the situation and might opt to become a member state.

We see the objectives of the international nuclear liability conventions as being three-fold:

1. To provide a framework for effective compensation in the event of a nuclear accident;
2. To establish an appropriate legal regime to advance nuclear safety objectives; and,
3. To provide a favourable climate for nuclear development.

Clearly the key objective of the international liability regimes is to provide a framework for effective compensation in the event of a nuclear incident with international implications. This implies equitable compensation through a system that does not discriminate among eligible victims.

The other objectives – advancement of nuclear safety objectives and the creation of a favourable climate for nuclear development – are linked. The international conventions establish the principles of absolute liability and channelling that contracting parties must introduce into their respective national legal systems. Acceptance of these key principles by membership in the international conventions provides further assurances needed by nuclear contractors to enable them to carry out safety improvements on nuclear facilities to meet safety objectives and further nuclear development internationally.

In recognition of these objectives, Canada and other G-7 states at the Moscow Nuclear Safety Summit in April 1996 agreed that all countries with nuclear installations should have an effective liability regime for damage from a nuclear incident. As noted previously, through the review of our domestic legislation Canada intends to ensure that it meets, or exceeds, the internationally accepted norms as defined by the revised Vienna Convention and the Supplementary Funding Convention.

Participants at the Moscow Summit also agreed to work toward an enhanced international regime for nuclear liability that would attract wide adherence and be available to any state which wishes to become a party to it. It would appear that the outcome of the recent IAEA deliberations, the *Protocol to*

Amend the Vienna Convention and the Convention on Supplementary Compensation for Nuclear Damage, represent real enhancements to the previous international regime for nuclear liability. Canada supported both documents when they were considered by the IAEA at the 1997 diplomatic conference. The current work being undertaken by the Contracting Parties to the Paris Convention should result in further improvements and bring greater clarity to the international regime for nuclear liability.

5. Canadian considerations on joining the new regimes

The issue now for Canada, the G-7, and all other states, becomes adherence to the enhanced regime. In Canada we are moving forward first with revisions to our domestic legislation in order that we are in a position to join in the revised international regime, should this be considered appropriate.

At this time, our considerations on joining the new international regimes are as follows.

It is clear that membership in the revised Vienna Convention would give victims in Canada of a nuclear incident abroad a better chance of being compensated, provided the accident state is also a member to the Convention. However, the real benefits in terms of compensation to victims in Canada from a nuclear incident abroad is not expected to be very significant, given our geographic location.

Membership in the revised Vienna Convention would also provide greater certainty to Canadian contractors supplying nuclear services abroad that they would be indemnified from third party liability actions. At present, Canada's main nuclear supplier abroad, Atomic Energy of Canada Limited, expects domestic legislation indemnifying it from third party liabilities as well as contractual indemnification on such liabilities before it will undertake work in a foreign country. Canadian membership in the Vienna Convention would provide yet greater certainty to Canadian suppliers on this issue.

It would seem that membership in the Convention would also clarify the determination of liability in the event of foreign transportation accidents involving nuclear material. This clarification of jurisdiction is important for those countries heavily engaged in the transportation of nuclear material or those which are frequently transited by nuclear material. Canada to date has not been involved in significant shipments.

Finally, membership in the revised Vienna Convention would also represent a demonstration of international solidarity. We believe this is important and advances the G-7 objective of greater adherence worldwide to the principles of nuclear liability and the international regimes themselves.

The considerations are basically the same for the Supplementary Funding Convention, with the important exception that membership in this Convention would bring with it the availability of international funding to assist in the compensation for third party damages caused by a major domestic nuclear incident. It must be recognised, however, that there would be a contingent liability associated with this membership. In the event of a nuclear incident in another contracting state to the Convention, Canada would be called upon to provide funds to assist that state in the compensation of victims.

The Supplementary Funding Convention also affords the opportunity for Canada to enhance its relationship with the United States on third party liability should the United States proceed to ratify the Convention. This is an important consideration given the proximity of our two nations.

6. Conclusion

Canadian domestic legislation in the area of third party nuclear damage liability is under review. We hope to come forward with proposed revisions by the end of the year. Our intent is for the revisions to parallel recent revisions to the Vienna Convention.

We are pleased with the directions taken in the revisions to the Vienna Convention and the elaboration of a new Supplementary Funding Convention and with the opportunities afforded by these changes to the international liability regime. Once our domestic legislation has been revised, we will review the matter of membership in these regimes.

**THE CONVENTION ON SUPPLEMENTARY COMPENSATION
FOR NUCLEAR DAMAGE AND ASIAN STATES: THE ADVANTAGES
AND DISADVANTAGES OF KOREA'S ADHERENCE TO THE
CONVENTION**

**LA CONVENTION SUR LA RÉPARATION COMPLÉMENTAIRE
DES DOMMAGES NUCLÉAIRES ET LES PAYS D'ASIE :
LES AVANTAGES ET LES INCONVÉNIENTS DE
L'ADHÉSION DE LA CORÉE À CETTE CONVENTION**

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Résumé

Au début de sa communication, l'auteur se réfère à divers mécanismes internationaux de financement de la réparation des dommages aux tiers, notamment dans le domaine maritime. Il rappelle ensuite les éléments qui caractérisent la nouvelle Convention sur la réparation des dommages nucléaires, par comparaison en particulier avec la Convention complémentaire de Bruxelles.

L'auteur aborde ensuite la position des pays d'Asie par rapport à cette Convention, en notant que ces pays qui ont un niveau élevé d'équipement électronucléaire ne sont cependant Parties à aucune des Conventions sur la responsabilité civile nucléaire, à l'exception des Philippines en ce qui concerne la Convention de Vienne. Il analyse ensuite les différences existant entre les législations sur la responsabilité nucléaire de ces pays.

La dernière partie de l'exposé est consacrée au cas particulier de la Corée. L'auteur analyse les avantages et inconvénients respectifs d'une adhésion de ce pays à la CSC. Au chapitre des avantages, il souligne le bénéfice pour les victimes potentielles en Corée de l'accès à des moyens complémentaires de réparation d'un accident nucléaire ainsi que le partage avec d'autres pays de la charge financière de cette réparation. Un autre avantage réside dans le fait que les ressortissants coréens pourraient bénéficier d'un droit à réparation en cas d'accident survenant en dehors de leur pays.

Au titre des inconvénients figurerait l'obligation pour la Corée de contribuer aux fonds mobilisés par la nouvelle Convention. L'auteur relève également que la Corée ne tirerait véritablement un bénéfice de la Convention qu'à la condition que les autres pays de la région y adhèrent eux aussi. Il signale à ce sujet le problème créé par la République Populaire démocratique de Corée (du Nord) dans le contexte du projet KEDO.

En conclusion, l'auteur après avoir rappelé les dispositions essentielles de la législation actuelle de son pays, explique les propositions d'un groupe de travail chargé d'étudier sa révision et les raisons pour lesquelles celle-ci est pour le moment suspendue.

This paper intends to make some assessments of the advantages and disadvantages which would result from Korea's ratification of the Convention on Supplementary Compensation for Nuclear Damage (CSC), opened for signature on 29 September 1997 in Vienna, Austria. I have presented elsewhere a view on the creation of an Asian regional regime in the event of a transboundary nuclear accident, but here I will focus on the applicability of a global regime especially to Asian States.¹

1. General Features of the CSC²

After the Standing Committee on Nuclear Liability (SCNL) of the International Atomic Energy Agency (IAEA) completed 8 years of work on the revision of the Vienna Convention on Civil Liability for Nuclear Damage which began in 1990, the diplomatic conference to adopt the Protocol to Amend the Vienna Convention and the Convention on Supplementary Compensation for Nuclear Damage was convened in September 1997. The SCNL was requested to reconsider international liability for nuclear damage and the feasibility of elaborating a supplementary funding convention. The changes in the Protocol to amend the Vienna Convention include, *inter alia*, the recognition of a common definition for environmental damage; the extension of prescription periods; and the suggestion that the minimum national compensation should be at least 300 million SDRs (approximately USD 420 million).

Concerning the international supplementary funding system, some models already exist in the maritime and nuclear fields, dealing with the issue of compensation for damage from international activities and providing responses to the needs arising from emergency situations that can occur as a result of such activities. Furthermore, in the near future, we might anticipate the elaboration of two new international funding systems: one for the transboundary movements of hazardous wastes and another for the protection of the antarctic

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1. Ki-Gab Park, *The need for establishing a regional cooperation regime among Asian States for the victims of transboundary nuclear accidents*, Seoul Conference on Nuclear Safety in Asia, 29-30 October, 1997.
 2. Ben McRae, *The Compensation Convention: Path to a global regime for dealing with legal liability and compensation for nuclear damage*, OECD/NEA Nuclear Law Bulletin No. 61, 1998, pp. 25-56; Patrick Reyners, *Modernisation du régime de responsabilité civile pour les dommages nucléaires : révision de la Convention de Vienne et nouvelle Convention sur la réparation complémentaire des dommages nucléaires*, R.G.D.I.P., 1998, No. 3, pp. 747-763.

environment.³ With these mechanisms, the international community is able to respond to the need to provide adequate and speedy compensation for damage arising from hazardous or potentially hazardous activities with transboundary implications.⁴ In the nuclear field, there are actually two international fund mechanisms, namely the 1963 Brussels Convention Supplementary to the Paris Convention (BSC) and the CSC. However, the latter has not yet entered into force.⁵

The BSC formula, open to the Contracting Parties of the Paris Convention, effectively organises compensation from public funds for damage which is beyond the liability of the operator under the terms of the Paris Convention: a first tier of compensation through compulsory insurance, but of variable levels; a second tier of compensation from the installation State; and a third tier, of the Parties acting jointly.⁶ On the other hand, the CSC is a freestanding instrument open to all States. All States can adhere to this Convention whether or not they are parties to any existing nuclear liability conventions (1960 Paris Convention or 1963 Vienna Convention) or have nuclear installations on their territories. However, a State with one or more civil

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3. Ad hoc Working Group of legal and technical experts to consider and develop a draft protocol on liability and compensation for damage resulting from transboundary movements of hazardous wastes and their disposal, UNEP/CHW.1/WG.1/8/5, 15 January 1999; the Group of legal experts on the work undertaken to elaborate an annex or annexes on liability for environmental damage in Antarctica.
 4. In the maritime field, the following international instruments exist:
 - International Convention on Civil Liability for Oil Pollution Damage, 1969 (CLC) as amended by the Protocols of 1976 and 1992.
 - International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971 (Fund Convention) as amended by the Protocols of 1976 and 1992.
 - International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996 (HNS Convention) (not yet in force).
 5. At 30 April 1999, there were 13 Signatories and 1 Contracting State [<http://www.iaea.org>]. The Convention, pursuant to Article XX.1 “shall come into force on the ninetieth day following the date on which at least 5 States with a minimum of 400 000 units of installed nuclear capacity have deposited an instrument referred to in Article XVII.”
 6. For more information on the BSC, see OECD/NEA, *Liability and Compensation for Nuclear Damage*, 1994, pp. 52-56.

nuclear power plants on its territory is required to be a member of the Convention on Nuclear Safety (1994) in order to become a member of the CSC [Article XVIII.1]. During the SCNL's deliberations, numerous draft texts were presented as possible models for a supplementary funding convention, and finally, at the initiative of the USA and non-nuclear-power-generating States, the current independent system was adopted.⁷

The CSC envisages a first tier of compensation consisting of at least 300 million SDRs (USD 420 million) which is to be provided by the operator of the nuclear installation or by the Installation State and which is to be distributed on a non-discriminatory basis [Art.III.1(a)(i)]. However the CSC permits a Contracting Party to establish, for a ten year period, *i.e.* during the period prior to 29 September 2007, a transitional amount of at least 150 million SDRs (USD 210 million) [Art.III.1(a)(ii)]. Following this, there will be a second tier of compensation consisting of an international fund to which all Contracting Parties are to contribute [Art.III.1(b)]. The exact size of the fund will depend on the installed capacity of the Contracting Parties at the time of the nuclear incident.⁸

It seems to us that the future of the CSC depends upon the following factors: first, some authors consider that the CSC itself is a result of compromise made during the negotiations between many groups of States in the SCNL,⁹ so States should have a firm intention to overcome such problems; second, the CSC should reconcile or co-exist with the BSC; third, we should try to give clear answers to several legal questions which remain.¹⁰

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7. Patrick Reyners, *op.cit.*, pp. 758-759.; Gómez del Campo, *The modernisation of the international nuclear third party liability regime*, INLA, Nuclear Inter Jura 1997.
 8. Ben McRae, *op.cit.*, p. 27, footnote No. 7.
 9. Gómez de Campo, *op.cit.* He indicates the groups of States as follows: States which utilise nuclear energy for peaceful purposes and those which do not; States which are already Parties to one of the existing international nuclear Conventions and those which are not; States which implement the principle of legal channelling of liability and those which implement the principle of economic channelling of liability; States which have hundreds of thousands of units of installed nuclear capacity and those which have relatively few units; States which have declared the EEZ and those which have not; States which hold differing opinions as to the matter in which nuclear damage is to be determined.
 10. Pierre Strohl put some questions as follows: Aren't the provisions relative to reinstatement of the environment too vague and too extensive compared to

2. Asian States and the CSC

In establishing their national long-term economic plan, many Asian countries have turned to the peaceful use of nuclear power to meet increasing future energy demands. As a result, Northeast Asia is now one of the most active regions in the world for the nuclear energy industry. Currently, there are over 70 nuclear power plants in operation in the region (Japan: 53; Korea: 14; Taiwan: 6; China: 3). The reasons why many Asian states view nuclear energy development as fundamental to their principal national energy policy are as follows:

- Nuclear power may help avoid the effects of oil shocks as experienced in the 1970s, and provide a stable energy resource to fuel national economic development;
- Nuclear power can reduce reliance on fossil fuels and help counteract global warming, thus improving long-term health and environmental conditions to the forefront of international concern.

Despite the steady advance of modern nuclear technology we cannot exclude completely the possibility of nuclear accidents. This situation creates unavoidable risks for all states, regardless of whether or not they choose to use nuclear energy. For the most part, Asian nuclear power generating states have acknowledged the seriousness of transboundary damage which nuclear accidents may cause, and have tried to reinforce their nuclear safety culture. Many Asian states have already acceded to the Convention on Early

positive international environmental law to be applied in a standard way? Wouldn't the adoption of the CSC, which will be opened to countries which did not sign the Vienna or Paris Convention but whose national legislation is similar, be liable to create difficulties of interpretation? Isn't there a risk of weakening the basic Conventions and their international effects between Contracting Parties, to the benefit of the CSC, since the latter contains some of their basic provisions and its application refers to national legislation and not to the said Conventions? How can one imagine that the division of damage in space will comply with the rules for allocating compensation between these two categories of territory and that, as a result, there would be no discrimination between the nationals or citizens of Contracting Parties which is prohibited by all the Conventions? *The originality of nuclear law and its future*, INLA, Nuclear Inter Jura 1997.

Notification of a Nuclear Accident (1986) and the Convention on Assistance in the Case of Nuclear Accident or Radiological Emergency (1986).¹¹

However, the question of “third party liability”, which should be addressed through *a posteriori* measures detailing how to provide adequate compensation for the victims of a transboundary nuclear accident, has not yet been answered among the Asian states. None of the Asian nuclear power generating states acceded either to the mother conventions or the CSC. In Asia, the only state to accede to either of these conventions is the Philippines, a non-nuclear power generating state, which joined the Vienna Convention in 1965. As for the CSC, Indonesia and the Philippines signed in 1997 and in 1998 respectively.

On the other hand, even between Asian nuclear power generating States, there exists several distinctions; one of the most significant differences among the Asian nuclear power generating states’ national laws is minimum national compensation:

- Taiwan recognises USD 5 million (1963 value) as the maximum limited liability of the operator.
- In Korea and Japan, the liability of the operator is unlimited. However, the amount of financial security differs between the two: in Japan, JPY 30 billion (about USD 200 million) vs. in Korea, KRW 6 billion (about USD 5 million).

The efficiency of international conventions on nuclear liability in a given region will be guaranteed only if all neighbouring states which could be affected by nuclear accidents enter jointly into one of the two international conventions. For the Asian region however, entering into the BSC does not seem feasible in the near future. This is because many Asian States are not yet members of OECD/NEA nor the Paris Convention. On the other hand, entering into the CSC seems highly feasible if each Asian State can arrive at a national political decision due to the CSC’s freestanding system. As noted earlier, regarding the Vienna Convention, the Philippines is already one of the Contracting Parties,¹² Taiwan has signed it, and Russia recently expressed its

11. States parties to both conventions in the Asia-Pacific region are Australia, China, India, Indonesia, Japan, the Republic of Korea, Malaysia, New Zealand, Pakistan, Thailand, and Viet Nam. The Democratic People’s Republic of Korea has signed but not ratified these two Conventions.

12. The Philippines and Indonesia also signed the Protocol to Amend the Vienna Convention.

intention to ratify; in the case of the CSC, the Philippines and Indonesia, both non-nuclear-power-generating states, have signed it. As regards acceding to the CSC, Asian states, especially nuclear-power-generating states should initially bring their national laws into line with the revised Vienna Convention.

3. Korea and the CSC

Many States, including Korea, that are not presently party to the Vienna Convention may join the CSC without becoming party to the new or old Vienna Convention if their national law governing nuclear third party liability is consistent with the standards specified in the Annex to the CSC. I will examine hereafter the possible advantages and disadvantages which could ensue if Korea were to become Party to the CSC,¹³ and also a possible direction of amendment of the Korean national law on third party liability.

3.1 Advantages

In the event of a major nuclear incident in Korea:

The victim will be protected by insurance or financial security maintained by the operator of the nuclear installation who is responsible for the nuclear incident. Where nuclear damage exceeds the amount of the operator's financial security, the Korean government may provide additional compensation as it deems necessary. Under Korean nuclear third party liability laws, the liability of the operator *vis-à-vis* the victims is not expressly limited, and therefore is generally construed to be unlimited. So the Government's obligation to indemnify victims may be also considered to be unlimited. The burden on the Korean government of compensating victims of a major nuclear incident in Korea could be reduced if Korea become a party to the CSC because the CSC requires the Contracting Parties to contribute their specified *pro rata* shares specified in Article IV of the CSC to provide compensation for damages arising from a nuclear incident that exceed the financial protection made available by the Installation State under Article III.1(a), *i.e.* 300 million SDRs. But actual Korean nuclear third party liability laws appears to have established unlimited liability for the operator, when exactly the fund could be provided to

13. For this part, I consulted *Assessment of potential advantages and disadvantages associated with Korea's adherence to the Vienna Convention*, Project Agreement between Korean Institute of Nuclear Safety and Morgan, Lewis & Bockius LLP, December 1997. However, I do not entirely agree with this Report on several points.

Korea comes into question. In this respect, we consider that our Government can call for Funds after exhausting the national financial protection amount of 300 million SDRs.

Persons and property in Korea suffering injuries or damages as result of a nuclear incident outside Korea:

In this case, third party liability protection would be achieved if Korea and the State where the nuclear incident took place are both parties to either the CSC, or to the Vienna Convention.

3.2 *Disadvantages*

There could be some disadvantages in Korea's adherence to the CSC. If it joins the CSC, the Korean Government would be obliged to provide its specified contribution in the event of a nuclear incident in another CSC party that exceeds that country's financial protection established pursuant to Article III. The contribution is based on "international solidarity". However, the source of funds for such a mandatory contribution by Korea must be carefully considered. Another disadvantage in Korea's ratification of the CSC would be that Korea may need to amend its law to require the operator to maintain financial security of no less than the equivalent of 150 million SDRs. That means, in order to achieve the minimum amount of financial security that must be maintained by the operator pursuant to Article 4(1) and Article 5(a) of the Annex to the CSC, the Government of Korea would need to increase the operator's mandatory financial security by about a factor of 50 (from Republic of Korea won (KRW) 9 billion to KRW 444 billion).

To better evaluate the above-mentioned advantages and disadvantages of joining the CSC, two factors should be considered: first, to obtain compensation in the event of a nuclear incident outside Korea that causes nuclear damage within Korea, states close to Korea, *i.e.* China, Japan and Russia have to participate in the CSC system. As already explained, the efficiency of the CSC in a given region will be guaranteed only if all neighbouring States which could be affected by nuclear incidents become Contracting-Parties; second, according to the Agreement on the Supply of a Light-Water Reactor Project to the Democratic People's Republic of Korea (DPRK) between the Korean Peninsula Energy Development Organization (KEDO) and the DPRK, signed in New York on 15 December 1995, KEDO will provide the DPRK before 2003 with two nuclear reactors of the Korean Standard Nuclear Plant model with a capacity of approximately 1 000 megawatts each. The Korean Electric Power Corporation (KEPCO) was

designated by KEDO as the Prime Contractor in March 1996. KEPCO provides presently nuclear services and products to nuclear installations in the DPRK. The problem here is that in the event of transboundary nuclear incident in the DPRK, can the victims get adequate and prompt compensation from the DPRK? Of course, in terms of the Agreement on the Supply, the DPRK shall ensure that a legal and financial mechanism is available to meet claims brought within the DPRK for damages in the event of a nuclear incident as defined in the old Vienna Convention (Article XI). But the victims might consider that the DPRK lacks sufficient sources of mandatory financial protection and could file claims in Korea or other third countries against KEDO or KEPCO contending that nuclear products or services contributed to the nuclear incident. In order to remove such complicated legal disputes, one of the solutions is that not only the DPRK but also other Asian States, including Korea, adhere to the CSC.

3.3 *Possible amendment of Korean legislation*

To adhere to the CSC as one of the Contracting Parties to the revised Vienna Convention or as an Annex State, the Korean Government will be obliged to amend its national law in conformity with the standard specified in the Annex to the CSC. We can summarise the current situation and the possible amendment of nuclear liability legislation in Korea as follows:

(a) Current status

Korean legislation in nuclear third party liability is to be found in (i) Act No. 2094 of 1969 on compensation for nuclear damage as amended by Act No. 2795 of 1975, No. 3849 of 1986; and (ii) Act No. 2794 of 7 April 1975 on indemnification agreements for compensation of nuclear damage. The latter's object is to compensate the types of damage which are not covered by compulsory insurance. More detailed provisions regarding these acts are provided by relevant presidential decrees.¹⁴

The current Korean nuclear liability regime contains the generally-recognised legal principles for nuclear liability in international conventions and in other national laws, such as (i) the operator's strict liability with few exonerations; (ii) channelling of liability to the operator; (iii) time limits for bringing claims; (iv) compulsory insurance or other financial security, and (v) possibility of governmental intervention.

14. For more information, see Third Party Liability, OECD/NEA, 1990, pp. 137-140. Also *Nuclear Legislation, Analytical Study, Update 1996*, OECD/NEA.

Some of the principal features of Act No. 2094 are as follows:

- It covers the operation of reactors and processing, reprocessing and the use of nuclear fuels, as well as the transport, storage and the disposal of nuclear fuels or items contaminated thereby.
- It holds the operator liable for nuclear damage caused by the carrying out of an activity covered by the Act.
- Concerning the amount of liability, the Act makes no express provision for a limit. Until now, the prevailing interpretation is that the operator has unlimited liability as is the case in Switzerland, Germany and Japan.
- The operator is required to take out insurance or some other financial security in an amount that varies according to the category and power of the installation involved. The actual ceilings of this security are maximum KRW 9 billion (approximately USD 7.5 million) and minimum KRW 10 million.

(b) Recent developments

After the adoption of the 1997 Protocol of Vienna Convention, an expert group for study on the eventual revision of the relevant legislation was organised under the auspices of KINS (Korea Institute of Nuclear Safety) and held meetings three times. This Group was composed of persons from MOST (Ministry of Science and Technology), KINS, KAERI, insurance companies and professors. That Group prepared an unofficial final proposal which was to be discussed at governmental level. But unfortunately, because of our internal economic crisis, the competent authority postponed *sine die* any discussion about that proposal in light of the possible financial burden. So nobody knows about the destiny of that proposal: to be useless or to come back to life in the future. Anyway, as one of the members of that Group, I consider that, as far as circumstances permit, it is reasonable and necessary to amend our current nuclear liability regimes.

(c) *Main features of the unofficial proposal*

The expert group tried to reflect recent developments of international nuclear liability regimes, especially those of the 1997 Protocol. The above-mentioned unofficial proposal contains the following:

1. Limit of liability to an amount of 300 million SDRs:

The Act in force does not expressly mention the operator's limit of liability. But the expert group considers that the limited liability regime might be more realistic and desirable for the operator. And the expert group inserts the "phasing-in" system in the presidential decree.

2. Increase of the level of insurance or financial security:

The expert group wants to equalize the level of insurance or other financial security with the operator's liability limit, *i.e.* 300 million SDRs.

3. Extension of the definition of "nuclear damage":

The Act in force does not contain a clear definition. The expert group considers that it is reasonable to apply, *mutatis mutandis*, the definition of damage which appears in the 1997 Protocol, to the extent determined by the law of the competent court.

4. Extension of the geographical scope of the Act to the EEZ:

The text in force does not have any clause about the scope of application. The expert group wants to insert a new clause which stipulates that this Act applies not only to the nuclear incident occurring on the national territory, but also in the EEZ.

5. Restriction of exonerations:

The expert group considers that it is reasonable to exclude a grave natural disaster from the exonerations.

6. Establishing a system of priorities:

A new clause will be inserted: priority should be given to claims in respect of personal injury or death.

7. Extension of the prescription period for personal injury to 30 years:

As a special exception to our civil law regime, we would introduce the extension of prescription period which is provided in the 1997 Protocol:

- with respect to loss of life and personal injury, 30 years from the date of the nuclear incident;
- with respect to other damage, 10 years from the date of the nuclear incident.

Session II – Séance II : Discussions

Mr. T. Wiwen-Nilsson

Following the interventions by Messrs. Boulanenkov and McRae, I would like to make one remark. There is one theme which appears throughout this Symposium, in particular in Sessions I, II and V: liability limits. The Convention on Supplementary Compensation certainly addresses that question and attempts to fill a gap. If the geographical scope is expanded or nuclear damage is redefined, it is clear that more funds will be necessary. This issue arises again in relation to prescription periods. The question raised by our Austrian colleague yesterday concerning the adequacy of liability amounts was very appropriate: are the Conventions dealing with incidents or accidents? There has never really been an answer given to that question. I would like to suggest that you consider one aspect, which I have never heard addressed in this connection. There has always been a moral implication in the establishment of liability amounts, coupled with an economic implication related to the amount of insurance available. This aspect is totally different: it is related to the fact that it is the organs of the State which set the rules. In all countries the safety rules are set by the safety authorities and the government. When doing so, hopefully they analyse the possible consequences of various scenarios. In Sweden, studies have been carried out by the safety authority analysing different situations that could arise and examining the impact of external factors like weather conditions. The authorities thus decide which scenarios should be surmountable by the safety systems of the reactors. An incident could still happen, and there could be some release of radioactivity, but that would in most instances be limited. In Sweden, the government has decided that established safety standards should be respected, but that the reactor owners do not have to provide protection against extreme accidents with catastrophic consequences. Liability should then not ensue for damage caused by a catastrophic accident. I believe that the state should always assume responsibility on top of the operator's liability. In this manner, the state not only determines the risks which should be controlled but also provides for uniformity and harmony on a social level.

Prof. V. Lamm

In relation to Mr. Wiwen-Nilsson's comments, I would like to point out that at the negotiations in Vienna, most delegations rejected the idea of including state liability or responsibility. Furthermore, according to international law, states are only responsible for a breach of international law or

for an omission amounting to a breach. Therefore, when we refer to the concept of state responsibility, we should keep in mind that this notion is not founded in international law, either treaty or customary.

Mr. B. McRae

The issue of liability limits has been considered before: most systems attempt to strike a balance between the protection of victims and the regulation of the nuclear industry. To a greater or lesser extent, the aim is to obtain as much funding as possible from the liable operator, and then recover the remainder by other means. In the USA, we have a pooling operation under the Price-Anderson Act, so in the case of a major accident, all nuclear utilities would be required to contribute, irrespective of where the accident occurred. If certain operators were not to contribute, then the state would intervene to ensure that the money would be made available. During discussions, many delegations voiced their interest in providing for a higher amount of liability: however, the amounts adopted were a compromise solution in order to allow the greatest number of states possible join the regime.

M. P. Kayser

M. McRae, selon la Loi Price-Anderson, vous disposez de 9.7 milliards de dollars en cas d'accident nucléaire aux États-Unis. Les fonds qui seraient disponible en vertu de la Convention sur la réparation complémentaire s'élèveraient à quelques centaines de millions de DTS. Il s'agit d'une somme ridiculement basse. Je me demande pourquoi les Américains sont les premiers promoteurs de cet instrument alors que les fonds prévus par leur législation nationale existante dépassent largement le montant consacré dans cette Convention. Aucune des Parties Contractantes à la Convention de Paris n'a signé cette Convention. S'il se produisait un accident nucléaire grave en Europe, cet incident coûterait plus qu'aux États-Unis car la densité de la population est plus élevée en Europe. Est-ce que les États-Unis soutiennent cette Convention pour des raisons commerciales ?

Mr. B. McRae

I can understand the reluctance of Paris/Brussels States to leave their regime without any guarantee of a global regime actually being established. We stated on many occasions during the Vienna negotiations that we were not interested in a convention that only nuclear countries would sign. We do of

course have our pooling arrangement, but other countries do not have the number or size of power utilities that we have. Much time was devoted to the identification of a mechanism along the lines of the Price-Anderson Act whereby different European countries would make contributions in a pooling system. In reality, about 98% of the money in the international fund would come from countries that have nuclear power plants. The USA had supported the idea that such an international fund should be used exclusively to compensate transboundary damage. Other countries viewed the international fund as being more a supplement to their national fund and thus a compromise was identified. We actively encouraged the adoption of a more progressive definition of environmental damage, which addressed the concerns of many of the non-nuclear states.

Mr. H. Rustand

Mr. Kayser has identified an interesting matter for discussion, but it would be unfair to suggest that the USA supported and continues to support the Convention on Supplementary Compensation for commercial reasons only. The safety element was quite clearly the leading factor. The nuclear industry in Sweden has advised our operators not to deliver any material to unsafe installations.

Mr. W. Gehr

Je reviens sur un commentaire qui a été fait hier par notre Président de séance concernant les aspects politiques de la discussion que nous avons entamée. D'un côté, nous avons le Price-Anderson Act qui offre au citoyen américain un montant non pas idéal, mais toutefois de loin plus élevé que celui qu'offrent aux citoyens des autres pays les Conventions de Paris, Bruxelles ou de Vienne. De l'autre côté, nous avons ces Conventions dont les montants de réparation sont très insuffisants. La Convention sur la réparation complémentaire présente, au moins en théorie, un certain progrès, mais on ne se bouscule pas pour y adhérer. La seule réforme toujours en cours est la révision de la Convention de Paris, donc c'est dans ce champ-là que l'on peut faire quelque chose, politiquement parlant. L'enjeu, à mon avis, n'est pas l'alternative entre les solutions nationales et les solutions globales. Il existe aussi la possibilité de trouver des solutions au niveau régional, et notamment au sein de l'Union européenne. Il n'y a aucune raison pour qu'un citoyen européen ait une couverture moindre que celle d'un citoyen des États-Unis. Ceci est l'enjeu de la réforme. Il faut trouver une solution adéquate qui puisse rivaliser avec le Price-Anderson Act.

Mr. V. Ashok

I would like to address a question to the Chairman of this Session. As Mr. Rustand mentioned, not every country is in a position to provide for funding in the region of USD 9,2 billion. Given the fact that, over 20 years after their adoption, a large number of nuclear power-generating countries still remain outside the Vienna and Paris Conventions, it was to be hoped that the purpose of the Convention on Supplementary Compensation would be to urge the major countries which are currently undertaking the development of nuclear power and which hope to increase their power generation, to join such a regime. I do not see that happening if very large compensation amounts are called for. During the negotiations, there was some discussion on the creation of a rolling fund. If you plan over a 10 or 20 year period, I wonder whether a rolling fund might be a working proposition. My third point is that the IAEA and various other organisations in light of the Kyoto Protocol are calling for a clean development mechanism, whereby countries would be able to invest in nuclear power in developing countries. Given that the liability would, in any case, fall on the operator, how do you see a solution to the discouragement which appears to be in the offering for developing countries which wish to pursue a nuclear power regime?

Mr. H. Rustand

You have raised a difficult issue. Even if you agree with Mr. Gehr that USD 9,2 billion would be preferable as a liability amount, it is necessary to find the resources to finance such an amount. At some level, the operator almost inevitably becomes bankrupt, at which stage it is necessary to address the pool of operators and ask them to contribute. Finally, the community of States can be requested to put up the necessary funding. This solution was the best that could be identified for the present time. The USA is in a particularly strong position with many operators of nuclear power stations, allowing them to mobilise such a high level of funding. Sweden could not, for example, come near the 9,2 billion level. In Asia, it would be interesting to examine the possibility of identifying a regional solution with Japan, Korea and China, where the nuclear industry is developing.

Mr. V. Boulanenkov

In relation to this last point, I should like to refer to Article 12, paragraph 3 of the Convention on Supplementary Compensation, which provides that nothing shall prevent Parties to this instrument from entering into

regional agreements while fulfilling their obligations under this Convention. Both the Protocol to Amend the Vienna Convention and the Convention on Supplementary Compensation have significantly increased the liability limit at the national level and provision has been made for phasing-in that amount. Regional arrangements may be helpful for making available the increased national compensation amount.

Session II – Séance II
Round Table – Table ronde

Moderator / Modérateur : Torben Melchior

Panelists – Participants

Vladimir Boulanenkov
Vanda Lamm
Steve McIntosh
Ben McRae

Judge T. Melchior

The purpose of this round table is to facilitate interaction between the panel and the audience. I therefore invite members of the audience to raise any issue which has already been touched upon or which is of particular relevance to them. We would all like to see a global regime in force, and I would like to draw your attention to the fact that Romania has already ratified the Convention on Supplementary Compensation. This exchange of views should allow us to examine whether this new system is manageable, and how it would actually work in practice. I invite Professor Lamm to express her opinion on this issue.

Prof. V. Lamm

The Convention on Supplementary Compensation is an international instrument which reflects an important achievement of international solidarity and co-operation. This is excellent in principle, but we should examine the question of how this instrument would work in practice. First in line is the problem of its entry into force. Normally, national legal rules reflect a particular social climate: legislators adopt norms and they enter into force within a reasonably short period of time. This is not necessarily the case in respect of international instruments. Taking into account the provisions of this particular Convention, I am afraid that its entry into force may take a certain number of years, at which stage the social climate may have changed. I should like to point out, however, the benefits of the phasing-in mechanism, which provides substantial advantages for certain states. This instrument presents a flexible nature, providing for the participation of many states with different interests. However, taking into account the instrument as a whole, I think it creates a very complicated system, particularly when one takes into consideration the operation of the Joint Protocol relating to the Application of the Vienna Convention and the Paris Convention. It may be the task of the international organisations involved to ensure that national judges are familiar with this system. I refer in particular to the recent court case in Hungary which examined the possibility of awarding compensation to a lorry-driver who had spent five days in Ukraine three months after the Chernobyl disaster and who subsequently died from an auto-immune disease and cardio-respiratory problems. The Hungarian judges at the first and second instance decided upon a certain sum of compensation. This case demonstrated that the members of the Hungarian judiciary involved did not appear to have comprehensive knowledge and understanding of nuclear law. Judges, in the event of a nuclear accident, will have problems, not just from a legal point of view but also in terms of language. The Convention on Supplementary Compensation, for example, was

particularly difficult to translate into Hungarian. If we want this new regime to work, we should examine the question of its practical implementation.

Judge T. Melchior

I agree that this system is complicated. However, the complications are greater because we have to take into account many different systems and implications at the same time. It would be a rather unusual case in practice which would highlight all the implications at the same time.

Mr. B. McRae

I would also like to express my agreement in respect of the complicated nature of the Convention. However, the situation that exists today, where many states, both nuclear and non-nuclear, are not Party to any international convention on nuclear third-party liability, is also complicated. This is compounded by the limited application of the Joint Protocol, due to the small number of states which have actually ratified it, and its non-comprehensive nature. If you look at practical examples on jurisdiction in the existing international regime, particularly in relation to transport, its complicated nature becomes evident. The Convention on Supplementary Compensation was designed to be as attractive to many countries as possible, so that there would be a single rule: *i.e.* the courts of the country where the accident occurred are the only courts which have jurisdiction. There is a widely-held view that it is only the Compensation Convention that will require a judge to make these decisions between different classes of victims and different locations. I understand, however, that certain countries have a system of reciprocity, whereby they grant coverage under their national law to the extent that other countries provide reciprocal benefits. In the situation as it exists at present, there are countries where a judge would have to apply the Paris Convention, following which any additional compensation would be distributed according to the reciprocity arrangements. Surely the new Convention could only make this simpler?

Prof. V. Lamm

The establishment of a single legal forum is a welcome development. However, we must take into consideration the difficulty of suing in a foreign court. Of course, there is a possibility that the state where the damage was suffered will take a case on behalf of its nationals or the companies on its

territory: this situation can be assimilated to a certain extent to the idea of diplomatic protection. According to international law, it is the state which plays the essential role in the case of diplomatic protection. This should be taken into account in relation to this new system under which the victims must sue for compensation in the state where the damage was suffered. It is another question whether states are willing to accept this responsibility to take actions on behalf of their citizens.

Mr. B. Brands

Before we can examine the workability of the Convention, ratification has to come first. In order for this to take place, it will be necessary to submit the text to national parliaments for consideration. Mr. McRae, has the Convention been submitted for ratification in the USA and if so, has there been any feedback?

Mr. B. McRae

No, the necessary documentation for ratification is being prepared at the moment. The Department of Energy and the Nuclear Regulatory Commission have prepared reports on the future of the Price-Anderson Act, both of which express very strong support for the Convention on Supplementary Compensation. During the negotiations, the USA was a proponent of an entry into force mechanism simpler than that which was eventually adopted. We supported a ratification mechanism that would allow the Convention to enter into force when one or two major nuclear countries ratified. We are aware that other countries are waiting for the USA to ratify before giving this issue serious consideration in their national parliaments.

Mr. S. McIntosh

It is worthwhile pointing out that US ratification of the Convention on Nuclear Safety only came about in April 1999. The US administration was not in a position to submit the Convention on Supplementary Compensation to the Senate until after the CNS ratification went through. I remain hopeful that the Convention on Supplementary Compensation will be submitted soon and ratified relatively soon.

Mr. D. Chang

I would like to address a question to the panel in respect of the differences in compensation available in different states: if we leave the decision to the court of the state which has jurisdiction, how will it be possible to harmonise amounts? And when we say we will apply the law of the competent court, is this limited to procedural law or does this also include substantive law?

Mr. S. McIntosh

It is certainly true that courts in different countries award very different amounts in respect of loss of life. The US courts make the highest awards of this nature and they also have the most resources available for nuclear incidents. I think there is a rough correlation between those states with the most resources available to compensate nuclear damage and the amounts which courts are willing to award. On the question of the applicable law, the law has to comply of course with the requirements of the basic Convention or the Annex, and the requirements of the Convention itself as far as definition of damage, etc. is concerned, but otherwise it is free to apply the law of the competent court. This is not an innovation of the Compensation Convention – this is a basic rule of the Paris and Vienna Conventions also.

Mr. V. Boulanenkov

I agree that the Convention on Supplementary Compensation is not a simple instrument either structurally or in terms of its role in the international system of nuclear liability. However, one should not lose sight of the fact that this is the product of several years of negotiations of governmental representatives, thereby representing a compromise. Also, the complexity of the document reflects the actual situation with the multiplicity of liability instruments. When the issue was raised as to what position the 1963 Vienna Convention would play in a revised regime, the decision was made not to phase out this instrument. Therefore, if you look at the definitions in the Convention on Supplementary Compensation, there is reference to the Vienna and Paris Conventions, including the amendments thereto *i.e.* the existing instruments have been intentionally preserved. The goal is to encourage states parties to different basic conventions to join one global regime. The important aspects of operation of this regime which have been identified need to be brought to the attention of the national authorities, and in this respect, this Symposium represents a step in the right direction.

Mr. B. McRae

We would prefer other countries to have liability limits closer to our own, but we realise that each country makes that decision itself. The Convention creates a floor of 150 million SDRs for the first ten years and 300 million SDRs thereafter. We view this as an improvement to the present situation.

Mr. O. Brown

There is very strong support for this instrument within US industry. We have been encouraging this Convention for the last several years, and we will continue to push for its ratification by the US Congress. The current situation with a Democratic President and a Republican Congress (between whom relations are strained) has made it very difficult to get any legislation through, and the presidential election next year is only likely to complicate things further. However, I think that the recent ratification of the Nuclear Safety Convention is evidence that the United States will assume its responsibilities in this regard. I hope we will see ratification shortly after this election.

M. P. Kayser

Je voudrais donner le point de vue d'un pays non-nucléaire quant à l'opportunité d'adhérer à la Convention sur la réparation complémentaire. En tant que pays non-nucléaire, le Luxembourg ne crée pas de risque. Le risque provient surtout des pays voisins. Donc, il serait aberrant pour un pays non-nucléaire d'adhérer à cette Convention dans le cas où les pays nucléaires voisins n'y adhéraient pas, parce qu'il n'y a rien à gagner mais beaucoup à perdre. On perdrait en particulier le bénéfice de la compétence juridictionnelle nationale. Donc, dans notre cas, nos trois pays voisins qui sont la France, l'Allemagne et la Belgique ne vont pas, à mon avis, adhérer à cette Convention. La question ne se pose donc même pas pour le Luxembourg. Un deuxième argument est que cette Convention, à mon avis, n'entrera jamais en vigueur.

Judge T. Melchior

My country is also a non-nuclear country, however we do see the benefits of adhering to this Convention. It is true that we may then give up jurisdiction in some cases, but it is also true that in return for giving up

jurisdiction you may gain some compensation. Jurisdiction without compensation may be of little value.

Mr. S. McIntosh

I was under the impression during the negotiations that it would be up to the nuclear power-generating states to get this Convention into force, and it would only be then that the non-nuclear states would adhere. Of course, we are all in different geographical areas of the world and therefore the situation applies differently to Australia than it does to Luxembourg. In relation to Western European adherence to the Convention, I am not as pessimistic as Mr. Kayser is; however I do agree that if the USA does not join the regime, I cannot see Western European countries doing so. However, if the system is up and running, Western European countries, particularly those which wish to get involved in the supply of materials for safety upgrades and selling reactors to third countries, would be wise to look again at the question, as it may only be by adherence to the Convention on Supplementary Compensation that they ensure the protection of a single forum, etc.

M. P. Rothey

En tant que représentant de l'industrie nucléaire européenne, je crois que la chose la plus importante est d'éliminer ou de réduire l'insécurité juridique. Cette Convention a au moins le mérite de permettre aux États qui ne sont pas parties aux conventions existantes, mais qui ont une législation nationale en matière de responsabilité civile nucléaire, de rentrer dans le jeu. À cet égard, je pense que cette Convention mérite d'avoir un avenir. Il y a pour nous, industriels, un intérêt certain à la voir en vigueur.

Ms. N. Horbach

My question is addressed to Mr. Ben McRae. I understand that, under the Price-Anderson Act, environmental damage is basically not covered, but rather is governed by the law of each individual state. How then is it possible to ensure that such damage will in fact be covered under the Convention on Supplementary Compensation?

Mr. B. McRae

We deal with this situation in the Grandfather clause. The USA delegates came to the negotiating table with the perspective that the expansive definition of damage would actually be a step back for our country. We were concerned that we would be faced with a definition which would exclude types of damage which are already covered under US law. We therefore agreed that we would accept the heads of damage as described under the Convention, plus if there are any other forms of damage covered under US law, that they would continue to be covered. In this manner, we will cover at least the types of environmental damage which are provided for under the Convention, plus the extra heads of damage which exist under US legislation.

M. P. Reyners

Il me semble justifié dans cette séance consacrée à ces nouveaux instruments et plus particulièrement à la Convention sur la réparation complémentaire, d'ajouter quelques mots concernant la Convention complémentaire de Bruxelles et ses relations avec la nouvelle Convention. Cette Convention, avec tous ses défauts, a le mérite d'exister. Il serait naturellement opportun d'augmenter les montants de cette Convention en phase avec l'augmentation des montants de la Convention de Paris. Il existe plusieurs possibilités qui méritent réflexion dans le cadre de l'exercice de révision actuel : la solution la plus radicale serait bien sûr de supprimer cette Convention pour adhérer à la place à la nouvelle Convention sur la réparation complémentaire. À défaut, il serait nécessaire d'examiner comment intégrer la Convention de Bruxelles dans le régime mis en place par la Convention de 1997. Un régime de coexistence supposerait en particulier la coordination de la mobilisation des fonds au titre de ces deux Conventions, lorsque celles-ci s'appliqueront à un même accident nucléaire.

Mr. S. McIntosh

The revision of the Paris Convention and the corresponding revision of the Brussels Supplementary Convention are undoubtedly important matters. However, we should recollect there has only ever been one nuclear incident which had significant radiological consequences for Western Europe, and in that particular case, the provisions of the Paris and Brussels Conventions were of no relevance whatsoever. Therefore, we would tend to argue in favour of a global solution rather than regional ones.

Session III – Séance III

**THE CASE OF TRANSPORT: DO WE REALLY
UNDERSTAND ALL THE INS AND OUTS?**

**UNE SOURCE DE COMPLICATIONS : LES
OPÉRATIONS DE TRANSPORT**

Chairperson / Président : Pierre Strohl

Ancien Directeur général adjoint, Agence de l'OCDE pour l'énergie nucléaire

**LIABILITY FOR INTERNATIONAL NUCLEAR TRANSPORT:
AN OVERVIEW**

**RESPONSABILITÉ POUR LES ACTIVITÉS DE TRANSPORT
INTERNATIONAL : UNE PRÉSENTATION**

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Résumé

À la question : Comprenons-nous les tenants et aboutissants de la responsabilité en matière de transports nucléaires internationaux, les auteurs de cette communication proposent en substance de répondre que celle-ci est encore plus compliquée qu'il n'y paraît *à priori*. Parmi les facteurs qui peuvent entrer en ligne de compte pour déterminer la responsabilité résultant de dommages causés par de telles activités, les auteurs citent notamment le trajet parcouru par le transport, la nature des expéditions, le lieu de l'accident, le type de dommage, la nationalité et le domicile des victimes, la juridiction compétente et le droit applicable.

Après avoir rappelé les diverses conventions internationales susceptibles d'être mises en jeu, les auteurs analysent plus en détail les dispositions des Conventions de Paris et de Vienne. Ils étudient ensuite un cas d'espèce considéré sous l'angle de plusieurs situations concrètes avant d'aborder la Convention de Bruxelles de 1971 puis les changements résultant des instruments adoptés en septembre 1997.

Sur la base de ces données, les auteurs discutent des imperfections ou des contradictions du régime actuel, puis passent à la description de la situation juridique existant dans une série de pays : États-Unis, Japon, Russie, Chine, Autriche.

La partie suivante de la communication propose d'illustrer la complexité de la responsabilité nucléaire applicable aux transports internationaux, en se fondant sur une série d'exemples hypothétiques mettant en cause divers pays et reflétant le manque d'uniformité des législations applicables dans ce domaine.

Tout en reconnaissant qu'heureusement les transports de substances nucléaires ne sont pas susceptibles de causer des dommages d'une gravité comparable à celles des installations nucléaires fixes, les auteurs concluent en soulignant le caractère peu satisfaisant de la situation actuelle. À leur avis, le moyen le plus efficace d'y apporter un certain remède serait d'encourager une large adhésion aux conventions à vocation mondiale, à savoir la Convention de Vienne révisée et la nouvelle Convention sur la réparation complémentaire.

1. Introduction

This session is entitled, “The Case of Transport – Do We Really Understand All the Ins and Outs?”. Our short answer is “no”. The explanation is more complicated. Within the national boundaries of states that have adopted comprehensive nuclear liability laws and even between states that are parties to one of the international nuclear liability conventions, nuclear liability transport regimes usually are relatively well-defined. However, once a shipment crosses international boundaries, potential nuclear liability presents a number of intricate and largely untested legal issues. This particularly is the case for shipments while on the high seas.

Many elements can bear on liability for nuclear damage during transport. For example, liability may depend upon a number of facts that may be categorised as follows:

- **shipment:** origin or destination of the shipment, deviation from planned route, temporary storage incidental to carriage;
- **content of shipment:** type of nuclear material involved, whether its origin is civilian or defence-related;
- **situs of accident:** number and type of territories damaged (*i.e.* potential conventions involved), applicable territorial limits, Exclusive Economic Zone (EEZ), high seas, etc.;
- **nature of damages:** personal injury, property damage, damage to the means of carriage, indirect damage, preventive measures, environmental cleanup or retrieval at sea, *res communis*, transboundary damage etc.;
- **victims involved:** nationality and domiciles of the victims (*e.g.* Austrians);
- **jurisdiction:** flag (for ships) or national registration (for aircraft) of the transporting vessel, courts of one or more States may have (or assert) jurisdiction to hear claims, and may have to determine what law to apply to a particular accident;
- **applicable law:** the applicability of one or more national nuclear liability laws and/or international nuclear liability conventions; the extent to which any applicable convention has been implemented

or modified by domestic legislation, conflicts with the 1982 Law of the Sea Convention or other applicable international agreements, and finally, also written agreements between installation operators and carriers can define applicable law as well as responsibilities.

Depending upon these and other circumstances, the law applied could be the law of the forum, the law of the place where the accident or damages occurred, or the law of the place with the most significant links with the parties. Moreover, the availability and degree of insurance coverage and/or State funds further determine the degree of successful compensation for damages, if liability is established.

2. International Conventions

Unfortunately, the nuclear liability conventions do not provide one comprehensive and unified international legal regime for nuclear accidents at fixed facilities or during transport. In fact, there is a labyrinth of international agreements on nuclear liability, the interrelations of which have become increasingly complicated. This presents added problems for nuclear transport, which, of course, often involves transboundary movements of materials that, in case of resulting accidents, could easily result in the application of more than one (nuclear) liability agreement. Currently, there exist at least seven such agreements that are intertwined with each other: these are the 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy (PC), the 1963 Vienna Convention on Civil Liability for Nuclear Damage (VC), the 1963 Brussels Supplementary Convention (BSC), the 1971 Maritime Carriage of Nuclear Material Convention (MC), the 1988 Joint Protocol linking the Paris and Vienna Conventions (JP), the 1997 Protocol to Amend the Vienna Convention (VP), and the 1997 Convention on Supplementary Compensation for Nuclear Damage (CSC). These could even be supplemented by a revised Paris Convention and a revised Joint Protocol in the future. The number of possible interrelations between the Contracting States to these various instruments is very complicated: there are 16 possible combinations that include the Paris Convention alone. These can all be combined with 16 possible combinations that include the Vienna Convention. Additionally, there are the possible combinations between non-Vienna or non-Paris CSC states (*i.e.* CSC Annex states, whether or not parties to the 1971 Maritime Carriage Convention), and all the previous combinations.¹ For instance, a Paris state also could be

1. This makes the following combinations possible: PC, PC/JP, PC/BSC, PC/MC, PC/CSC, PC/JP/BSC, PC/JP/MC, PC/JP/CSC, PC/JP/BSC/MC, PC/JP/BSC/CSC, PC/JP/MC/CSC, PC/JP/BSC/MC/CSC, PC/BSC/MC-VC,

either/or/and a party to the JP, the MC and the CSC. Whether the implications of the operation of these various combinations can be entirely ascertained is doubtful.

The 1960 Paris Convention and the 1963 Brussels Supplementary Convention established a nuclear liability regime for most of Western Europe (minus Austria and Switzerland). The 1963 Vienna Convention aimed at a world-wide system but, so far, has attracted a scattered membership of only 31 states. The 1988 Joint Protocol attempted to link the Paris and Vienna Conventions, but the goal of a global treaty has not been met. For example, Germany, France, and the United Kingdom have not ratified the Joint Protocol, so are not in treaty relations with any Vienna Convention country. Moreover, it should be emphasised, particularly in respect of liability associated with nuclear transport, that states with a majority of the world's 425-plus operating nuclear power plants are not yet parties to any nuclear liability convention. Shipments between and among them thus are not covered by any treaty. The 1997 Vienna Protocol and particularly the CSC were designed to increase world-wide treaty membership, but the ratification process is a slow one. The Paris Convention countries have only begun to consider changes to that 1960 Convention and the continuing role, if any, of the Brussels Supplementary Convention.

3. 1963 Vienna Convention

Where countries currently are in treaty relations under the Paris or Vienna Convention, there are a number of explicit provisions covering nuclear shipments between and among them. When and where it applies, the Vienna Convention contains provisions channelling to the installation operator liability for “nuclear damage” caused by a “nuclear incident” both at the installation itself and, in the absence of express terms of a written contract, when such an incident involves nuclear material coming from, originating in or being sent to

PC/BSC/CSC-VC, PC/BSC/CSC/MC-VC, and PC/MC/CSC-VC. The same number of combinations can be created for Vienna states being either/or/and a party to the Joint Protocol, the Vienna Protocol, the CSC, or the 1971 Maritime Carriage Convention. It would require a very elaborate and precise analysis to review all the consequences of such combinations.

the installation.² In short, under the Vienna Convention, the installation operator usually is liable for nuclear damage resulting from materials being transported to or from its installation, unless a written contract explicitly provides otherwise.³ The Vienna Convention further provides the operator is not liable for nuclear damage to the means of transport upon which the nuclear material involved was at the time of the nuclear incident.

2. Article II.1 of the 1963 Vienna Convention provides in pertinent part: “The operator of a nuclear installation shall be liable for nuclear damage upon proof that such damage has been caused by a nuclear incident:

(b) involving nuclear material *coming from or originating in* [emphasis added] his nuclear installation, and occurring:

(i) before liability with regard to nuclear incidents involving the nuclear material has been assumed, pursuant to the express terms of a contract in writing, by the operator of another nuclear installation;

(ii) in the absence of such express terms, before the operator of another nuclear installation has taken charge of the nuclear material; but ...

(iv) where the nuclear material has been sent to a person within the territory of a non-Contracting State, before it has been unloaded from the means of transport by which it has arrived in the territory of that non-Contracting State;

(c) involving nuclear material *sent to* [emphasis added] his nuclear installation, and occurring:

(i) after liability with regard to nuclear incidents involving the nuclear material has been assumed by him, pursuant to the express terms of a contract in writing, from the operator of another nuclear installation;

(ii) in the absence of such express terms, after he has taken charge of the nuclear material; but ...

(iv) where the nuclear material has, with the written consent of the operator, been sent from a person within the territory of a non-Contracting State, only after it has been loaded on the means of transport by which it is to be carried from the territory of that State ...”

3. The Vienna Convention contains the option (in Article II.3) that the Installation State may provide by legislation that a carrier of nuclear material or a person handling radioactive waste may, at its request and with the consent of the operator concerned, be designated as “operator” in the place of the installation operator.

4. 1960 Paris Convention

The 1960 Paris Convention also contains explicit transport provisions, but they are slightly different from those in the Vienna Convention.⁴ In short, again, liability in principle is imposed on the installation operator sending the nuclear substances, because it will have the responsibility for the packaging and containment, and passes to the receiving operator upon the assumption of liability by that operator pursuant to the express terms of a written contract or,

4. Article 4 of the 1960 Paris Convention provides in pertinent part: “In the case of carriage of nuclear substances, including storage incidental thereto ...

(a) The operator of a nuclear installation shall be liable, in accordance with this Convention, for damage upon proof that it was caused by a nuclear incident outside the installation and involving nuclear substances in the course of carriage therefrom, only if the incident occurs:

(i) before liability with regard to nuclear incidents involving the nuclear substances has been assumed, pursuant to the express terms of a contract in writing by the operator or another nuclear installation;

(ii) in the absence of such express terms, before the operator of another nuclear installation has taken charge of the nuclear substances ... but

(iv) where the nuclear substance have been sent to a person within the territory of a non-Contracting State, before they have been unloaded from the means of transport by which they have arrived in the territory of that non-Contracting State.

(b) The operator of a nuclear installation shall be liable, in accordance with this Convention, for damage upon proof that it was caused by a nuclear incident outside that installation and involving nuclear substances in the course of carriage thereto, only if the incident occurs:

(i) after liability with regard to nuclear incidents involving the nuclear substances has been assumed by him, pursuant to the express terms of a contract in writing, from the operator of another nuclear installation;

(ii) in the absence of such express terms, after he has taken charge of the nuclear substances; ... but

(iv) where the nuclear substances have, within the written consent of the operator, been sent from a person within the territory of a non-Contracting State, after they have been loaded on the means of transport by which they are to be carried from the territory of that State.”

failing such a contractual provision, when that operator takes charge of the shipment.⁵ In the case of transport to or from operators in states that are not party to the Paris Convention, special provisions apply to ensure that an operator to whom the Paris Convention regime applies will be liable. In principle, the territorial application of the Paris Convention is limited to nuclear incidents occurring and nuclear damage suffered in the territory of Contracting Parties, unless the legislation of the Installation State (*i.e.* the Contracting Party in whose territory the nuclear installation of the operator liable is situated) determines otherwise. Such explicit permission to unilaterally extend the scope of application is not provided by the 1963 Brussels Supplementary Convention or the 1963 Vienna Convention. The Paris Convention Steering Committee recommended that Contracting States extend the scope of Paris Convention application by national legislation (a) to damage suffered in a Contracting State or on the high seas on board a ship registered in the territory of a Contracting State (even if the nuclear incident causing the damage has occurred in a non-Contracting State) and (b) to damage suffered and incidents occurring on the high seas (*i.e. res communis*).⁶ The Paris Convention includes a specific requirement for the installation operator to provide the carrier with a certificate from its insurer (or other financial guarantor) stating, among other things, the amount, type and duration of the security. The Vienna Convention has no such requirement.

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5. Similar to the Vienna Convention, the Paris Convention [Article 4(d)] contains the option that a Contracting Party may provide by legislation that a carrier, at its request and with the consent of the operator of a nuclear installation situated in its territory, be liable in place of that operator.
 6. Noteworthy is the fact that, in the event of maritime casualty on the high seas, the Law of the Sea Convention provides coastal States with the right to take and enforce preventive measures beyond the territorial sea proportionate to the actual or threatened damage to protect their coast line or related interests, including fishing, from pollution or threat of pollution [Art. 221(1) LOS Convention as well as Arts. 192-237]. However, the Paris Convention grants no such rights and confines compensation to personal or property damage, excluding also the means of transport. This extension in practice is thus actually limited to personal injury, even though the potential severity of damage to the marine environment in the event of radioactive release could exceed that of ordinary pollution cases. Regardless of the potential conflict of international rules, this certainly justifies the recent revision of the Vienna Convention extending its scope to environmental damage, measures of reinstatement and preventive measures, and necessitates either similar initiatives in respect of the Paris Convention or explicitly allowing the Law of the Sea Convention (or other international conventions on environmental protection) to intervene in cases of maritime casualties (or other cases resulting in environmental damage).

5. A Case Study

The complicated nature and consequences of the interrelation of the existing nuclear liability agreements can be demonstrated by an example involving the interrelation between the Paris Convention, the Vienna Convention, the Brussels Supplementary Convention, and the Joint Protocol. In respect of transport of nuclear substances, situations exist in which the operation of the Joint Protocol may result in the non-applicability of the Brussels Supplementary Convention and consequently result in unsuccessful claims of compensation from international victims (and discriminatory effects between certain categories of victims). Articles III and IV of the Joint Protocol relate to transport and determine that:

- either the Vienna Convention or the Paris Convention shall apply to the exclusion of the other (Article III.1);
- in the case of a nuclear incident involving nuclear material in the course of carriage, the applicable Convention shall be that to which the State is a Party within whose territory the nuclear installation is situated whose operator is liable pursuant to either Article II.1(b) and (c) of the Vienna Convention or Article 4(a) and (b) of the Paris Convention (Article III.3);
- the provisions of the Vienna Convention (Articles I-XV) and those of the Paris Convention (Articles 1-14), if applicable in a given situation, shall apply with respect to Joint Protocol Parties in the same manner as between Parties to the Convention applicable (Article IV).

Thus, with regard to nuclear incidents occurring at nuclear installations, the operation of the BSC will not be affected by the Joint Protocol, since the applicable Convention will always be that to which the State is a Party within whose territory the installation is situated. However, with respect to transport of nuclear substances, situations exist in which the operation of the Joint Protocol may result in the non-applicability of the BSC.

Situation 1:

Suppose the operator of a nuclear installation situated in State B (Contracting Party to the PC and BSC) sends nuclear material to a nuclear operator in State V (Contracting Party to the VC). Before unloading the substances, a nuclear incident occurs in State B and causes damage in State B.

The operator of State B will be liable pursuant to Article 4(a)(iv) PC and compensation for that damage is to be paid under Art. 2(a) BSC, since the operator of a Contracting Party to the BSC is liable according to the PC and damage is suffered in a Contracting Party to the BSC.

Situation 2:

Suppose the operator of a nuclear installation situated in State BP (Contracting Party to the PC, the BSC and the Joint Protocol) sends nuclear material to a nuclear operator in State VP (Contracting Party to the VC and the Joint Protocol). Whether the accident occurs before or after unloading the nuclear substances from the means of transport is irrelevant. Which one of the two operators (sending or receiving) is liable is determined by the express terms of a contract in writing (the normal case) or by the taking charge of the nuclear material. If State VP has assumed liability either via contract or by taking charge of the materials before the accident occurred, then the operator from State VP will be liable. Consequently, the BSC is not applicable, since no operator under the Paris Convention is liable for the incident, according to Article II.1(c)(i) or (ii) of the Vienna Convention in conjunction with Article III of the Joint Protocol. Potential victims of State BP can therefore not benefit from the additional compensation funds established by the BSC due to the very fact that State BP ratified the Joint Protocol.

The Joint Protocol will thus make it possible to render the BSC inapplicable in certain transport cases (including incidents occurring and damage suffered on or above the high seas), whereas it would be applicable should the Joint Protocol not be in force (compare Situation 1).

It is doubtful whether the nationals of Contracting Parties to the BSC actually understand that the ratification of the Joint Protocol as a means to enhance the enlargement of the international nuclear liability regime might be counter-productive in depriving potential victims of a nuclear incident of additional compensation. Such a situation may occur in Belgium, Germany, France, Spain and the United Kingdom. These countries did ratify the BSC, but did not yet ratify the Joint Protocol. For Greece, Portugal and Turkey there would be no such drawbacks if they were to ratify the Joint Protocol, since they are not Contracting Parties to the BSC. Denmark, Italy, Netherlands, Norway, Finland and Sweden are the only Contracting States to the Paris Convention so far that have ratified the Joint Protocol, while all of these States were already Contracting Parties to the BSC. Thus, there are as yet no Contracting Parties to the Paris Convention that are Contracting Party to the Joint Protocol without being Party to the BSC. Under the Vienna Convention, only Cameroon, Chile,

Egypt, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia are Contracting Parties to the Joint Protocol. This means that safety upgrades in most CEEC/NIS by companies situated in most Paris Contracting Parties will hardly ever make available the BSC compensatory funds in the event of accidents. This demonstrates the very reason and necessity for establishing the CSC: allowing additional compensatory funds to be available independently of any nuclear liability agreement and avoiding confining such benefits to one specific identified region only with the legal possibility of excluding others from such benefits.

Situation 3:

Suppose an operator from State BP receives nuclear material from an operator of State VP. The operator of State VP has assumed liability during the entire transport, and a nuclear accident occurs on the territory of State BP causing severe damage in State BP and in State B.

Between State VP and State BP, the Vienna Convention will be applicable pursuant to Article III.3 of the Joint Protocol. The BSC is not applicable, since there is no operator from a Contracting Party to the Paris Convention liable (Art. 2(a)(i) BSC). The total amount of compensation will thus be determined by the national legislation of State VP. If financial resources are exhausted, the legislation of BP could provide for additional compensation, but the other Contracting States to the BSC are not obliged to intervene with their public funds according to Article 3(b)(iii) BSC.

Between State BP and State B, the assumption of liability by the operator of State VP is irrelevant and does not result in the application of the Vienna Convention, since State B did not ratify the Joint Protocol. Consequently, the operator of State BP will be liable according to Article 4(b)(iv) of the Paris Convention, since in respect of State B the nuclear substances have been sent from a person within the territory of a non-Contracting Party. Accordingly, the BSC will be applicable so that victims of State B can claim the full benefits of the BSC, which might put them in a much better position than the victims of State BP.

Ergo, this example demonstrates that two operators can trigger liability for damage resulting from one and the same nuclear incident (the VP-operator for damage in State BP and the BP-operator for damage in State B). This result clearly runs counter to the intention of the Joint Protocol to avoid the simultaneous application of the Vienna Convention and the Paris Convention.

6. Convention on Maritime Carriage of Nuclear Material

Another convention related to transport activities is the 1971 Convention Relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material, the so-called “1971 Brussels Convention”. This Convention supplements both the Vienna and Paris Conventions in relation to maritime transport. The preamble to the 1971 Brussels Convention explicitly states the desire of the Contracting Parties to hold the operator of a nuclear installation exclusively liable for damage resulting from any incident occurring during maritime carriage of nuclear material. This Convention is of a supplementary nature, and will not apply if either the 1960 Paris Convention or the 1963 Vienna Convention or applicable national law covers the nuclear damage (provided that it is not less favourable to the victim). To this extent, the 1971 Brussels Convention provides that a person who, by virtue of an international convention or national law might be held liable for damage caused by a nuclear incident occurring in the course of maritime carriage will be exonerated from such liability, if the operator of a nuclear installation is liable for such damage under either the Paris or the Vienna Convention. None of the CEEC/NIS have ratified or signed this Convention, nor have any of the Vienna States. Thus, it basically retains a very narrow application confined to certain Paris States from Western Europe (Belgium, Denmark, Finland, France, Germany, Italy, The Netherlands, Norway, Spain, and Sweden), joined by two non-Vienna/non-Paris flag States (Liberia and Yemen), and Argentina and Gabon. Similar situations as those described in respect of the interrelation between the PC, VC, BSC and the Joint Protocol can exist, which render the rules of the MC either irrelevant in respect of maritime casualties involving non-MC claimants or victims (*i.e.* potentially all maritime areas in the world) or redundant in respect of the application of the Joint Protocol. The MC further guarantees that the application of any preceding international convention in the field of maritime transport is maintained. If under the provisions of these Conventions the operator would be exonerated from his liability, it shall escape liability under this Convention accordingly.⁷ In this manner, the Convention achieves its basic aim to ensure that *the operator of a nuclear installation will be exclusively liable for damage caused by a nuclear incident occurring in the course of maritime carriage of nuclear material.*⁸ This means that only if the revised Vienna Convention would be applicable – currently not yet in force – damage to the marine environment and related costs for cleanup, remedial or preventive measures could be compensated.

7. Article 2 of the Maritime Carriage Convention.

8. Preamble of the Maritime Carriage Convention.

7. 1997 Conventions

1997 saw significant changes in the Vienna Convention and the introduction of the new CSC. The basic transport provisions were not modified by the 1997 Protocol to Amend the Vienna Convention. The 1997 Vienna Protocol, however, does contain several significant changes that will have impacts on transport coverage when the amendments eventually enter into force. For example, the Vienna Convention's definition of "nuclear damage" has been expanded to include certain environmental damages, economic losses, and costs of preventive measures. However, the actual impact of this extension depends upon the discretion of the competent court and the applicable national law. These provisions, which were incorporated into the CSC, are not in the Paris Convention. Additionally, there are discrepancies between the 1997 Conventions and the Paris Convention in the areas of geographical scope and court jurisdiction.

8. Resulting Discrepancies

Particularly for transport activities, it is significant that the amended Vienna Convention and the CSC will apply within the Exclusive Economic Zone (EEZ) of Contracting Parties. Under the 1963 Vienna Convention, jurisdiction lies in principle with the court of the Contracting Party within whose territory the nuclear incident occurred, and, in the event that such incident occurred outside the territory of any Contracting Party or the place cannot be determined, the courts of the Installation State of the operator liable will have jurisdiction. This rule was left unchanged by earlier drafts of the 1997 Vienna Protocol, but was supplemented with an additional rule in respect of incidents occurring in the EEZ of a Contracting Party (in which case their courts would have jurisdiction). Because of a controversy around the extent of jurisdiction of coastal States over types of nuclear damage occurring in their EEZs according to the 1982 Law of the Sea Convention, this provision had to be subjected to final drafting at the International Atomic Energy Agency Diplomatic Conference in September 1997. Since the Law of the Sea (LOS) Convention provides coastal States jurisdiction with regard to the preservation of the maritime environment of the EEZ, non-nuclear coastal States with international shipping routes in their EEZs might want to assure their jurisdiction in shipping accidents in their EEZs instead of being subjected to a narrow definition of nuclear damage under the law of the Installation State, *i.e.* the law of the Installation State of the operator normally liable. A rather unclear compromise was made, under which for nuclear incidents occurring in the EEZ of a Contracting Party (or, if such zone has not been established, in an area not exceeding the limits of an EEZ were one to be established in the future), jurisdiction will lie only with the courts of that Contracting Party. This is further

conditioned to the extent that such EEZ was notified to the Depository prior to the nuclear incident and by a provision that the exercise of jurisdiction contrary to the 1982 Law of the Sea Convention is not permitted. The rules under the CSC are similar. This means that, whereas normally a nuclear incident occurring during maritime carriage in the EEZ would render the law of the competent court of a Contracting Party where the nuclear operator (sender or receiver of the nuclear substances) is situated (*i.e.* Installation State) applicable, the Vienna Protocol would allow the rules of the competent court of a coastal State to be applied to the incident occurring in its EEZ, provided it is a Contracting Party to the Vienna Protocol and despite the fact that the liable operator is not situated in its territory. In other words, it allows the liable operator to be subjected to foreign law, potentially increasing the number of valid claims for compensation (particularly, of course, in respect of marine environmental damage). Moreover, one can only imagine the complicated nature of a situation in which the Joint Protocol (or CSC) would be ratified by the coastal State having jurisdiction, and not by the Installation State. A comparable complication would result from specific reciprocity rules incorporated in the applicable law of the competent court of the coastal State varying from those of the Installation State.

Under the CSC, the supplementary funds apply to nuclear damage suffered (a) in the territory of Contracting Parties, (b) in or above their maritime areas beyond the territorial sea (i) by a national of a Contracting Party or (ii) on board or by a ship flying the flag of a Contracting Party, or on board or by an aircraft registered in the territory of a Contracting Party, or on or by an artificial island, installation, or structure under the jurisdiction of a Contracting Party; or (c) in or above EEZ or its continental shelf in connection with the exploitation or the exploration of the natural resources. These funds may be used only if an operator of a nuclear installation used for peaceful purposes (*i.e.* not military installations) situated in the territory of a Contracting Party to the CSC is liable, and the courts of a Contracting Party have jurisdiction pursuant to either of the two basic Conventions or national legislation in conformity with the Annex. Contrary to the 1997 Vienna Protocol, the CSC geographical scope is not extended to damage wherever suffered, since the supplementary funds will not apply to nuclear damage in the territory of non-Contracting State parties. This is not clearly stated though, since only nuclear damage suffered in or above the territorial sea of a State not Party to the CSC is explicitly excluded, whereas a similar phrase is not inserted with respect to damage suffered on the territory of a non-CSC Party. However, in defining its purpose to supplement the system of compensation, the CSC explicitly states that it will apply to nuclear damage for which an operator is liable under the 1963 Vienna and 1960 Paris Convention, neither of which impose operator's liability for damage suffered in non-Contracting States. This clause seems logical since non-nuclear power generating countries would have little incentive to become a CSC Party if

damage to their nationals would be covered regardless. This situation would be different, however, if the rules of the Vienna Protocol, which allows compensation for damage wherever suffered, were applicable. To complicate the situation even further, the latter could possibly apply to the CSC by virtue of the fact that the CSC could include the Vienna Protocol or a revised Paris Convention, since the CSC refers to the 1963 Vienna Convention and the 1960 Paris Convention “and any amendment thereto which is in force for a Contracting Party to this Convention.”

Another discrepancy between the revised Vienna Convention and the Paris Convention concerns geographical scope. Under the Paris Convention, such scope in principle is limited to incidents occurring and damage suffered in the territory of Contracting States (mitigated by the two previously mentioned Paris Convention Steering Committee Recommendations on non-mandatory national legislation to extend territory to include the high seas and to compensate damages regardless of where the incident occurred). Under the revised Vienna Convention, the geographical scope was extended to damage wherever suffered and further to cover the EEZ. This could be followed by the Paris Convention.

If the Paris Convention is to be harmonised with the revised Vienna Convention, this might require an adjustment in respect of the rules on jurisdiction as well. Under the revised Vienna Convention, jurisdiction lies in principle with the courts of the Contracting Party within whose territory the nuclear incident occurred, except where the incident occurred outside the territory of any Contracting State or the place of occurrence cannot be determined, in which case the courts of the Installation State would have jurisdiction. A similar system is provided under the Paris Convention. However, this rule was amended to ensure that, if an incident would occur in the EEZ of a Contracting Party, the court of that Party would have jurisdiction, provided this would comply with the international law of the sea, including the Convention on the Law of the Sea. Moreover, another provision was added to oblige states whose courts have jurisdiction to ensure that only one of its courts shall have jurisdiction in relation to any one nuclear incident. In order to avoid jurisdictional conflicts, the extension to the EEZ also could be incorporated in the Paris Convention, whereas the requirement of one single court (currently merely subject to a Paris Convention Steering Committee Recommendation) could be made mandatory through an amendment.

9. Domestic Legislation

As we indicated, the States with a majority of the world's 425-plus operating nuclear power plants are not yet parties to any nuclear liability convention. These include Austria, Canada, China, Japan, Russia, South and North Korea, Switzerland, Thailand, and the United States. Shipments between and among them are not covered by any nuclear liability convention, but may be covered by domestic legislation or other international agreements (*e.g.* LOS Convention, which is customary international law). As examples, we will review briefly the domestic nuclear liability legislation (if any) of the United States, Japan, the Russian Federation, the People's Republic of China, and Austria (whose new nuclear liability law further complicates the labyrinth we have described).

(a) *United States*

While it has about one-fourth of the world's nuclear power plants (107 operating reactors), the United States is not yet a party to any international nuclear liability convention. The US Price-Anderson Act of 1957 (the world's first comprehensive nuclear liability law), nevertheless, provides for a unique system of private insurance and US Government indemnity for nuclear liability associated with certain fixed facilities and transportation of nuclear materials to or from such facilities. It covers nuclear incidents **within** the United States causing damage within or outside the United States. Nuclear liability coverage under the Price-Anderson Act is different from the international conventions and domestic laws of other countries. Under the unique, so-called "omnibus" feature of the Price-Anderson system, there is coverage for "anyone liable" for "any legal liability arising out of or resulting from a nuclear incident." This feature usually is referred to as "economic channelling" of liability. It works in a similar manner as the "legal channelling" of liability to the installation operator under the international conventions and domestic laws of many other countries (claims for compensation are legally confined to one person, instead of confining not the claims but merely the payment of compensation to one person). The Price-Anderson Act provides that the liability for transport activities of all entities covered by it is limited to the amount of coverage provided by the system. "Precautionary evacuations" have been explicitly covered since 1988. The liability limit now is about USD 9.4 billion for nuclear power plants and associated shipments, and about USD 9.89 billion for US

Department of Energy facilities and associated shipments.⁹ Substantive tort law generally is left to the 50 States.

(b) *Japan*

Japan is another example of a state with a large nuclear power programme (53 operating reactors) that is not party to any nuclear liability convention. However, Japan's domestic nuclear liability law generally conforms to the conventions' principles. For example, the liability of the operator of a nuclear installation is exclusive and absolute. A power plant operator must provide financial security of Japanese yen 30 billion (about 150 million SDRs). The Government will assist the operator if damages exceed this amount. There are varying provisions for transport of nuclear materials, depending upon whether the shipment is domestic or international. For Japanese domestic shipments, the consignor is liable because it is responsible for packaging the material for transport. However, when transport of nuclear fuel occurs between a Japanese nuclear operator and a foreign nuclear operator, the Japanese nuclear operator is liable, irrespective of which operator is in fact the consignor.

(c) *Russian Federation*

While the Russian Federation has a large nuclear power program (29 operating power reactors), it too is not a party to any nuclear liability convention. The Russian Federation did sign the 1963 Vienna Convention in May 1996, but has not ratified it. This continues to have consequences for international nuclear transport, for example in light of the fact that several non-Russian nuclear installations still send nuclear materials to Russian facilities for reprocessing or storage. Russia has not yet adopted domestic nuclear liability legislation or taken any action with respect to the 1988 Joint Protocol. Russia has entered into bilateral agreements with the United States, the European Commission, the European Bank for Reconstruction and Development, Norway, and Germany. These "interim" measures may provide some nuclear

9. The limitation does not apply to uranium mines and mills, nuclear fuel fabrication facilities (other than certain plutonium fuel fabricators), certain transportation associated with such facilities, or nuclear incidents outside the territorial limits of the United States. The Price-Anderson system provides up to USD 100 million of protection for some nuclear incidents outside the United States. However, the statutory definition of nuclear incident limits such coverage to situations where the nuclear material is "owned by, and used by or under contract with, the United States ..."

liability protection for entities doing work under certain nuclear safety assistance programmes, but there are substantial questions about their enforceability. Most Western contractors have not been willing to do nuclear work in Russia without more sufficient liability protection.

(d) *People's Republic of China*

The People's Republic of China is a country that plans to develop a larger nuclear power programme (3 operating reactors at present, with others under construction or planned). China is not a party to any nuclear liability convention. Its current nuclear liability regime is set out in an administrative legal document issued by the State Council in 1986 as an "interim" measure in connection with the French-designed Daya Bay nuclear power plant. The State Council "Reply" (*Guo Han* (1986) No. 44) contains most of the elements of the international nuclear liability conventions (*e.g.* channelling of absolute nuclear liability to the plant operator and exclusive court jurisdiction). However, it does not address liability for transport of nuclear materials to or from nuclear installations.

(e) *Austria*

Austria has recently created a new complication that could have as yet undetermined impacts on international nuclear transport: on 1 January 1999, a new Austrian law on civil liability for nuclear damage entered into force. It contains fundamental changes from the standard international approach to nuclear liability. For example, the new law renounces channelling of all liability to the facility operator. Court jurisdiction is not limited to where the accident takes place, but now includes where the damage occurs. Thus, nuclear claims can now be brought in Austria against suppliers and even against carriers. In fact, the law contains a specific provision making the carrier of nuclear material liable for damage to persons or property incident to carriage, unless it can prove it did not know and could not have known that the material in question was nuclear material. There is no liability limit and no channelling of liability, whereas the Austrian law seems to enable a right of recourse against the constructor of the means of transport itself, even based on negligence. Moreover, the concept of damage is extended to environmental damage and costs of preventive measures. Certain mandatory insurance requirements apply for "all damages which are attributable to the carriage of nuclear material in Austria." These must be provided by an insurer licensed to provide nuclear insurance in Austria, but are set without regard to the capacity of the Austrian nuclear insurance market. The effects of the Austrian law not only increase risks

of transportation over Austrian territory, but also its neighbouring states (e.g. the Czech Republic, Slovakia and Bulgaria). Transportation of nuclear substances to the latter countries would henceforth necessitate firm contractual statements to ensure liability of the receiving operator (and *vice versa*), circumventing the general rules of the Paris and Vienna Conventions and placing the risk of liability only upon the shoulders of the states with least capacity to compensate huge liability claims. But even such contractual clauses could be disregarded under the Austrian law in respect of Austrian victims.

(f) *Insurance for Nuclear Transport*

Even outside Austria, the applicability of insurance to nuclear transport activities is complicated. Most Western nuclear insurance pools do not write transport coverage separate from the liability policies they offer to nuclear installations. This is because channelling of liability to the installation operator generally obviates the need for separate suppliers cover. American Nuclear Insurers (ANI), on the other hand, routinely provides nuclear liability coverage for US suppliers doing business outside the United States. ANI's Foreign Supplier's and Transportor's Form policy provides nuclear liability coverage (for the named insured only) in amounts up to USD 25 million. It covers damage on the high seas, but not damage to the transporting conveyance or companion cargo (unless additional premiums are paid). Property insurance (e.g. for fresh nuclear fuel) should be available in the conventional insurance market.

(g) *Amoco Cadiz*

The *Amoco Cadiz* case, while it involved oil and not nuclear materials, is illustrative of what can occur in the case of a transport accident at sea. In 1978, *Amoco Cadiz*, a Liberian-registered supertanker operated by a US oil company ran aground causing a large oil spill off the coast of Brittany in France. French Government authorities and private parties brought lawsuits in the United States to recover for oil pollution damages and cleanup costs (presumably because they viewed American courts as providing a more favourable forum). They also sued the German company whose salvage tugboat had failed in its attempt to assist *Amoco Cadiz*. The US court decided to apply US law, despite the fact that the injury occurred in French territory and both France and Liberia (an MC Contracting Party) were parties to the 1969 International Convention on Civil Liability for Oil Pollution Damage (which should have made French law applicable). Fourteen years of litigation ended in 1992 with a total award to claimants of USD 206 million, while the limit under

the 1969 Oil Pollution Convention would have been USD 14.6 million. If the United States had been a party to that Convention, its provisions would have been binding on US courts under the US constitutional provision that makes treaties the supreme law of the land. The reason for this decision was that, although this Convention provides for strict liability channelled to the shipowner, this liability is limited to a very unrealistic level inappropriate to the Amoco Cadiz pollution case. In the light of the liability limits available in some European states (*e.g.* Germany) for nuclear accidents in the course of carriage of nuclear material, (which could have much more severe effects than oil pollution) it is not unlikely that a US court would judge similarly in respect of foreign victims claiming compensation directly from suppliers of the nuclear material involved, or other potential wealthy parties involved or related to the carriage. Since in respect of such an oil spill, victims succeeded in forum shopping, the risk that they would attempt to do so and succeed seems even higher in respect of nuclear transport accidents.

10. *Hypothetical Examples*

To illustrate the complexities of nuclear transport cases, we provide a few examples of situations that could occur:¹⁰

Example 1 – Shipment of Spent Fuel Within France

Example 1 assumes a release of nuclear material as the result of an accident involving a rail shipment within the boundaries of France of spent nuclear fuel from a nuclear power plant to a reprocessing plant. In this scenario, any claims for damages should be heard in French courts, which should apply France's domestic nuclear liability law (which does not add to the transport provisions of the Paris Convention). Unless a contract with the reprocessing plant provides otherwise, the power plant operator should be liable for all nuclear damages up to a maximum of FRF 150 million. France has no special provision for preventive measures or environmental damages.

10. Our examples provide only general conclusions about how particular factual situations probably would be addressed. Given the complexities involved, they should not be relied upon as definitive legal opinions as to how liability for actual nuclear incidents would be handled.

Example 2 – Shipment of Spent Fuel from Belgium to France

Example 2 assumes a release of nuclear material as the result of an accident within Belgium involving a rail shipment of spent nuclear fuel from a Belgian nuclear power plant to a French reprocessing plant. In this scenario, both Belgium and France are parties to the Paris and Brussels Supplementary Conventions. Any claims for damages should be heard in Belgian courts, which should apply the Paris Convention. Unless a contract with the reprocessing plant or the carrier provides otherwise, the Belgian power plant operator should be liable for all nuclear damages up to a maximum of BEF 4 billion. Under the Brussels Convention, there also would be State funds up to a total of 300 million SDRs available. Damage to the means of transport would be covered under Belgian law, as long as compensation therefor did not reduce the liability of the power plant operator so as to bring it below BEF 4 billion.

Example 3 – Shipment of Spent Fuel from Ukraine to Russia

Example 3 is a nuclear release within Ukraine during rail transport of spent nuclear fuel from a Ukrainian nuclear power plant to a reprocessing plant in the Russian Federation. In this scenario, the power plant operator would be liable (up to the current Ukrainian limit of 50 million SDRs) up to the moment when the cargo is transferred to an authorised person at the Russian-Ukrainian border, unless the Russian reprocessing plant operator had accepted liability for the transportation under the terms of a written agreement. Claims would be subject to the exclusive jurisdiction of Ukrainian courts. Note that Ukraine is a party to the Vienna Convention, and has a comprehensive domestic nuclear liability law, which requires that the moment at which liability is transferred shall be specified in an agreement between shipper and receiver. Russia has adopted neither the Vienna Convention nor a domestic nuclear liability law. Thus, if the same accident were to occur across the border within Russia's territory, it is unclear how any liability arising from it would be addressed.

Example 4 – Shipment of Spent Fuel from Hungary to Russia

Example 4 is similar to Example 3. If there were to be a nuclear release within Hungary during rail transport of spent nuclear fuel from a Hungarian nuclear power plant to a reprocessing plant in the Russian Federation, the Hungarian nuclear liability law would place liability on the power plant operator. For transport accidents, the Hungarian operator's liability limit is 5 million SDRs. (Nuclear damage in excess of this amount is compensated by the Hungarian State up to 300 million SDRs.) If the accident

occurred while the shipment were passing through Slovakia, Poland or Belarus, the provisions of the Vienna Convention would apply, since Hungary and each of those three nearby countries are parties thereto. In that case, the Slovak, Polish or Belarussian court would have jurisdiction, with liability still placed on the Hungarian power plant operator. If the same accident were to occur within Russia's territory, it again is unclear how any liability arising from it would be addressed.

Example 5 – Shipment of MOX Material from Russia to United States

Example 5 is a shipment of mixed-oxide material from a Russian Federation plutonium facility to MOX fuel fabricator in the United States. This material probably would be transported by air. Once the shipment reached the "territorial limits" of the United States, it would be covered by nuclear liability coverage applicable to the US MOX fuel fabricator. Within Russia, it is unclear how liability would be addressed since Russia has not adopted a domestic nuclear liability law, and has not ratified the Vienna Convention. Liability coverage for any nuclear incident that might occur outside the territorial limits of either Russia or the United States is unclear, since neither country is party to any international nuclear liability convention.

Example 6 – Shipment of MOX Fuel from France to Japan

Example 6 is a sea shipment of mixed-oxide fuel from a French fuel fabricator to a Japanese nuclear power plant. Japan is not a party to any international nuclear liability convention. Therefore, even though France is party to the Paris Convention, it is doubtful its provisions would apply after the ship left European territorial waters. Japan has taken the position that it would provide compensation for nuclear damage during international high-seas transport in accordance with Japan's domestic nuclear liability law. That law provides the nuclear plant operator is exclusively and strictly liable for nuclear damage. Japan does not place a monetary limit on the liability of its nuclear installation operators. It would therefore not be unlikely that international victims would claim compensation for damage occurring in the course of maritime carriage from the French fuel fabricator under the rules of the Paris Convention [Art. 4(a)(iv)] or the Law of the Sea Convention, even if this would have been contractually prevented.

Example 7 – Shipment of Enriched Uranium from US to Germany

Example 7 is an accident involving sea shipment of enriched uranium from an enrichment plant in the United States to a fuel fabrication facility in Germany. At the present time, there would be coverage under the Price-Anderson Act for the shipment until it reached the “territorial limits” of the United States. Similarly, there would be coverage under the German domestic nuclear liability law after the shipment reached the “territorial limits” of Germany. The difficult issue is what law and coverage would apply while the shipment is in transit between the United States and Germany, *i.e.* in the high seas or Netherlands territory.

Example 8 – Shipment of Enriched Uranium from the Netherlands to China

Example 8 is an accident involving sea shipment of enriched uranium from an enrichment plant in the Netherlands to a fuel fabrication facility in the People’s Republic of China. The Dutch nuclear liability law (and the Paris Convention) would cover the shipment while within Dutch territory. Again, the difficult issue is what law and coverage would apply while the shipment is in transit between the Netherlands and China. At this point, it is unclear, and would be dependent upon the elements we listed at the beginning of this paper. Additionally, liability within China is unsettled, because the 1986 State Council Reply does not address nuclear liability associated with transport.

11. Conclusions and Recommendations

The hypothetical examples we have given illustrate the lack of uniformity in laws governing nuclear transport accidents. Harmonising nuclear liability protection and applying it to additional international shipments would be facilitated by more countries being in treaty relations with each other as soon as possible. Adherence to an international convention by more countries (including China, Russia, the United States, etc.) would promote the open flow of services and advanced technology, and better facilitate international transport. The conventions protect the public, harmonise legislation in the participating countries, and promote the safer use of nuclear energy. American, Dutch and other Western contractors have become accustomed to the nuclear liability conventions’ common principles: channelling of liability, absolute liability, liability limited in amount, liability limited in time, a single competent court to adjudicate claims, compulsory financial security, and non-discrimination based on nationality, domicile, or residence. In the last few years, Armenia, Belarus, Bulgaria, the Czech Republic, Estonia, Hungary,

Latvia, Lithuania, Macedonia, Poland, Romania, Slovakia, Slovenia, and Ukraine have acceded to the 1963 Vienna Convention. Romania became the first to ratify the Protocol to Amend the Vienna Convention in December 1998. However, some of these have not adopted domestic implementing legislation or established limitations of liability at levels much beyond the USD 5 million Vienna Convention minimum set in 1963.

The revisions to the Vienna Convention and the drafting of the unnecessarily complicated CSC took eighteen sessions over five years. Instead of spending the next several years debating technical modifications to the 1960 Paris Convention, its Contracting States should simply prepare a revision that would bring the Paris Convention into full conformity with the 1997 Vienna Convention and CSC. This process should not be allowed to go on for years. Making conforming revisions should not be difficult to accomplish, since most of the government representatives now beginning to consider Paris Convention modifications participated actively in the protracted negotiations on the revisions of the Vienna Convention and the development of the CSC. Alternatively, the Paris Convention States could simply join the new Vienna Convention and CSC. Either alternative would much more rapidly bring about greater harmony in a larger geographical area, eliminate the need for both a new Joint Protocol and the Brussels Supplementary Convention, and thereby bring about greater protection for potential victims of a nuclear accident.

This international symposium is on “Reform of Civil Nuclear Liability.” More than a decade already has passed since the Chernobyl accident. Further delay in implementing a truly international nuclear liability regime is contrary to the interests of us all – governments, suppliers, environmentalists and potential victims alike. The CSC represents a good opportunity for more States to enter into treaty relations with each other in the near term. This is because a State is eligible to join the CSC if it is a member of the Vienna Convention, the Paris Convention or meets the conditions prescribed by the CSC Annex. Although the ratification of the Joint Protocol would have a similar effect (without including the US and about one-fourth of the world’s nuclear power plants), it does not ensure a comparable comprehensive coverage of damages as the CSC and the Vienna Protocol, which ensure the protection of victims of environmental damage or maritime casualties occurring in the EEZ. The United States has signed the CSC because it recognises the benefits of treaty relations, without the necessity to change its national nuclear liability regime in order to be eligible to join either the Vienna or Paris Convention. Although this exception is in fact confined to the US situation (and States that can meet the requirements of the Annex), as pointed out above, the CSC also has particular benefits for transport activities because it covers accidents in a member’s EEZ, thereby increasing protection for shipments by sea.

In conclusion, it is difficult to grasp and predict all the ins and outs of liability associated with international nuclear transport. Fortunately, in the case of transport, the lacunae not filled by domestic laws or the international conventions are off-set by the fact that nuclear transport does not present as great a potential nuclear risk to the public as some fixed facilities. This may only minimise transboundary damages and the number of non-domestic claimants to a certain extent. However, transporting nuclear materials by its nature typically involves a shipment traversing different jurisdictions in which, as we have shown, the applicable nuclear liability regimes can be significantly different. Without greater adherence to the new Vienna Convention and the CSC, any transport route is likely to be a labyrinth of statutes and treaties not yet interpreted by the courts, and damage to the marine environment would certainly be left uncompensated under the 1960 Paris or 1963 Vienna Convention regimes. The recent trend in the enhancement of principles of environmental law and protection would certainly not tolerate such situation for very much longer. If tested in court, this might result in a deviation from the existing rules of the Vienna and Paris Conventions. It would be wiser to control this *a priori* by adhering to a modernised nuclear liability regime as the CSC and the Vienna Protocol with all the benefits of legal certainty, rather than allowing jurisprudence to supersede (at random) the legal facts.

**INTERCONTINENTAL NUCLEAR TRANSPORT FROM THE
PRIVATE INTERNATIONAL LAW PERSPECTIVE**

**TRANSPORT INTERCONTINENTAL DANS UNE PERSPECTIVE DE
DROIT INTERNATIONAL PRIVÉ**

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Résumé

L'auteur au début de la présente Communication précise qu'il entend se concentrer sur la question cruciale de la responsabilité civile, en laissant de côté les questions liées aux relations contractuelles ainsi qu'aux dommages causés aux travailleurs exposés ou encore au moyen de transport. Il note également en ouverture que l'action d'unification du droit réalisée par les Conventions nucléaires souffre d'un certain nombre d'exceptions dans des situations concrètes dont il offre quelques exemples.

L'auteur analyse d'abord les règles des Conventions de Paris et de Vienne sur la responsabilité en matière de transports internationaux, en signalant que celles-ci peuvent être mises en échec en raison des limitations apportées à leur application territoriale. Il signale également l'effet de « recanalisation » de la responsabilité nucléaire opéré par certaines conventions internationales, notamment la Convention de Bruxelles de 1971. À défaut, il convient cependant de se reporter aux règles du droit international privé pour déterminer le droit applicable.

La partie suivante du rapport consiste en une étude des normes internationales sur le choix des règles de droit de la responsabilité quasi-délictuelle, en examinant la situation en Amérique du Sud et en Europe, notamment la Convention de Rome. Il passe ensuite à l'étude des règles applicables en l'espèce au Royaume-Uni, aux États-Unis, en France, en Allemagne, en Autriche et en Suisse. Cette étude s'étend aussi aux solutions prévues pour la législation de la Chine, de l'Inde et de la Russie. Au terme de cette analyse, il observe que la règle dominante est celle de la *lex loci delicti* mais que celle-ci n'est vraiment efficace que lorsque les différents éléments sont concentrés dans un seul pays, ce qui n'est pas nécessairement le cas pour les transports nucléaires internationaux. À défaut, la solution qui semble l'emporter est celle du droit du lieu d'exercice de l'exploitant ou le droit du lieu où le dommage a été subi. L'auteur observe un recul de la solution consistant à cumuler l'application des diverses lois en présence ou à appliquer le principe de la loi la plus favorable aux victimes en raison des difficultés pratiques que cela implique.

La dernière partie de l'exposé est consacrée à la question de la juridiction compétente en matière de dommages résultant de transports nucléaires internationaux. L'auteur observe que le choix de la juridiction compétente a une influence significative sur la détermination du droit applicable, en étudiant en particulier la situation en Europe – notamment les dispositions des Conventions de Bruxelles et de Lugano – et aux États-Unis.

1. Introduction

Intercontinental nuclear transports pose a number of questions which could be addressed under the perspective of private international law. The following remarks will, however, concentrate on liability for damage to third parties through such transports and on the private international law rules relating to these cases. For third party liability is the crucial question of international nuclear energy law. I therefore leave aside any choice of law problems concerning contractual or tortious relations between operator and carrier or concerning injuries of the transporting personnel or damage to the means of transportation. I include, however, nuclear transports across borders and not just those between continents.

In the field of international nuclear energy law, we are used to the fact that international conventions govern. Where such uniform law exists, there is normally no need for private international law rules, which come into play only when a choice between different laws of different countries must be made because one of these laws has to be applied to the case at hand. But here, as in other cases of present international unification of law, we have to cope with the fact that for various reasons a considerable number of cases remain outside the unification and continue to depend on choice of law rules.

2. Some facts

No full statistical data concerning nuclear cross-border transports seems to be available.¹ On a world-wide basis, a figure of about 10 000 international nuclear transports each year is reported.² For example, in Germany during 1998, 525 nuclear transports took place, of which 399 were transborder transports.³ There seems also to be a lack of exact data on how many of the international nuclear transports are by ship, by air or by land and how many are intercontinental in the strict sense. It can be assumed that shipment of nuclear material by land is by far the most frequent method of transport. This is also supported by figures released by shipping circles in 1996

1. Oral notice of the IAEA.

2. Oral notice of the German Ministry for Environment, Environmental Protection and Safety of Reactors, for 1985, 23 000 national and international nuclear transports were reported: Oehm, in: Pelzer (ed.), *Friedliche Kernenergienutzung und Staatsgrenzen in Mitteleuropa* (1987) 322.

3. Notice of same Ministry.

according to which countries like Sweden or the United Kingdom conduct about 10 ship voyages with nuclear material a year and the US probably twice or three times that figure.⁴ It is further reported that for example about 15 nuclear transports go through the Panama Canal every year.⁵ Judging by the total number of nuclear energy nations, it can roughly be estimated that there are some 100 nuclear maritime transports each year..

Despite the considerable number of international nuclear transports, so far no incidents leading to injury of persons or damage to property due to the nuclear risk have been reported.⁶ There appears also to be no published court decisions dealing with liability for specific nuclear damage caused by international nuclear transports. Even in the case of “normal” collisions or other accidents of vehicles transporting nuclear material, no nuclear damage was caused due to safe packaging of the material.⁷ Thus far this is a remarkable safety record of nuclear transports.

3. Potential factual situations

As just mentioned, safety precautions have prevented nuclear incidents occurring through international nuclear transports so far. And hopefully any such incident can also be avoided in the future. Nevertheless, the risk of an incident is always inherent and cannot be excluded with absolute certainty. As far as the territorial range of such a hypothetical incident is concerned, the potential factual situations are the following:

- An international nuclear transport incident, be the means of transportation either ship, truck, train or aeroplane, could occur on the territory of a national state and cause damage there or in neighbouring countries.

4. Pedrozo, *Transport of Nuclear Cargo by Sea*, 28, *Journal of Maritime Law and Commerce*, 207, 210s.

5. Pedrozo, 210.

6. Notice of the German Ministry; also Pedrozo 210s (for maritime transports); Oehm, in: Pelzer, No. 2, 322.

7. This was even true in the case of the wreckage of the French vessel Mont-Louis which transported nuclear material; see the remarks by Rocamora and Deprimoz, in: *Nuclear Third Party Liability and Insurance* (Munich Symposium, 1984, ed. by the OECD 1985) 192; see further Pedrozo 212ss.

- An incident could also occur outside any national territory, namely on or over the high seas by ship or plane, and cause damage either to others on or over the high seas or to persons and property located in coastal or other states. In particular intercontinental transports could produce this situation.

And a comparable situation is given when it remains uncertain exactly in which country an incident, for example an air crash, occurred.

The last situation is that third parties on board a means of transportation, particularly passengers on board a ship or plane, are injured or that their property is damaged. Again this can happen on or over a country's territory or outside any territorial waters or airspace.

For all these different situations, the international legal community must be prepared to answer which law should apply, who would be liable and to what extent liability would exist.

4. The nuclear conventions and international nuclear transports

The nuclear liability conventions address the case of damage through nuclear transports [Article 4 of the Paris Convention; Article II (1) (6) and (c) of the Vienna Convention].⁸

Their basic solution is ingeniously simple: the operator of the nuclear installation from or to which the material is transported is liable for any damage ensuing from the transport. Nevertheless, this solution suffers from two decisive shortcomings: First, the territorial scope of application of the Paris and Vienna Conventions is limited. In principle both Conventions apply neither to nuclear incidents which occur on the territory of a non-convention state nor to damage which is suffered in such a state.⁹ But under the Paris Convention, a Convention State may legislate otherwise.¹⁰ Furthermore the Steering Committee of the NEA recommended that the Paris Convention should be applied even "to nuclear incidents occurring on the high seas or to damage suffered on the high

8. The same solution is indirectly followed by Article III(3) of the Joint Protocol and Article II(2) of the Convention on Supplementary Compensation for Nuclear Damage.

9. Articles 2 and 4 of the Paris Convention and *Exposé des motifs* No. 28; Article II(b) and (c) of the Vienna Convention.

10. Articles 2 and 6(d).

seas”.¹¹ Nonetheless where transports between non-convention states or mere transits through convention states are concerned the conventions cannot be invoked.¹² Secondly, it has to be taken into account that the nuclear conventions have been ratified by only some of the nuclear states. Therefore, many international nuclear transports fall outside the scope of either of the conventions, which simply do not apply.

Even where one of the Conventions applies, some difficulties are created by the fact that the Paris Convention¹³ and the Vienna Convention¹⁴ give leeway to the regulations of any international transportation convention which “at the date of this Convention”¹⁵ was in force or open for acceptance. Thus, the principle of the nuclear conventions of channelling liability onto the operator is abandoned: the carrier is also liable although only to the extent provided for by the respective transportation convention. It is, however, uncertain which impact on the channelling principle any amendment of the ‘old’ transportation conventions or the creation of a new one has.¹⁶ Moreover for nuclear shipments by sea the Brussels Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material of 17 December 1971, has “re-channelled” liability onto the operator.¹⁷ The same “re-channelling” effect is achieved by “nuclear clauses” in the international railway conventions of 7 February 1970 concerning the carriage of goods by rail (CIM)¹⁸ and the carriage of passengers and luggage by rail (CIV)¹⁹ which are now annexes to the Convention concerning International Carriage by Rail (COTIF).

Summarising the conventional situation for international nuclear transports the following can be stated. The nuclear liability conventions cover

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11. Recommendation of 25 April 1968 [Ne/M (68)1].
 12. See Fischerhof (-Pelzer), *Deutsches Atomgesetz und Strahlenschutzrecht. Kommentar*. Vol. I (2nd ed. 1978) Art. 4, No. 5; Haedrich, *Atomgesetz mit Pariser Atomhaftungs-Übereinkommen* (1986) Art. 4, No. 7s.
 13. Article 6(6).
 14. Article II(5).
 15. This date was 29 July 1960 for the Paris Convention, see also Fischerhof (-Pelzer) Art. 6 No. 4; and 21 May 1963 for the Vienna Convention.
 16. As to the difficulties see Fischerhof (-Pelzer) Art. 6, No. 4; Haedrich Art. 6, No. 5.
 17. See Article 1 of this Convention.
 18. Article 64 CIM.
 19. Article 63 CIV.

only a limited number of nuclear transports and even if the conventions apply, problems concerning the interplay with the transportation conventions remain. It is doubtful whether the territorial scope of application of the nuclear conventions could be extended any further. However, the nuclear conventions could be given general priority over the transportation conventions. But even such an extension would provide no remedy against non-ratification of the nuclear conventions by which a considerable number of nuclear states still abides.

Thus, for all international nuclear transport cases outside the scope of the nuclear conventions and also outside the scope of specific transportation conventions like the Brussels Convention on Ship Collisions of 23 September 1910, private international law rules are needed in order to determine the applicable law concerning liability for transport incidents.

5. Choice of law rules for international nuclear transports

When surveying the different choice of law for damage caused by international nuclear transports, it has to be stated at the outset that with the exception of Austria (see below 5.2.5), nowhere do specific conflict rules for these cases seem to exist. Therefore in principal the general choice of law rules on tort apply.

The following text tries to give a survey of the various solutions in private international tort law for the different factual situations cited above. For that purpose, first, attempts to unify these rules must be pursued; then a number of national solutions shall be reviewed.

5.1 *Uniform conflict rules on tort*

So far no world wide regulations exist which unify the choice of law rules concerning international torts. Only regional attempts of unification can be observed.

5.1.1 South America

In South America, the *Codigo Bustamante* of 1928 and the Treaty of Montevideo on Private International Law of 1940 both chose as governing law the law of the place where the tortious act was committed.²⁰

5.1.2 Europe

In Europe, the European Community started attempts to unify the private international tort law already in the late 60s. This initiative led in 1972 to a Preliminary Draft of what is now the Rome Convention on the Law Applicable to Contractual Obligations.²¹ The Preliminary Draft already contained conflict rules on international torts. They were based on the *lex loci delicti* maxim leaving it, however, open whether the *lex loci* was the law of the place where the tort was committed or where the damage occurred.²² But anyhow, questions relating to damage or injury in the nuclear field were explicitly excluded from the Draft.²³

The final version of the Rome Convention restricted itself for various reasons to contractual obligations only. But in 1996, the European Union resumed its efforts when a working group was instituted to prepare a convention on the law applicable to non-contractual obligations (so called Rome II Convention). So far, no draft has been published but the (private) European Group for Private International Law has put forward a Proposal²⁴ which recommends that the most closely connected law should govern international torts.²⁵ A number of presumptions are formulated which specify the closest connection: where tortfeasor and victim have their habitual residence in the same country or where, in the absence of such common residence, conduct business in that country, and damage occurred in the same country the law of that country is presumed to apply.²⁶ The Proposal establishes no presumption

20. Article 43 of the Montevideo Treaty on Private International Law of 1940.

21. See on the Draft Lando/von Hoffmann/Siehr, *European Private International Law of Obligations*, (1975).

22. Article 10(1) Preliminary Draft Convention.

23. Article 1(2)(f) Preliminary Draft Convention.

24. The Proposal is published in *Netherlands International Law Review*, XLV (1998) 465ss.

25. Article 3(1) of the Proposal.

26. Article 3(2) and (3) of the Proposal.

for the international distant tort when the harmful act occurs in one country and the damage is suffered in another provided the parties have no habitual residence in the same country.

Moreover, like the 1972 Preliminary Draft, the Proposal excludes cases of nuclear damage from the scope of its application.²⁷

5.1.3 *Evaluation*

The regional attempts to unify private international tort law offer no specific solution on the question as to which law should govern the liability for international nuclear transportation incidents. They also provide little help in cases of distant torts where tortious act and damage occur in different countries - a situation which nuclear incidents are more likely to produce than almost all other causes of damage.

5.2 *National conflict rules on torts*

5.2.1 *United Kingdom*

The legislation of the United Kingdom does not provide any specific choice of law rule for cases of nuclear transport damage. Therefore, the general international tort rules apply. They have been codified in 1995 by the Private International Law (Miscellaneous Provisions) Act 1995. The general rule is now that the law of the country governs “in which the events constituting the tort or delict in question occur”²⁸ that means the *lex loci delicti*.²⁹ Where elements of the tort occur in different countries (distant torts) then the law of that country applies where the person or property was when injured or damaged.³⁰

An escape clause allows respect for a substantially more significant connection with another system of law.³¹

27. Article 1(2)(d) of the Proposal.

28. Sec. 11(1) Private International Law (Miscellaneous Provisions) Act.

29. Dicey/Morris, *The Conflict of Laws*, 2 vol. (12th ed. 1993), Suppl. 1997, 257.

30. Sec. 11(2)(a) and (b) of the said Act.

31. Sec. 12 of the cited Act.

No provision exists for damage occurring on the high seas. In that case, when persons on another ship are injured or their property or the other ship is damaged, English courts apply English law.³² The same is probably true when aircraft in non-territorial space are involved.³³

Torts in territorial waters or airspace are likely to be governed by the law of the respective country,³⁴ although there is little or no case law on these questions. When passengers on board a ship or aircraft are injured or when their property is damaged, probably the law of the flag of the ship or the law of the place of registration of the plane has to be applied.³⁵

A possible *renvoi* is disregarded by British courts.³⁶

The precited rules concern the cause of action and refer to the conditions under which compensation can or cannot be claimed.³⁷ The mere quantification or assessment of the amount of damages is considered to be of a procedural nature. It is governed by the *lex fori*.³⁸ All cited rules are likely to apply equally to cases of international nuclear transports and nuclear damage thereby caused.

5.2.2 USA

The jurisdictions of the individual states also started out from the *lex loci delicti* principle. But since the 60s, the so called “American conflicts revolution” took place which in particular concerned tort cases both of interlocal and international nature.³⁹ The change has primarily been one in

32. The Esso Malaysia [1975] Q.B. 198.

33. Dicey/Morris, Suppl. 1997, 255.

34. Dicey/Morris, Suppl. 1997, 253, 256.

35. Dicey/Morris, Suppl. 1997, 249, 255 (although expressing some doubts).

36. Dicey/Morris, Suppl. 1997, 227.

37. See already sec. 11(1) Private International Law (Miscellaneous Provisions) Act.

38. Kohnke v. Karger [1951] K.B. 670; Coupland v. Arabian Gulf Oil Co. [1983] W.L.R. 1136; Dicey/Morris, Suppl. 1997 244.

39. See especially Babcock v. Jackson, 191 N.E. 2d 279 (N.Y. 1963); Reich v. Purcell, 432 P. 2d 727 (Cal. 1967); see further Rosenberg/Hay/Weintraub, *Conflict of Law. Cases and Material* (10th ed. 1996) 520ss.; Scoles/Hay, *Conflict of Laws* (2nd ed. 1994, Suppl. 1995) 570ss.

method. Instead of determining the applicable law by single and fixed factors – like the place where the tort was committed or where the damage occurred – a flexible approach is followed: the applicable law is now determined after weighing all relevant factors. This is best reflected by §145 (1) of the American Restatement Second on Conflict of Laws – a (private) codification of the American Law Institute – which states that the tort law should be applied, which “has the most significant relationship to the occurrence and the parties”. In determining the most significant relationship a long list of possible factors and contacts are to be taken into consideration. Section 6 (2) of the Restatement enumerates the following factors:

- “ (a) the needs of the interstate and international systems;
- (b) the relevant policies of the forum;
- (c) the relevant policies of other interested states and the relative interests of those states in the determination of the particular issue;
- (d) the protection of justified expectations;
- (e) the basic policies underlying the particular field of law;
- (f) certainty, predictability and uniformity of result; and
- (g) ease in the determination and application of the law to be applied.”

Section 145 (2) of the Restatement adds the following contacts:

- “ (a) the place where the injury occurred;
- (b) the place where the conduct causing the injury occurred;
- (c) the domicile, residence, nationality, place of incorporation and place of business of the parties; and
- (d) the place where the relationship, if any, between the parties is centered.

These contacts are to be evaluated according to their relative importance with respect to the particular issue.”

The results of the application of this weighing conflicts approach can never easily be forecasted.⁴⁰ Nevertheless it seems likely that any damage suffered in the USA or by US citizens – even on or over the high seas – resulting from international nuclear transport would be decided by US courts in accordance with the tort law of the relevant state.⁴¹

Where (nuclear) damage results from a collision on the high seas it is probable that US courts would apply the *lex fori*⁴². The same solution seems likely for aeroplane accidents over the high seas.⁴³

As in the United Kingdom, the US courts disregard a possible *renvoi*.⁴⁴

5.2.3 France

In France, statute gives but little guidance as far as private international tort law is concerned. The rather unspecific art. 3 *Code civil* (“*les lois de police et de sûreté obligent tous ceux qui habitent le territoire.*”) is taken to provide that the place of tort determines the applicable law.⁴⁵

40. See the numerous decisions cited in Scoles/Hay 607ss.

41. See the empirical study of Borchers, *The Choice-of-law Revolution: An Empirical Study*, 49 Wash. & Lee L. Rev. 357ss (1992) concerning the application of the general choice of law rules for international torts. Compare further s. 146 and s. 147 Restatement Second on Conflict of Laws: under these provisions the state of the injury prevails unless closer contacts point to another state’s law.

42. For ‘normal’ collisions compare *Hess v. United States* 361 US 314 (1960); *Commonwealth of Puerto Rico v. SS ZOE Colocotroni*, 456 F. Suppl. 1327 (D. Puerto Rico 1978); also Scoles/Hay 655.

43. Leflar/Mc Dougal III/Felix, *American Conflicts Law* (4th ed. 1986) 397.

44. *E.g.* *Patch v. Stanley Works (Stanley Chemical Co. Div.)*, 448 F. 2d 483 (1971); see also §8 Restatement Second on the Conflict of Laws.

45. Battifol/Lagarde, *Droit international privé*, vol. 1 (8th ed. 1995) n. 284 s.

In fact, the basic principle of French international tort law as developed by the courts and legal doctrine is the *lex loci delicti* doctrine.⁴⁶ In cases of torts with elements in different countries, the French courts tend to apply the law of the place where the damage was sustained.⁴⁷ It is open to debate whether this rule was changed by a recent decision of the Cour de Cassation.⁴⁸ There the court held that both places – where the tort was committed and where the damage occurred – could be considered as place of tort. But since in the instant case both places were located in France the statement could be understood as a mere *obiter dictum*.

Where ships or aeroplanes collide outside territorial boundaries the *lex fori* of the seized court decides all questions concerning tort liability.⁴⁹ Where on the other hand a tort is committed and damage sustained on board a ship or aeroplane outside territorial waters or airspace, then the flag of the ship or plane determines the applicable law.⁵⁰

Contrary to the English and American position, French courts seem to follow a *renvoi* of the foreign law.⁵¹

46. Cass., 25 May 1948, Rev. Crit. 1949, 89 note Batiffol; Cass. 1 June 1976, J.D.I. 1977, 91 note Audit; see also *Audit, Droit international privé* (1991) No. 775; Batiffol/Lagarde No. 284s.; Loussouarn/Bourel, *Droit international privé* (5th ed. 1996) No. 179s.; Mayer, *Droit international privé* (5th ed. 1994) No. 678.

47. E.g. Cass. 8 February 1983, J.D.I. 1984, 123 note Légier; now Cass. 11 May 1999, JCP 1999, 1010 (Scottish law for the wreckage of an oil platform in Scottish waters); but contra, e.g. Trib. Seine 22 June 1967, J.D.I. 1968, 356; Paris 18 October 1955, R.C. 56.484; see further Audit No. 777; Loussouarn/Bourel No. 401.

48. Cass. 14 January 1997, Rev.Crit 1997, 505 note Bischoff.

49. Cass. Com. 9 March 1966, D. 1966, 577 note Jambu-Merlin; also Audit No. 778 (with criticism); Batiffol/Lagarde vol. 2 (7th ed. 1983) No. 560; Loussouarn/Bourel No. 400.

50. Audit No. 778; Batiffol/Lagarde No. 560.

51. Pau, 21 June 1981, D. 1981, 569 note Agostini; see further Loussouarn/Bourel No. 218ss.

5.2.4 Germany

As in France, in Germany it was also the task of the courts to develop choice of law rules for torts since statute gave almost no guidance until very recently.⁵² According to these judge-made rules, international torts are primarily governed by the *lex loci delicti*: the law of the place where the tort occurred has to be applied.⁵³ If the places where the tortfeasor acted and where the damage was suffered are located in different countries then the victim can choose between these different laws and, in the absence of any choice, the law most favourable to the victim has to be applied.⁵⁴ This general rule is, however, superseded when the occurrence is more closely connected with another law than that of the *locus delicti*. This has been held to be the case, *e.g.* when both tortfeasor and victim are citizens of the same state and have also their habitual residence in that state. Then this state's law applies.⁵⁵ It is most likely that habitual residence in the same state now suffices that the law of that state governs.⁵⁶ Where torts occur on board a ship or aeroplane on or over the high seas it is common ground that the law of the flag or national emblem of the vehicle involved governs these cases.⁵⁷ Equally, collisions of ships or aeroplanes outside territorial boundaries are governed by the law of the flag or national emblem when all vehicles involved fly the same flag or national

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52. Until 1 June 1999, Art. 38 of the Introductory Act to the Civil Code (EGBGB) provided merely that German tortfeasors could not be made liable under foreign law to a larger extent than provided for by German substantive tort law. A further regulation of 1942 provided that foreign torts between German citizens were governed by German law (§1 Rechtsanwendungsverordnung).
53. Bundesgerichtshof (BGH – the Federal Court) BGHZ 57, 265; BGHZ 119, 139.
54. BGH NJW 1964, 2012; BGH NJW 1981, 1606.
55. BGHZ 57, 265; BGHZ 90, 294.
56. BGHZ 119, 137 (a case of a motoraccident in Turkey between Turkish citizens which had their habitual residences in Germany where also the car was registered: German law applied); see further Palandt (-Heldrich), Bürgerliches Gesetzbuch (58th ed. 1999) Art. 38 EGBGB No. 9; von Staudinger (-von Hoffmann), *Kommentar zum Bürgerlichen Gesetzbuch mit Einführungsgesetz und Nebengesetzen* (13th ed. 1998) Art. 38 EGBGB No. 130.
57. OLG Hamburg, IPRspr 1935-44 No. 89; Münchener Kommentar zum Bürgerlichen Gesetzbuch (-Kreuzer), vol. 10 (3rd ed. 1998) Art. 38 No. 170; von Staudinger (-von Hoffmann) Art. 38 No. 348.

emblem.⁵⁸ In the case of different flags, the prevailing view is that law of the flag that is more favourable to the injured party has to be applied.⁵⁹ Under German law the parties can afterwards choose the applicable tort law.⁶⁰

German courts generally recognise a *renvoi* of the applicable foreign law.⁶¹

Since more than a decade, attempts had been undertaken in Germany to codify the private international tort rules. Since 1 June 1999, an Act on Private International Law for Extracontractual Obligations and Property,⁶² which codifies the judge-made rules for international torts (with slight modifications) is in force. In general, the law of the place where the tortfeasor acted applies.⁶³ The injured party may, however, demand within a specified time that the law of that place where the damage was sustained is applied.⁶⁴ Where tortfeasor and victim have their habitual residences in the same state, that state's law governs the case⁶⁵ and a substantially closer connection to another law leads to the latter's applicability.⁶⁶ All other judge-made rules mentioned above remain unchanged.

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58. RGZ 49, 182; Münchener Kommentar (-Kreuzer) Art. 38 No. 162; Palandt (-Heldrich) Art. 38 EGBGB No. 20; von Staudinger (-von Hoffmann) Art. 38 No. 335.
 59. RGZ 138, 243; OLG Hamburg VersR 1975, 761; von Staudinger (-von Hoffmann) Art. 38 No. 338s. Others favor the law of the defendant (Palandt [-Heldrich] Art. 38 EGBGB No. 20) or the *lex fori* (Roth/Plett, Rabels Z 42 [1978] 662, 691ss).
 60. BGH IPRax 1982, 13 note Kreuzer 1 ss; BGHZ 98, 263, 274.
 61. OLG Hamm VersR 1979, 926; OLG Köln NJW-RR 1994, 96; OLG München NJW-RR 1996, 1179.
 62. BGBI 1999, I 1026.
 63. Art. 40(1) (1) which is included by the new Act into the Introductory Act of the Civil Code (EGBGB).
 64. Art. 40(1) (2) and (3).
 65. Art. 40(2).
 66. Art. 41.

5.2.5 Austria

As already mentioned, Austria seems to be the only country so far that has enacted a particular choice of law rule for nuclear damage. The new Austrian Act on Civil Liability for Damages Caused by Radioactivity⁶⁷ entered into force on 1 January 1999 and replaces the old Act on Civil Liability for Nuclear Damage of 1964. The new Act provides in §23 that nuclear damage suffered in Austria is – at the option of the injured party – governed by Austrian law regardless of where the damaging conduct occurred.⁶⁸ This provision leads to a modification of the general choice of law rule for international torts when the injured person so chooses. Otherwise the general rule applies.⁶⁹ This rule, §48 of the Federal Act on Private International Law of 1978, orders that the law of the country where the tortfeasor acted apply. Where, however, closer connections to the law of another country exist, this country's law applies.⁷⁰ Thus the *lex loci delicti* principle is the starting point. In the case of distant torts where the place of tortious conduct and the place of the occurrence of damage lie in different states, the law of the place of conduct prevails.⁷¹ When strict liability for particular risks is at stake the law of that place where the risk takes place applies.⁷² Before the recent reform it was advocated that in particular in the case of nuclear damage, the law at the place of occurrence of damage should at least be applied when the operator must have been aware of damaging consequences in other countries.⁷³ Torts aboard aeroplanes are governed by the law of the state where the plane is registered⁷⁴ and collisions between planes probably by the law where the plane at fault is registered.⁷⁵ Damage through or

67. BGBl. I Nr. 170/1998.

68. For a detailed discussion of the new Austrian Act see Hinteregger, *Nuclear Law Bulletin* No. 62, P. 27.

69. See Hinteregger loc. cit. 33.

70. See thereon Koziol, *Haftpflichtrecht* vol 1 (3rd ed. 1997) 564ss; Mähnhart/Posch, *Internationales Privatrecht, Privatrechtsvergleichung, Einheitsprivatrecht* (1994) 85ss; Schwimann, *Internationales Privatrecht* (1993) 62s.

71. Koziol I 577.

72. OGH JBl 1983, 380.

73. Koziol I 581; see further idem, RdW 1986, 134.

74. Koziol I 587; Schwind, *Internationales Privatrecht. Lehr- und Handbuch* (1990) 327; Duchek/Schwind, IPR (1979) 107.

75. For details see Lukoschek, *Das anwendbare Deliktsrecht bei Flugzeugunglücken* (1984).

on ships while on the high seas is ruled by the law either of the ship's flag or home port.⁷⁶

On the other hand, collisions of ships on the high seas are governed by the law of the flag of the ship that caused the damage.⁷⁷ As in Germany the parties may choose the applicable tort law.⁷⁸

A *renvoi* of the applicable foreign law must be followed.⁷⁹

5.2.6 Switzerland

Switzerland introduced rather recently a new Federal Act on Private International Law (cited as IPRG) which entered into force on 1 January 1989. The Act regulates international torts in its Art. 129-142 and prescribes a differentiated system of choice of law rules for different torts. The basic principle is still the *lex loci delicti* (Art. 133 [29 IPRG]), but it now functions as a subsidiary rule, only coming into play where no more specific provisions exist.⁸⁰ The place of the tort is then deemed to be where the tort was committed. But the law of the place where the damage occurred applies when the tortfeasor must have foreseen the occurrence of damage there.⁸¹ Where tortfeasor and victim both have their habitual residence in the same state it is, however, the law of this state which decides.⁸² Further specific rules govern traffic accidents, product liability, unfair competition, emissions and invasions of privacy rights⁸³ but neither of them concerns liability for damage caused through international nuclear transports. In these cases, therefore, the general subsidiary rule applies. It seems, however, open to debate which law governs torts committed outside territorial boundaries.

76. See Koziol I 588; Schwind 327.

77. Koziol I 588.

78. §35, Federal Act on Private International Law; also Duchek/Schwind, 83ss, 103; Koziol I 588s.

79. §5, Federal Act on Private International Law.

80. Heini/Keller/Siehr/Vischer/Volken (-Heini), IPRG Kommentar (1993) Art. 133, No. 1.

81. Art. 133(2) IPRG.

82. Art. 133(1) IPRG.

83. Art. 134-139 IPRG.

The parties can choose the applicable tort law after the damage had occurred. But instead of the applicable foreign law they can only choose the *lex fori*.⁸⁴

A possible *renvoi* is to be disregarded.⁸⁵

5.2.7 Survey on other solutions

5.2.7.1 China

China follows the *lex loci delicti* principle.⁸⁶ The place of tort is in principle the place where the tortious conduct was committed. But the court may apply the law of the place where the damage occurred, when the case is more closely connected with this law.⁸⁷ Where the tortfeasor and the victim have the same citizenship or have their domicile in the same state, that state's law may be applied instead of the *lex loci delicti*.⁸⁸ But the foreign tort can be sued upon in China only if it constitutes also a tort under Chinese substantive law.⁸⁹

5.2.7.2 India

In India the courts apply the former English rule of so-called double actionability. The international tort must give rise to an action in the country where the tort issued upon and the tort must not be justifiable in the country where it was committed.⁹⁰

84. Art. 132 IPRG.

85. Von Overbeck IPRax 1988, 329, 332s.

86. §146 (1) *General Principles of Civil Law*.

87. See Young IPRax 1993, 343 ss; Xu Guojian, IntCompLQ 1991, 684ss.

88. §146 (2) *General Principles of Civil Law*.

89. §146 (2) *General Principles of Civil Law*.

90. Paras Diwan, *Private International Law* (3rd ed.) 551ss, 570. Compare also *The Kotah Transport Ltd. v. The Jhalawas Bus Service Ltd.*, 1960 Raj. 224.

5.2.7.3 *Russia*

According to Art. 167 of the Basic Principles of Civil Legislation of the Russian Union of 31 May 1991 international torts are generally governed by the law of the place where the tort was committed.⁹¹

Foreign torts between Russian citizens are decided in accordance with Russian tort law.⁹² Moreover, foreign tort law cannot be applied when the foreign tort would not constitute a wrong under Russian law.⁹³

5.2.8 *Evaluation*

The comparative survey shows a large variety of choice of law rules for international torts, but no specific rules for damage caused through international nuclear transports.

The basic principle in international tort law is the *lex loci delicti* doctrine. But this doctrine produces satisfactory results only in rather simple cases where all tort elements are located in one country. It thus presupposes more or less static and territorially limited risks and sources of damage.

Already in cases of distant torts where tort elements are spread over more than one country, the *lex loci delicti* maxim as such does not state whether the place of a tort is the place where the tortious conduct occurred or where the resulting damage was suffered, let alone the case that the tort occurred outside any national boundaries.

Not surprisingly, different solutions for these situations have been developed depending on whether the tortfeasor's or the victim's interests are deemed to deserve better protection. The set of solutions ranges from a decision for one of the laws involved over a cumulation of the laws concerned to the application of the most favourable law.

A common tendency seems to favour either the law of the place of conduct or the law of the place where damage occurred.⁹⁴ The solution which

91. A Draft on Private International Law Rules in the new Russian Civil Code (as Articles 1223-1262) contains the same rule in Art. 1259(1); German translation in IPRax 1998, 58.

92. Art 167(2) Basic Principles. The present Draft generalises this rule which applies to any two citizens of the same state [Art. 1259(2)].

93. Art. 167(3) Basic Principles; also Art. 1259(3) Draft.

consists of cumulating the different laws is on the decline⁹⁵ as is the solution applying the most favourable of all the laws involved.⁹⁶ In fact, both last-cited solutions lack convincing justifications: they either impede claims (by requiring that two or more laws are observed) or favour the victim (by applying the most favourable law) without good reason. The international dimension alone of a tort cannot justify such far-reaching modifications as compared with the solution of a mere 'national' tort.

In cases of nuclear damage through international nuclear transports, a choice must be made between the law of the place of conduct and the law of the place of damage. It is advocated here that the law of the place where the damage was suffered should be applied. Two reasons militate for this solution. First from the inherent risk of the transport of nuclear material it is clear that an incident can cause damage in distant countries. Any person liable for the transport incident is and must be aware of that fact. Secondly, most likely and most frequently, the place of damage will be where the potential victim has his or her habitual residence, while the place where the hypothetical incident occurs often will be quite accidental and will depend only on the route of transport. Any potential victim, however, relies and is justified to rely on the expectation that the safety standards of his or her country are observed in order not to be damaged. In the case of collisions on or over the high seas the law of the flag or emblem of the vehicle of the injured party should apply. In case of closer connections of both parties to another law this latter should prevail.

6. Jurisdiction in cases concerning damage through international nuclear transports

Since a competent court will apply its own country's choice of law rules, in practical terms, much depends on the question of jurisdiction. It is obvious that by the choice of the forum the applicable law and the final outcome can be decisively influenced. Some short remarks on the issue of jurisdiction are therefore necessary. These remarks are restricted to cases falling outside the scope of the Nuclear Liability Conventions.

94. See also Magnus, *Kollisionsrechtliche Fragen grenzüberschreitender Schäden*, in: Koch/Willingmann (eds.), *Großschäden – Complex Damages* (1998) 129 ss.

95. Abolished now in the United Kingdom but still retained in the Russian Draft of Private International Law Rules.

96. Abolished in the most recent German Draft.

6.1 *Europe*

In Europe, the Brussels Convention on Jurisdiction and Recognition of Judgements of 27 September 1968 and the parallel Lugano Convention of 16 September 1988 achieve far-reaching unification of jurisdiction rules. Neither the Brussels nor the Lugano Convention restricts the jurisdictional provisions of the nuclear conventions (Art. 57 of both the Brussels and the Lugano Conventions), but leaves it untouched. In essence, however, a defendant who is located in a Brussels or Lugano state is not obliged to obey the special jurisdiction under the nuclear conventions unless the state of the defendant's location is also a member state of the nuclear convention in question. This follows from the reference to Art. 20 in Art. 57(2)(a) of the Brussels and Lugano Conventions.

The Brussels and the Lugano Conventions supersede the autonomous regulations of the EU Member states in most international cases. Both Conventions provide in their first line that the defendant can be sued at his place of business or at his residence (Art. 2). Secondly, and as an alternative in Art. 5 No. 3, the conventions provide a forum for international torts in the country where either the tort has been committed or where the damage occurred.⁹⁷ The claimant can choose to institute proceedings at either place.

It is only for international torts through mass media that the European Court of Justice has limited this tort jurisdiction: The victim may also sue in every country where his or her rights were invaded but only for the damage that occurred in the country concerned. To adjudicate the whole damage is only within the competence of the forum of the defendant's residence or place of business.⁹⁸ Whether this restriction of jurisdiction extends to other cases of torts which spread over a number of countries remains to be seen.

6.2 *USA*

In the USA, the individual states have their own statutes concerning jurisdiction. In general, the defendant can be sued at his domicile.⁹⁹ But also other rather transient contacts suffice to found jurisdiction.¹⁰⁰ Jurisdiction in

97. European Court of Justice (ECJ), Report 1976, 1735 (*Bier/Mines de Potasse d'Alsace*).

98. ECJ Report 1995 I 415 (*Shevill/Presse Alliance*).

99. S. 27 Restatement Second on Conflict of Laws.

100. Regulated by so-called long-arm-statutes; see thereon Rosenberg/Hay/Weintraub 64ss; Scoles/Hay 312ss.

international tort cases can also be based on tortious conduct in the forum state but also on the intended or reasonably foreseeable effects in the forum state that conduct outside that state has.¹⁰¹

6.3 Evaluation

Outside the scope of the nuclear liability conventions, jurisdiction in international tort cases is always given to the country of the defendant's resident. In addition, the defendant can be sued in the country of the tort. To found jurisdiction there, either tortious conduct or damage in the forum state will generally suffice.

7. Concluding remarks

The aim of this paper was to give a survey on choice of law rules which apply outside the nuclear liability conventions in case of damage caused by international nuclear transports. We found a remarkable variety of solutions. Some of the solutions make it difficult or even impossible to predict in advance which substantive law in a hypothetical case would apply. These difficulties are increased by the fact that more often than not, a victim can choose where to sue and thereby also influence the final outcome of a case.

As far as private international law rules apply – and as mentioned the non-ratification of the nuclear liability conventions by many nuclear states forces us to fall back on the choice of law rules in many cases – the applicable law and the hypothetical level of compensation therefore often remain uncertain when judged at the time of organisation of the nuclear transport. However, at this time the question of undertaking risks and of insurability must be decided.

101. See, *e.g.* *Kaiser Aetna v. I.C. Deal*, 86 Cal. Ap. 3d 896, 150 Cal. Rptr. 615 (1978); *Moon Carrier v. Reliance Insurance Co.*, 153 N.J. Super. 312, 379 A.2d 517 (1977); *World-Wide Volkswagen Corp. v. Woodson*, 444 US 286, 100 S.Ct. 559 (1980); compare further §37 Restatement Second on Conflict of Laws.

**GAPS IN THE CURRENT NUCLEAR LIABILITY REGIME WITH
PARTICULAR REGARD TO TRANSPORT**

**LACUNES DE L'ACTUEL RÉGIME SUR LA RESPONSABILITÉ
CIVILE NUCLÉAIRE, EN PARTICULIER EN CE QUI CONCERNE
LE TRANSPORT**

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Résumé

L'auteur part de la constatation, au début de sa communication, que le régime des Conventions de Paris et de Vienne, en établissant le principe d'une responsabilité objective et exclusive, vise à permettre aux exploitants nucléaires de gérer cette responsabilité dans des conditions plus favorables aux échanges nucléaires que ne le serait l'application des règles traditionnelles de la responsabilité quasi-délictuelle, tout en garantissant aux victimes que des fonds seront disponibles pour les indemniser. Il y a lieu cependant d'identifier les lacunes éventuelles de ce régime et de s'interroger sur le point de savoir si les conditions dans lesquelles les exploitants qui participent à des activités de transport nucléaires « autogèrent » leur responsabilité, sont satisfaisantes.

La première question abordée par l'auteur, à la lumière notamment de la législation et de la jurisprudence du Royaume-Uni, est la mesure dans laquelle le régime de responsabilité nucléaire est exhaustif, c'est-à-dire n'autorisant pas aux victimes d'exercer des recours en réparation de dommages en dehors du champ d'application des Conventions, donc sur la base du droit commun. L'auteur étudie les dispositions de la Convention de Vienne et de Paris à ce sujet, en notant certaines différences entre les textes. Il se réfère aussi à la possibilité qu'une victime intente son action devant une autre juridiction (d'un pays non Partie) que celle du pays Paris ou Vienne normalement compétente en vertu des Conventions.

La seconde partie de l'exposé est consacrée à l'analyse de la possibilité pour des victimes d'un accident de transport nucléaire international d'exercer leur action en dehors du régime établi par les Conventions de Paris et de Vienne. L'auteur note que même si la Partie Contractante concernée a étendu le champ d'application de sa législation à des pays non-contractants, rien n'oblige une victime de tels pays à demander réparation sur la base des Conventions.

La troisième partie de l'exposé porte sur les problèmes soulevés par le cas de transferts de responsabilité effectués en vertu des Conventions de Paris et de Vienne vers d'autres exploitants nucléaires que l'exploitant expéditeur ou l'exploitant destinataire. Il souligne les incertitudes du régime des Conventions à ce sujet et les inconvénients qui peuvent en découler.

1. Introduction

It is clear that an underlying purpose of the current convention system dealing with nuclear liability is to enable the (remote) risk of incurring such liability to be *managed*. One aspect of this exercise in risk management – which perhaps finds its most concrete expression in the convention principles of a limited liability channelled exclusively onto an identifiable “responsible” nuclear operator – is to create a legal framework which is conducive to the development of nuclear commerce. This framework also provides, of course, a less onerous route than traditional tort law for claimants to recover compensation if nuclear activities cause damage, and establishes the means whereby a certain level of funding to meet claims is guaranteed.

However, there are clearly limits – and not necessarily just geographical limits – to the application of the current convention system. This paper briefly identifies where gaps in the current system may occur, what might be done to “plug” them and, in the context of the transport of nuclear material, the degree to which nuclear operators can “self-manage” who is the responsible party for nuclear liability and whether additional restrictions may be desirable.

2. Nuclear damage in Paris Convention countries or on the high seas

Where a nuclear incident in a Paris Convention country causes injury, damage or loss in the same Paris Convention country (or on the high seas) we should, in principle, have the least controversial legal results. For example, in a transport scenario where nuclear material (falling within the scope of the Convention¹) is being consigned from (say) the United Kingdom to Germany and there is a nuclear incident within the UK causing alleged damage within the UK, the jurisdictional rules of the Convention would mean that UK courts would determine the dispute and would apply the provisions of the law in the UK implementing the Paris Convention – the Nuclear Installations Act 1965 (NIA 65). The “responsible” operator could be sued by third party claimants under the NIA 65 – his liability would be limited to the UK financial limit² (if the UK operator carried the nuclear risk)³ or (if nuclear risk had been

1. Certain classes of material *e.g.* natural and depleted uranium are excluded from the special liability regime.

2. Currently GBP 140 million.

transferred from the sending operator to another Convention operator) to the limit set by the foreign operator's national law.⁴

But is the situation so straightforward? A nuclear incident may (or may not) produce a release of radioactivity leading to various levels of contamination. Irrespective of the presence or levels of contamination, claims for compensation covering a wide range of alleged losses seem inevitable. In recent years, the English courts have considered two cases in which they have effectively needed to determine whether the contamination of property by radioactivity discharged from a nuclear site constituted "damage" within the meaning of the NIA 65. In one case (*Merlin v BNFL*⁵), a rather restrictive approach was adopted – contamination needed to produce actual physical damage if "damage" to property within the meaning of the NIA 65 was to exist – the financial losses which arose as a result of the (trivial) levels of contamination were classed as "pure" economic loss and compensation was irrecoverable under the NIA 65. In the other, more recent case (*Blue Circle Industries plc. v Ministry of Defence*⁶), a more purposive approach was adopted and contamination at levels which required extensive remediation was held to constitute damage. These cases, however, beg another question. If the nuclear incident did not result in the contamination of property or the contamination was at levels which were judged not to constitute damage to property within the meaning of the NIA 65, but economic losses or other costs nonetheless arose, could claimants seek redress under "normal" tort law? In this connection, it should be recognised that in English law there are a number of torts which are actionable without proof of actual physical damage – for example the torts of private and public nuisance. If such tort actions could be commenced then any liability which attached would be determined by the unrestricted English law of torts, *i.e.* the Convention "risk management" principles of limited, operator-only liability would not apply.

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3. The UK operator would owe a statutory duty contained in S.7 of the NIA 65 (if he was a nuclear site licensee) to prevent nuclear injury or damage. If the duty was breached a right to compensation would accrue pursuant to S.12(1) of the NIA 65.
 4. In this situation the "relevant foreign convention operator" would owe the duty in S.10 of the NIA 65 to prevent nuclear injury damage. The responsible foreign operator would not only be able to take the benefit of his own "domestic" limit of liability, he could take advantage of any Convention "defences" which were incorporated into his own legislation: see S.16(2) of the NIA 65.
 5. [1990] 3 Weekly Law Reports [WLR] 397.
 6. [1999] 2 WLR 295.

The answer to the above question would depend on whether the Paris Convention (and the NIA 65 as the national implementing legislation) were intended to create an *exclusive and exhaustive* liability regime. It should be appreciated that an exclusive and exhaustive regime is not simply one which makes a nuclear operator solely liable for nuclear damage which arises – it is absolutely clear that the Paris Convention is exclusive in that respect, *i.e.* it adopts the channelling principle – as does the NIA 65. In contrast, an exclusive and exhaustive liability regime would confine all available remedies for injury, damage or loss arising out of the operation of nuclear installations in Paris Convention countries, or the transport of nuclear material to or from such installations, to those which are available under the Convention. If liability did not arise under the Convention, competent courts in Convention States would not be allowed to apply national tort law (or other special liability regimes) as a means of providing redress.

Thus, if a competent court found that the detriment complained of in relation to nuclear activities did not amount to nuclear damage and hence was not compensable under the Convention, a claimant could not, if the principle of exclusive and exhaustive liability applied, seek to look for a civil law remedy according to his own national tort law. There may also be other areas where the principle of exclusive and exhaustive liability would restrict private actions under the general law of torts. For example, suppose nuclear material was being transported from a nuclear installation in France to a nuclear licensed site in the UK with the French nuclear operator taking nuclear risk for the whole journey. If there was a nuclear incident while the material was in transit in France which caused damage in the UK the expectation would be that, in accordance with the exclusive jurisdictional rules of the Paris Convention, all claims would be directed towards the French operator and decided in accordance with French nuclear legislation and Convention principles. But what if claimants in the UK nonetheless sought to recover compensation in the English courts under English tort law against a person considered responsible?⁷ The general principle of exclusivity could provide one line of argument in preventing such a result.

There is some evidence that the *Vienna* Convention was originally framed in such a way as to intentionally create an exclusive and exhaustive liability regime. Article I.1(k)(ii) of the unamended Vienna Convention allowed the definition of “nuclear damage” to be expanded to cover “any other loss or

7. The provisions of the NIA 65 dealing with jurisdiction do not unambiguously prevent this. Note also that under UK statutory choice of law rules contained in the Private International Law (Miscellaneous Provisions) Act 1995 the general rule is that the law to be applied is that of the country where the property was when it was damaged.

damage arising ... if ... the law of the competent court so provides.” Thus, it was clear that if a Contracting Party did exercise the optional power to extend the definition of nuclear damage, then liability for such effects would fall within the Convention system. But what if that option was not exercised? There might be a risk that liability for “any other loss or damage” would fall to be determined outside the Convention, *i.e.* under normal tort law. It is instructive to note that this risk was identified during the International Conference which discussed the original Vienna Convention. The United States delegate was reported as saying:

“... [I]f certain damage arising out of a nuclear incident, such as loss of profits, mental suffering ... was not regarded as falling within the definition of nuclear damage and, further, a Contracting Party did not bring such damages within the scope of the Convention by virtue of the optional power [in Article I.1(k)(ii)] ... a strong argument could be made to the effect that what the Convention did not deal with it did not control, and that recovery for such damage could therefore be permitted under normal tort law outside the Convention. That would clearly be inconsistent with the objectives of the Convention, as the operator and other parties involved would then be subject to liability for damage arising from a nuclear incident without the benefits of ... limitation of liability, channelling, etc.” His delegation accordingly proposed that the Convention should contain an express provision precluding liability for such damage, (*at page 175, Civil Liability for Nuclear Damage, Official Records, International Conference, Vienna, 29 April – 19 May 1963, IAEA, Vienna*).

This view was agreed to by other delegates. The “express provision” became Article II.6 of the Vienna Convention. Article II.6 provided that:

“No person shall be liable for any loss or damage which is not nuclear damage pursuant to sub-paragraph (k) of paragraph 1 of Article I but which could have been included as such pursuant to sub-paragraph (k)(ii) of that paragraph.”

Viewed in this light, it can be seen that Article II.6 was intended to close-off “normal tort law” in situations where a nuclear incident caused loss or damage which was *not* nuclear damage as defined but which could have been included in the definition had the relevant Contracting Party exercised its option to do so.

Article II.6 has been revised by the 1997 Protocol – it now reads: “No person shall be liable for any loss or damage which is not nuclear damage pursuant to sub-paragraph (k) of paragraph 1 of Article I but which could have

been determined as such pursuant to the provisions of that sub-paragraph.” It might be argued that the effect of the revised Article II.6 is narrower than the original on the grounds that it is only certain heads of damage (not including loss of life, personal injury, and loss of or damage to property) which are qualified by the expression “to the extent determined by the law of the competent court”. On the other hand, the revised Article II.6 refers to the whole of the new definition of “nuclear damage” and, in practice, a competent court would in any event (as we have noted in the English cases referred to above) need to make a determination as to whether the matters complained of (for example contamination of persons or property) constituted nuclear damage within the meaning of relevant municipal legislation. Adopting a purposive approach to the revised Article II.6, it is possible to argue that the Vienna Convention was intended to be, and remains, an exclusive and exhaustive liability regime in relation to private civil law actions.

However, there appears to be no comparable provision to Article II.6 in the Paris Convention. While Article 6(c)(ii) (of the Paris Convention) provides that the operator shall incur no liability outside the Convention for damage caused by a nuclear incident, the term damage as used in that context means damage as defined, not effects of a nuclear incident which are held by a competent court not to constitute nuclear damage. Also, there is certainly nothing in the NIA 65 to suggest that the UK legislation is intended to confer an immunity from tort actions if a nuclear occurrence causes adverse effects of a kind which do not constitute nuclear injury or damage as defined in that legislation. Although an extended definition of “nuclear damage” (of the kind introduced into the Vienna Convention by the 1997 Protocol) would make it less likely that tort liability would ever be established in circumstances where losses or costs were incurred as the result of a nuclear incident but held by a competent court not to constitute nuclear damage, the possibility cannot be ruled out. In addition there may, as noted above, be other areas where the principle of exclusivity might maintain the integrity of the Convention regime. Accordingly, consideration could be given to expressly providing that the Paris Convention is intended to be an exclusive and exhaustive liability regime. It is worth mentioning that the creation of an exclusive and exhaustive liability regime would not be unique: the English courts have recently confirmed that the international convention dealing with (limited) liability in respect of international carriage by air creates an exclusive and exhaustive regime – so there is a precedent for such an approach: see *Sidhu v British Airways*.⁸

8. [1997] 2 WLR 26.

There are other instances where a person who alleges that he has suffered injury or damage in a Paris Convention country as a result of an incident in the same (or another) Paris Convention country may attempt to break-out of the Convention system for one reason or another. Perhaps the most direct is that the individual simply commences proceedings in a non-Convention country. For example, this happened in *Teare v BNFL*⁹ where an individual brought a legal action in Australia even though the harm complained of (alleged radiation-induced injury) could have been the subject of proceedings in the UK under the NIA 65 with the question of liability being determined by reference to Convention principles.

Another aspect which may be briefly mentioned, is the increasing and developing role *regulatory* law may play in requiring action to be taken when dealing with a nuclear incident or activities. For example, the revised Basic Safety Standards Directive (Directive 96/29/EURATOM), which lays down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation, contains provisions¹⁰ which set out the approach to be adopted in cases of *intervention*, *i.e.* the steps which need to be taken to remove or reduce a radiological hazard either from a pre-existing condition or from a radiological emergency. One can see from this that legislation in EU Member States will be developed requiring operators or other responsible persons to take remedial action of one kind or another in particular circumstances. The costs of remedial measures would derive from regulatory requirements rather than civil liability obligations and accordingly would not (necessarily) be limited to any sum specified in the civil liability regime. Thus, the relationship between developing regulatory regimes and the revision of the Paris Convention will need careful consideration.

3. Nuclear damage in non-Paris Convention countries

Where nuclear material is transported through or in proximity to countries which are not Contracting Parties to relevant nuclear liability conventions, questions inevitably arise as to the mechanisms for the recovery of compensation in the event that nuclear damage is suffered in such countries. Of course, under current Paris Convention rules, the Convention does not apply to nuclear incidents which cause damage in the territories of non-Contracting States, unless the implementing law of the responsible operator provides

9. Unreported, in the Court of Victoria, Melbourne, 1993. Case discontinued.

10. See Articles 48 to 53 of the Directive.

otherwise.¹¹ However, even if a Contracting Party provides that compensation for nuclear damage incurred in non-Convention States can be recovered under its national nuclear legislation, nothing would prevent claimants in non-Convention countries from seeking redress outside the Convention system. This would remain the case in the event that the Paris Convention is modified along the same lines as its Vienna counterpart in terms of the geographical scope of the Convention.

The result of this is that during transport operations (and indeed in relation to the operation of land-based installations) there is the potential for operators and others to face unlimited liability claims under the laws of a non-Convention country. Indeed such claims are a reality.¹² Whether liability could be established would depend of course on the laws of the non-Convention country, in particular its rules of private international law relating to jurisdiction and choice of law.

If a judgement arising out of a nuclear incident involving a Convention operator was obtained in a non-Convention country an important question would be whether the judgement could be enforced in a relevant Convention country. Neither the Paris Convention nor the Vienna Convention contain provisions which seek to prevent the recognition and enforcement of non-Convention judgements (relating to nuclear damage) in Convention countries. Indeed, many nuclear Convention countries will have reciprocal recognition of judgement treaty arrangements with non-Convention (often non-nuclear) countries.¹³ In such circumstances the potential exists for a claimant in a non-Convention country to establish liability on an unlimited basis against a defendant nuclear operator and enforce the judgement in the operator's own country. In such circumstances the operator (or any other person against whom a judgement was obtained) might seek to argue that foreign judgements which

11. Article 2 of the Paris Convention. But the Brussels Supplementary Convention which provides additional compensation from public funding does not allow its territorial scope to be extended to a non-Brussels Convention country: see Article 2(a) of the Brussels Convention.

12. BNFL is currently defending litigation in the Republic of Ireland (a non-Paris Convention country) in which citizens of Ireland are alleging that the operation by BNFL of its Sellafield nuclear site and the transport of nuclear material to and from that site via the Irish Sea constitute a threat to health which should be restrained by the granting of injunctions and an award of compensation.

13. Note in particular the European Communities Convention on Jurisdiction and Enforcement of Civil Judgements and Commercial Matters.

run contrary to the “risk management” principles in the nuclear Conventions (e.g. the principle of limited liability) ought not to be enforced, perhaps on grounds of public policy.¹⁴

In practice, those involved in the carriage of nuclear material consider whether to insure (though of course this will be to a limited amount) or seek indemnities in respect of the risk of non-Convention liability.¹⁵ Indeed, the UK marine policy provides almost world-wide cover for nuclear liability in transit, although non-Convention claims will only be satisfied to the extent that funds remain available after all possible Convention claims have been satisfied.

4. Transferring nuclear risk in transport scenarios

In dealing with nuclear liability in relation to the transport of nuclear material, one of the primary objectives of the convention system is to ensure that in the event of a nuclear incident occurring during the course of carriage there is a readily identifiable insured Convention operator who is responsible, in terms of civil liability, for the incident. Rules in the Paris and Vienna Conventions specify who is the responsible operator, how risk can be transferred to another operator and when the operator’s responsibility under the relevant Convention ends. As with most rules, there is scope for interpretation.

It is possible to regard the Paris Convention as creating a relatively simple and narrow set of rules regarding the transfer of nuclear risk as between Convention operators. This would simply allow the *sending* operator (“A”) to transfer risk to the *receiving* operator (“B”). This could be done by express written agreement as between A and B, or in the absence of written agreement by the receiving operator taking charge of the material. Similarly, this simple construct would fix nuclear risk on the sending operator with regard to transports to non-Convention countries until the material had been unloaded from the means of transport on arrival (or on entering the territorial limits of the relevant non-Convention State if the relevant implementing law so provided);¹⁶

14. This is suggested in the authoritative report on the EEC Judgements Convention by Professor Dr. Peter Schlosser, O.J. 1979, C.59/71.

15. Note that a limited right of recourse against Convention operators is given to persons who incur liability in a non-Convention State provided that they have their principal place of business in a Convention country: see Paris Convention, Article 6(e).

16. The NIA 65 provides that the statutory duty imposed on the nuclear operator to prevent nuclear injury or damage is lifted when nuclear material in the course of carriage finally enters within the territorial limits of a non-

and the receiving Convention operator would have the risk in respect of shipments from a non-Convention country, once the material had been loaded on the means of transport (or had left that country's territorial limits).

However, it is submitted that the Paris Convention can readily and properly be interpreted to allow a wider application of the principle of the transferability of nuclear risk as between Convention operators. For example, although A may be sending material to B, he may have a contract with another Convention operator ("C") regarding the delivery of the material to B. There is nothing in the Convention which would prevent A's contract with C from providing that nuclear risk during transport should rest with C. Indeed, with regard to the transfer of risk from the sending operator, the Convention does not refer to risk being transferred to the receiving operator – rather it uses the term "the operator of another installation" to describe the person to whom risk may be transferred. Similarly, there is no suggestion that the operator of "another installation" who, in the absence of express terms, takes nuclear risk by taking charge of the material, must be the receiving operator.

It follows, therefore, that *as regards movements of nuclear material between nuclear installations in Convention countries*, the Convention creates a system whereby nuclear risk can, by written agreement or taking charge, be freely transferred from the sending operator to *any other* Convention operator.

Once this principle is accepted there appears to be no reason, either in principle or by reference to Convention rules, to disapply this mechanism of nuclear risk transference as between Convention operators where material is being transported to or from non-Convention countries, unless the implementing law unambiguously provides otherwise.¹⁷ In any event, whatever view one takes on this point, the position of claimants is not prejudiced. The responsible operator is obliged in every case of international transport to deliver to the carrier a certificate of financial security (COFS) which has been issued by the insurer and which guarantees that funds are available to meet claims up to

Convention country. This reflects the fact that the NIA 65 does not apply to damage in a non-Convention country.

17. The NIA 65 makes it clear that where nuclear matter is being consigned from a non-Convention country to a nuclear site in the UK, the UK nuclear operator is fixed with the nuclear risk, *i.e.* the receiving UK operator cannot transfer risk in this situation. Note also that the NIA 65 allows such material to be sent to the UK site with "the agreement" of the UK operator, not his written consent – this is a minor derogation from the Convention.

the operator's maximum liability. The insurer is debarred from disputing the contents of the COFS.

Nonetheless, the question may be asked as to whether the current Convention rules on the transferability of nuclear risk during transport need to be modified. For example, there may be concern that in order to make savings on the cost of insurance premiums operators may fix the risk of nuclear liability with a Convention operator who has nothing whatsoever to do with the relevant carriage. Certainly, the writer is unaware of any such blatant "liability" shopping, and it would be unwise to restrict the rules on the transferability of nuclear risk without good reason.

It is certainly true, however, that in the case of transport many different Paris Convention countries have adopted widely differing limits of liability (or varying levels at which an indemnity is required).¹⁸ In addition, a number of countries have exercised the option in Article 4(d) of the Paris Convention to which allows a carrier, with the consent of a nuclear operator situated in its territory, to carry nuclear risk in the place of that operator. In the competitive business of nuclear transport the effect of these provisions is to provide an incentive to nuclear operators to transfer nuclear risk during carriage to the operator or, perhaps more commonly, to the carrier (where this is allowed) which has the lowest liability or insurance limit since this may well present a significant saving in insurance premiums. Risk transference for these purely commercial reasons clearly makes sense for operators and is unobjectionable in the sense that the position of claimants is not adversely affected – any additional public funding under the Paris/Brussels regime would be available. Thus, this practice does not create a gap in the coverage provided by the Convention.

On the other hand, one must ask whether a modern civil nuclear liability system should be structured in a way which effectively provides operators with a financial incentive to place liability with an operator or authorised carrier who has the lowest ceiling on liability or insurance with regard to a particular shipment. Amending the Paris Convention rules on the transferability of nuclear risk by making it a requirement that the responsible operator must have some form of "commercial interest" in the shipment would

18. For example, the French limit of liability during the transport of nuclear material (FRF 150 million) is almost 10 times lower than that which applies under UK legislation. Similarly, under German law the required amount of financial security is linked to types and quantities of nuclear material – the required insurance for particular consignments can be many times less than that required in (say) the UK.

not in itself remove the incentive to opt for lower limits. Operators and carriers directly involved in a particular transport operation – and hence having a commercial interest in the shipment – would continue to be able to take the commercial advantage of transferring nuclear risk to the operator or carrier whose national legislation had the lowest limit of liability or insurance requirement. It seems that the only way to remove such financial incentives would be to harmonise the liability or insurance limits applicable to the transport of nuclear material, and in doing that regard should be had to limits set in comparable liability regimes.¹⁹

19. Note that the International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea 1996 (HNS Convention) incorporates the concept of an insured but limited liability. Under the HNS Convention the ship-owner can be required to insure up to 100 million SDRs to cover his liability.

**MARITIME ZONES AND THE NEW PROVISIONS ON
JURISDICTION IN THE 1997 VIENNA PROTOCOL AND IN THE 1997
CONVENTION ON SUPPLEMENTARY COMPENSATION**

**ZONES MARITIMES ET NOUVELLES DISPOSITIONS EN MATIÈRE
DE JURIDICTION DANS LE PROTOCOLE DE 1997 DE LA
CONVENTION DE VIENNE ET DANS LA CONVENTION DE 1997
SUR LA RÉPARATION COMPLÉMENTAIRE**

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Résumé

Après avoir analysé le contenu des dispositions de la Convention de Vienne et de la Convention de Paris concernant la compétence des tribunaux nationaux pour les actions en réparation résultant d'un accident nucléaire, l'auteur de la présente communication émet l'avis que les nouvelles dispositions que contiennent à ce sujet le Protocole d'amendement de 1997 et la nouvelle Convention sur la réparation complémentaire des dommages nucléaires constituent un des éléments majeurs de l'exercice de révision. Il exprime le vœu que les Parties à la Convention de Paris s'en inspirent lors de la modification de cette dernière Convention.

L'auteur passe ensuite à une analyse détaillée des raisons et des objectifs de ces nouvelles dispositions. Il relève que si le choix d'une juridiction unique est l'une des caractéristiques du régime spécial de responsabilité civile nucléaire, d'autres régimes internationaux de responsabilité ont opté pour des solutions différentes, éventuellement plus avantageuses pour les victimes. Il cite à ce sujet le cas des conventions maritimes.

L'auteur estime d'autre part que le système des conventions nucléaires semble davantage convenir dans le cas d'un accident de gravité limitée et que, s'agissant d'un accident causant des dommages transfrontières significatifs, le recours à une juridiction internationale appliquant des règles spécifiques de procédure, aurait été préférable.

L'auteur traite ensuite des modifications apportées en 1997 qui découlent elles-mêmes de l'évolution du droit international de la mer en matière de compétence juridictionnelle : il s'agit de l'extension de la compétence aux tribunaux des États côtiers dans le cas d'accidents produisant des dommages dans la zone économique exclusive.

La partie suivante de l'exposé compare les dispositions des conventions sur la compétence des tribunaux civils pour des actes se situant en dehors du territoire d'un État avec le droit international de la mer et plus particulièrement la Convention de 1982 sur le droit de la mer.

Pour conclure, l'auteur analyse les implications pratiques des nouvelles dispositions et il regrette, notamment sur le chapitre de l'exécution des jugements, l'insuffisance du dispositif des conventions nucléaires à ce sujet.

Note: The text of a previous version of this article was published in French in *Bulletin de droit nucléaire*, n° 63, juin 1999.

1. The new provisions on jurisdiction in the 1997 conventions

Under Article XI of the 1963 Vienna Convention,¹ jurisdiction over all actions against the operator of a nuclear installation arising out of the same nuclear incident (including actions to establish rights to claim compensation and, if provided by the applicable law, direct actions against insurers or other guarantors), lies only with the competent court² of the Contracting Party within whose “territory”, including its territorial sea,³ the nuclear incident occurs (the incident state). Where, however, the nuclear incident occurs outside the territory of a State Party (for example, in the course of maritime transport, on the high seas), or where it is not possible to determine with certainty the place of the nuclear incident (for example, where the incident is due to continuous radioactive contamination in the course of transport), jurisdiction lies only with the competent court of the Contracting Party in whose territory the installation of the operator liable is situated (the Installation State).

Similar provisions are made in Article 13 of the 1960 Paris Convention,⁴ which, indeed, served as a model for the 1963 Vienna Convention.

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1. *Convention on Civil Liability for Nuclear damage*, Vienna, 21 May 1963. The Convention entered into force on 12 November 1977. On 23 April 1999, the following 32 States were party to the Convention: Argentina, Armenia, Belarus, Bolivia, Bosnia and Herzegovina, Brazil, Bulgaria, Cameroon, Chile, Croatia, Cuba, Czech Republic, Egypt, Estonia, Hungary, Latvia, Lebanon, Lithuania, Mexico, Niger, Peru, Philippines, Poland, Republic of Moldova, Romania, Slovakia, Slovenia, the Former Yugoslav Republic of Macedonia, Trinidad & Tobago, Ukraine, Uruguay, Yugoslavia. The Convention is open to all Members of the UN, the IAEA, or a UN specialised agency.
 2. Article XI actually refers to “the courts” of the state in question, as is typical of most international conventions on civil jurisdiction. It is, however, understood that only one court should be competent in relation to the same nuclear incident, as is expressly stated in Article 12(4) of the 1997 amending Protocol (*infra*, note 10).
 3. Unlike other conventions on civil liability, neither the 1963 Vienna Convention nor the 1960 Paris Convention, which will be referred to shortly, expressly state that a state’s “territory” includes its territorial sea. This notwithstanding, both Conventions are generally interpreted to that effect: for the Paris Convention, see paragraph 7 of the *Exposé des motifs* approved, in its revised form, on 16 November 1982 by the OECD Council.
 4. *Convention on Third Party Liability in the Field of Nuclear Energy*, Paris, 29 June 1960. The Convention entered into force on 1 April 1968, as

For states party to the 1988 Joint Protocol,⁵ the court having jurisdiction under one Convention is also competent for actions deriving from nuclear damage suffered in the territory of Parties to the other. As for supplementary funding, no specific provisions on jurisdiction are made in the 1963 Brussels Convention,⁶ which is designed to supplement the 1960 Paris Convention by increasing the amount of compensation for damage suffered in the parties' territory: since the Brussels Convention only applies if a court of a State Party has jurisdiction pursuant to the Paris Convention, no such specific provision was deemed necessary.

Against this background, the new provisions on jurisdiction are undoubtedly among the most interesting features of the two conventional instruments adopted by the diplomatic conference convened by IAEA in September 1997. In particular, while confirming the general rule that a court of the incident state has exclusive jurisdiction over actions concerning nuclear damage, Article XIII of the new Convention on Supplementary Compensation⁷

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- amended by an Additional Protocol of 28 January 1964, and was later further amended by a Protocol of 16 November 1982. The following 14 States are party to the Convention: Belgium, Denmark, Finland, France, Germany, Greece, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Turkey, United Kingdom. The Convention is open to Members of the OECD: other states may only accede to the Convention with the unanimous assent of all Parties.
5. *Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention*, Vienna, 21 September 1988. The Protocol entered into force on 27 April 1992. On 23 April 1999, the following 20 States were party to the Protocol: Bulgaria, Cameroon, Chile, Croatia, Czech Republic, Denmark, Egypt, Estonia, Finland, Hungary, Italy, Latvia, Lithuania, Netherlands, Norway, Poland, Romania, Slovakia, Slovenia, Sweden. The Protocol is open to all states party to either the Vienna Convention or the Paris Convention.
 6. *Convention Supplementary to the Paris Convention of 29 July 1960*, Brussels, 31 January 1963. The Convention entered into force on 4 December 1974, as amended by an Additional Protocol of 28 January 1964, and was later further amended by a Protocol of 16 November 1982. The following 11 States are party to the Convention: Belgium, Denmark, Finland, France, Germany, Italy, Netherlands, Norway, Spain, Sweden, United Kingdom. The Convention is open to all Parties to the 1960 Paris Convention; however, a non-signatory State may only accede to the Convention with the unanimous assent of all Parties.
 7. *Convention on Supplementary Compensation for Nuclear Damage*, Vienna, 12 September 1997. The Convention will remain open for signature by all states until its entry into force; it will enter into force on the 90th day following ratification or accession on the part of at least 5 States with a

adds that, “where a nuclear incident occurs within the exclusive economic zone of a Contracting Party or, if such a zone has not been established, in an area not exceeding the limits of an exclusive economic zone, were one to be established by that Party”, jurisdiction lies only with the competent court of that Party, *i.e.* the coastal State. Thus, for the purposes of Article XIII, the exclusive economic zone, or an area of equivalent extension, has been equated to the territorial sea.

Unlike the 1963 Brussels Convention, the new Convention on Supplementary Compensation is not only designed to increase the amount of compensation for nuclear damage, but also purports to create “a world-wide liability regime” and is open for ratification, or accession, by States party to either the 1963 Vienna Convention or the 1960 Paris Convention, as well as by States party to neither convention whose national legislation complies with the basic principles of both, as specified in an Annex. The negotiating States felt, therefore, that uniform provisions on jurisdiction should bind all States party to the new Convention, irrespective of whether or not they were also party to either the Vienna Convention or the Paris Convention. Article XIII of the new Convention is thus intended to replace, in relations between Parties thereto, Article XI of the Vienna Convention, Article 13 of the Paris Convention,⁸ as well as national legislation in force for States party to neither Convention.

It was felt, however, that the new provisions might cause some problems for states party to both the new Convention on Supplementary Compensation and either the Vienna or the Paris Convention, in their relations with other States party to either one of these latter but not party to the new Convention.⁹ A partial solution to these problems was the inclusion in the 1997

minimum of 400 000 MW of installed nuclear capacity. By 23 April 1999, the following 13 States had signed the Convention: Argentina, Australia, Czech Republic, Indonesia, Italy, Lebanon, Lithuania, Morocco, Peru, Philippines, Romania, Ukraine, United States. On the same date, only Romania had ratified the Convention.

8. Article 30 of the 1969 Vienna Convention on the Law of Treaties deals with the “application of successive treaties relating to the same subject-matter”. Paragraph 3 states that “When all parties to the earlier treaty are parties also to the later treaty but the earlier treaty is not terminated or suspended in operation under article 59, the earlier treaty applies only to the extent that its provisions are compatible with those of the later treaty”. Under paragraph 4 (a), the same rule also applies when the parties to the later treaty do not include all the parties to the earlier one, “as between States parties to both treaties”.
9. Article 30(4) (b) of the 1969 Vienna Convention on the Law of Treaties states that: “When the parties to the later treaty do not include all the parties

Protocol to Amend the Vienna Convention,¹⁰ adopted at the same time, of new provisions on jurisdiction, identical to those in Article XIII of the Convention on Supplementary Compensation, intended to amend Article XI of the 1963 Vienna Convention. The states party to the 1960 Paris Convention, which are currently discussing possible amendments to this latter convention, are expected to adopt, in their turn, corresponding new provisions on jurisdiction. But of course there is no guarantee that all Parties to the Vienna or Paris Conventions will eventually ratify, or accede to, the amending protocols; moreover, ratification of, or accession to, the new Convention on Supplementary Compensation will always be possible for states party to the original version of either the Vienna or the Paris Convention.¹¹ For this reason, it was felt necessary to insert in Article XIII of the Convention on Supplementary Compensation a proviso to the effect that, if the exercise of jurisdiction on the part of the coastal State is inconsistent with its obligations under either Article XI of the Vienna Convention or Article 13 of the Paris Convention, “jurisdiction shall be determined in accordance with those provisions”.¹²

2. Rationale and precedents

One of the distinguishing features of the international legal regime of civil liability for nuclear damage is precisely the choice of a single competent forum to deal with all actions arising out of the same nuclear incident. This solution is traditionally justified on various grounds, among which are the need for a single legal mechanism to ensure that the limitation on the operator’s liability is not exceeded, and the need to assure equitable distribution of

to the earlier one: (b) as between a State party to both treaties and a State party to only one of the treaties, the treaty to which both States are parties governs their mutual rights and obligations”.

10. *Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage*, Vienna, 12 September 1997. The Protocol will remain open for signature by all states until its entry into force; it will enter into force three months after 5 states have ratified or acceded to it. By 23 April 1999, the following 14 states had signed the Protocol: Argentina, Belarus, Czech Republic, Hungary, Indonesia, Italy, Lebanon, Lithuania, Morocco, Peru, Philippines, Poland, Romania, Ukraine. By the same date, only Romania had ratified the Protocol.

11. See Article I (a) and (b) of the Convention.

12. On the implications of this proviso, see *infra*, paragraph 5.

compensation.¹³ But other international legal regimes of civil liability have opted for different solutions, which are arguably more advantageous to the victims of an incident causing damage. For example, the 1969 IMO Convention on Civil Liability for Oil Pollution Damage (Oil Pollution Convention),¹⁴ which applies to damage caused by pollution resulting from the escape or discharge of oil from ships, allows victims to bring their actions for compensation in the courts of *any* State Party or Parties where damage was suffered; only after the ship-owner liable has constituted a fund for the total sum representing the limit of his liability with a court of any one of the states where damage was suffered, does this court become exclusively competent to determine all matters relating to the apportionment and distribution of the fund.¹⁵ A similar solution has been adopted in the 1996 IMO Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (HNS Convention).¹⁶

As for the specific choices made in the nuclear liability conventions, the general rule that a court of the incident state has jurisdiction would not seem to cause major practical difficulties in the event of a minor incident where damage is mainly suffered in the territory of that state; on the other hand, in the event of a major nuclear incident causing damage in the territory of many states, sometimes at a considerable distance from the place of the incident, practical disadvantages for foreign victims having to bring their actions in the competent court of the incident State may be considerable. Disadvantages would be even more obvious in the event of an incident occurring in the course of transport outside the territory, or territorial sea, of a state party to the applicable

13. See, for example, paragraph 54 of the *Exposé des motifs* attached to the 1960 Paris Convention (*supra*, note 3).

14. *International Convention on Civil Liability for Oil Pollution Damage*, Brussels 29 November 1969. The Convention entered into force on 19 June 1975. Amendments were adopted in 1984 and 1992, but they have not yet entered into force: see *infra*, note 23.

15. See Article IX of the Oil Pollution Convention.

16. *International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea*, London, 3 May 1996. The Convention (which does not apply to damage caused by radioactive material “of class 7 either in the International Maritime Dangerous Goods Code, as amended, or in Appendix B of the Code of Safe Practice for Solid Bulk Cargoes, as amended”) will not enter into force until eighteen months after at least 12 States, including two States with at least 2 million units of gross tonnage, have expressed their consent to be bound by it. Articles 38 and 39 relate to jurisdiction.

convention: in such a case, all victims would have to bring their actions in the competent court of the Installation State, which might be at an even greater distance. Such practical disadvantages were, indeed, envisaged by the drafters of the nuclear liability conventions, but the conclusion was eventually reached that it was impossible “to find another solution which would enable the victims to refer to their national courts and which would at the same time secure unity of jurisdiction”.¹⁷

The author of this article shares the view that, at least in the case of a major nuclear incident causing transboundary damage, the competence of an international tribunal applying specific rules of procedure would be more appropriate than jurisdiction of national courts.¹⁸ Proposals to such effect were, indeed, put forward by some states within the IAEA Standing Committee on Liability for Nuclear Damage during negotiations on the revision of the Vienna Convention,¹⁹ but such proposals were unfortunately opposed by most “nuclear” states and were eventually dropped.

Seen in this context, the new provisions on jurisdiction in the 1997 Vienna Protocol and in the Convention on Supplementary Compensation can be regarded as a minor, but important, step forward towards better protection of victims of nuclear incidents, in particular where such incidents occur in the course of maritime transport. In fact, by equating a Party’s exclusive economic zone (which has a maximum breadth of two hundred nautical miles) to its territorial sea (whose maximum breadth is a mere twelve nautical miles), these provisions will allow victims to bring their actions in their national court in many more cases, thus avoiding the need to refer to a court of the Installation State.

From a different point of view, the new provisions on jurisdiction also seem, to some extent, a natural consequence of the new provisions on so-called “geographical scope” which have also been inserted in the 1997 conventions.

Whereas the 1960 Paris Convention and the 1963 Brussels Convention supplementary thereto only cover damage suffered in the territory

17. *Exposé des motifs* attached to the 1960 Paris Convention (*supra*, note 3), paragraph 55.

18. In this sense, see, for example: Lopuski, *Liability for Nuclear Damage. An International Perspective*, Warsaw, 1993, at p. 67.

19. See, in particular, proposals by Austria and the Netherlands during the second, third, fourth and sixth sessions of the Standing Committee.

of Contracting Parties,²⁰ the 1963 Vienna Convention does not expressly address the issue and is generally interpreted as allowing each Party freely to decide whether or not to cover damage suffered outside the territory of other Parties. On the other hand, the 1997 Protocol to Amend the Vienna Convention expressly covers damage “wherever suffered”, but only as a matter of principle: the legislation of the Installation State will in fact be allowed to exclude damage suffered in the “territory” or “in any maritime zones established by a non-Contracting State in accordance with the international law of the sea”, except where such State has no nuclear installations in its “territory” or “maritime zones”, or where it affords equivalent reciprocal benefits.²¹ Thus, damage suffered in the “territory” or “maritime zones” of all States Parties, as well as damage suffered on the high seas, will always be covered. As for the 1997 Convention on Supplementary Compensation, the fund thereby established in order to increase the amount of compensation will always be reserved to cover damage suffered in the “territory” or “in or above the exclusive economic zone or continental shelf of a Contracting Party in connection with the exploitation or the exploration of the natural resources of that exclusive economic zone or continental shelf”.²²

Thus, the new conventions take into account the changes which have taken place in the international law of the sea in recent times. It seems clear that, once it is accepted that the civil liability regime must cover not only damage suffered in the territorial sea, but also in other “maritime zones” established by a coastal State in accordance with the law of the sea, it would be unreasonable to allow the victims to refer to the competent court of the coastal State if an incident occurs in its territorial sea, but ask them to bring their

20. See Article 2 of the 1960 Paris Convention, which, however, allows the legislation of the Installation State to cover damage suffered in the territory of third States. As for the 1963 Brussels Convention, Article 2 makes it clear that the Convention only covers damage suffered in a Party’s territory. However, damage suffered on the high seas is also covered, provided it is suffered on board a ship or aircraft registered in a Party’s territory or by a Party’s national.

21. See Article 3 of the Protocol.

22. See Article V of the Convention. Like the 1963 Brussels Convention, the Convention also covers damage suffered “in or above maritime areas beyond the territorial sea of a Contracting Party” (including the high seas but excluding third States’ territorial waters) by a Party’s national or on board a ship or aircraft registered in a Party’s territory; in addition, the Convention also covers damage suffered “on board or by an artificial island, installation or structure under the jurisdiction of a Contracting Party”.

actions in a court of the Installation State if the incident occurs in such other “maritime zones”.

The reason why the drafters of the 1997 Conventions chose the exclusive economic zone, as opposed to other “maritime zones”, in order to widen the scope of the coastal State’s civil jurisdiction will be made clearer, it is hoped, by a brief reference to the new law of the sea in the next paragraph. However, it may be interesting to point out right away that the solution adopted in the 1997 Conventions is part of a wider trend to equate the exclusive economic zone to the territorial sea for the purpose of determining which court, or courts, have jurisdiction for actions originating from industrial incidents occurring in the course of dangerous activities and having transboundary effects.

For example, the 1963 Oil Pollution Convention was recently amended in order to cover damage caused in the exclusive economic zone of a State Party and, in that context, jurisdiction for actions for compensation was granted to the courts of any State Party within whose exclusive economic zone damage is suffered.²³ Similarly, the 1996 HNS Convention covers damage by contamination of the environment caused in the exclusive economic zone of a State Party, and then provides that actions for compensation may be brought against the ship-owner in the courts of any State Party where such damage was caused.²⁴

3. The international law of the sea and maritime zones beyond a State’s territory

As stated above, the new provisions on jurisdiction in the 1997 conventions take into account the changes which have recently occurred in the international law of the sea and which are reflected in the 1982 United Nations Convention on the Law of the Sea²⁵ (LOS Convention). The new law of the sea

23. See Articles 3 and 8 of the *Protocol to Amend the International Convention on Civil Liability for Oil Pollution Damage*, adopted in London on 25 May 1984. When it became clear that this Protocol would probably never enter into force because of the difficulty to meet its entry into force requirements, similar provisions were inserted in a new amending Protocol, adopted in London on 27 November 1992.

24. See Articles 3 and 38(1) of the HNS Convention.

25. *United Nations Convention on the Law of the Sea*, Montego Bay, 10 December 1982. The Convention entered into force on 16 November 1994 after the adoption, on 29 July 1994, of an agreement relating to the

no longer allows for a strict alternative between the territorial sea, which is considered as part of the coastal State's territory,²⁶ and the high seas, considered as being open to all nations and encompassing all parts of the sea that are not included in the territorial or internal waters of any coastal State.²⁷ On the contrary, one of the characteristics of the new law of the sea is precisely that the territorial sea is no longer the only form in which the power of the coastal State is manifested over sea areas: whereas the outer limit of the territorial sea²⁸ is still considered as marking the seaward frontier of coastal States, it is now generally recognised that such states can exercise specialised rights beyond their territorial sea within certain maritime zones which are situated between the territorial sea and the high seas.²⁹

The oldest of such zones is the *contiguous zone*, which has a maximum breadth of 24 miles measured from the baselines of the territorial

application of its Part XI, which entered into force on 28 July 1996 (but which was provisionally applicable as from the date of the entry into force of the LOS Convention). Article 311 specifies that the Convention is designed to replace, as between Parties, the four Geneva Conventions of 29 April 1958: the Convention on the Territorial Sea and the Contiguous Zone, the Convention on the High Seas, the Convention on Fishing and Conservation of the Living Resources of the High Seas, and the Convention on the Continental Shelf.

26. See Article 1 (1) of the 1958 Geneva Convention on the Territorial Sea and the Contiguous Zone and Article 2 (1) of the 1982 LOS Convention. The territorial sea is measured from the low-water line along the coast or from straight baselines which the coastal State is allowed to draw in specific cases: in such cases, the waters lying inside the baselines are called "internal waters" and, like territorial waters, are subject to the coastal State's territorial sovereignty.

27. See Articles 1 and 2 of the 1958 Geneva Convention on the High Seas.

28. Article 3 of the LOS Convention states that the outer limit of the territorial sea cannot extend further than 12 nautical miles from the baselines. Before 1982, the maximum breadth of the territorial sea was controversial both in state practice and in the legal literature, since the 1958 Geneva Convention on the Territorial Sea and the Contiguous Zone had not expressly laid down a limit.

29. It is significant that the LOS Convention no longer defines the high seas as encompassing all parts of the sea that are not included in a State's internal or territorial waters: under Article 86, Part VII of the Convention, relating to the high seas, applies to "all parts of the sea that are not included in the exclusive economic zone, in the territorial sea or in the internal waters of a State ...".

sea;³⁰ this is a zone where the coastal State can exercise the control necessary to prevent and punish infringements of its customs, fiscal, immigration or sanitary laws and regulations, committed, or about to be committed, “within its territory or territorial sea”.³¹ The contiguous zone, which is optional and only exists if the coastal State has expressly proclaimed it, is not very relevant for the purposes of the international regime of civil liability for nuclear damage: it is significant that neither the 1960 Paris Convention nor the 1963 Vienna Convention made any reference to it despite the fact that its existence had been recognised long before their adoption and had been “codified” in the 1958 Geneva Convention on the Territorial Sea and the Contiguous Zone.

Surprisingly enough, during negotiations within the IAEA Standing Committee on Liability for Nuclear Damage, Spain insisted on the need to cover damage suffered in a Party’s contiguous zone and/or to exclude damage suffered in the contiguous zones of third States,³² whereas most other states simply wanted to refer to the continental shelf and to the exclusive economic zone.³³ A compromise was eventually reached whereby Article 3 of the 1997 Vienna Protocol ambiguously refers to damage suffered in the “maritime zones” established “in accordance with the law of the sea”,³⁴ whereas Article V of the

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30. See Article 33 (2) of the LOS Convention. Under Article 24 (2) of the 1958 Geneva Convention on the Territorial Sea and the Contiguous Zone, the maximum breadth of the zone was 12 miles from the baselines of the territorial sea. Since, however, 12 miles is now the maximum breadth of the territorial sea, the LOS Convention allows a coastal State to extend its contiguous zone to a further 12 miles from the outer limit of its territorial sea.
 31. See Article 24 (1) of the 1958 Geneva Convention on the Territorial Sea and the Contiguous Zone and Article 33 (1) of the LOS Convention.
 32. A proposal to that effect was first presented in 1995, during the thirteenth session of the Standing Committee, but received virtually no support. The Spanish delegation seemed to attach much importance to the fact that, unlike the 1958 Convention, the LOS Convention no longer defines the contiguous zone as an area of the high seas. But that surely follows from the fact that the LOS Convention allows a coastal State to claim an exclusive economic zone and in no way implies a change in the nature of the coastal State’s rights in the contiguous zone. Indeed, if the coastal State had no exclusive economic zone, its contiguous zone would still form part of the high seas: this seems to follow from the definition of the high seas in Article 86 of the LOS Convention.
 33. See the original text of the Draft Protocol in *IAEA Doc. SCNL/13/INF.3*, at p. 61.
 34. As stated above (paragraph 2), Article 3 provides that the Protocol applies to damage wherever suffered, but that the legislation of the Installation State

1997 Convention on Supplementary Compensation only covers damage suffered “in or above the exclusive economic zone ... or on the continental shelf of a Contracting Party in connection with the exploitation or the exploration of the natural resources” of such zones.³⁵

This writer finds it difficult to understand precisely what kinds of damage suffered in the contiguous zone Spain wanted to refer to.³⁶ On the other

can, upon certain conditions, exclude damage suffered in the territory, or “maritime zones”, of a third State. This solution, which was adopted without giving much thought to its implications, seems rather unsatisfactory to this writer. In fact, on the one hand, damage suffered in a Party’s “maritime zones” or on the high seas will always be covered, irrespective of whether or not it is suffered by a Party’s national or on board a ship registered in a Party’s territory; on the other hand, if the legislation of the Installation State confines itself to excluding damage suffered “in any maritime zones” established by non-Contracting States “in accordance with the international law of the sea”, coverage of damage suffered beyond those states’ territorial waters will depend on whether or not each of them has claimed an exclusive economic zone. In other words, if a third State has not claimed an exclusive economic zone, damage suffered beyond its territorial waters will be covered, whereas such damage will not be covered if that state has claimed an exclusive economic zone, even if suffered by a Party’s national or on board a ship registered in a Party’s territory.

35. As stated above (note 22), the Convention also covers damage suffered by a Party’s national or on board a ship or aircraft registered in a Party’s territory, irrespective of whether such damage is suffered in a Party’s “maritime zones”, on the high seas, or in a third State’s “maritime zones” (excluding its territorial sea); in addition, it covers damage suffered on or by an artificial island or structure under a Party’s jurisdiction.

36. In fact, in the context of the original Draft Protocol (*supra*, note 33), coverage of damage suffered in a Party’s contiguous zone by a Party’s national or on board a ship registered in a Party’s territory would have been assured anyway. Similarly, the exclusion of damage suffered in third States’ contiguous zones would have resulted from the exclusion of damage suffered in their exclusive economic zones. It is true that, if a third State had no exclusive economic zone, damage suffered in its contiguous zone by a Party’s national or on board a ship registered in a Party’s territory would have been covered, but that seemed reasonable since, in such a case, the contiguous zone could still be defined as an area of the high seas: see *supra*, note 32. As for the Convention on Supplementary Compensation, if a Party has no exclusive economic zone but has a contiguous zone, damage suffered therein by a Party’s national or on board a ship or aircraft registered in a Party’s territory would be covered under Article V (1) (b).

hand, coverage of damage suffered in a Party's exclusive economic zone or on its continental shelf seems entirely justified in light of the nature of the coastal State's rights in or over such zones.

The *continental shelf* is not actually a sea area since it comprises the sea-bed and subsoil of the submarine areas extending beyond a state's territorial sea and does not affect the legal status of the superadjacent waters. The coastal State enjoys "sovereign rights" over its continental shelf for the purpose of exploring it and exploiting its natural resources, including so-called "sedentary fisheries".³⁷ It is only natural, therefore, that damage suffered in connection with the exploration or exploitation of a Party's continental shelf should be covered by a uniform regime of civil liability for nuclear damage, even if suffered by third States' nationals or on board a ship or aircraft registered in a third State.

The same is true for the *exclusive economic zone*, which is an area beyond and adjacent to the territorial sea where the coastal State enjoys a complex of "rights, jurisdiction and duties", among which are "sovereign rights" for the purpose of "exploring and exploiting, conserving and managing the natural resources ... of the waters superadjacent to the sea-bed and of the sea-bed and its subsoil".³⁸

Whereas rights over the continental shelf do not depend on occupation or on any express proclamation,³⁹ the exclusive economic zone, like the contiguous zone, is optional and its existence depends on an actual claim. If a coastal State has claimed an exclusive economic zone, its rights over the continental shelf are, to some extent, absorbed by its rights in the exclusive

37. See Articles 1, 2 and 3 of the 1958 Geneva Convention on the Continental Shelf and Articles 76 to 78 of the LOS Convention.

38. See Articles 55 and 56 of the LOS Convention. Under Articles 60 and 80 of the LOS Convention, a coastal State also enjoys the exclusive right to construct or authorise and regulate the construction, operation and use of artificial islands, installations and structures within its exclusive economic zone or on its continental shelf; under Article 56, it enjoys "jurisdiction" with regard to the establishment and use of such islands, installations or structures. Understandably therefore, Article V (1) (b) of the Convention on Supplementary Compensation covers damage suffered "on or by an artificial island, installation or structure under the jurisdiction of a Contracting Party".

39. See Article 2 (3) of the 1958 Geneva Convention on the Continental Shelf and Article 77 (3) of the LOS Convention.

economic zone.⁴⁰ If, on the other hand, the coastal State has not claimed an exclusive economic zone, the waters above its continental shelf remain subject to the regime of the high seas.⁴¹

This brief, and necessarily superficial, description of the specialised zones which exist, or may exist, between a state's territorial sea and the high seas also seems to shed some light on the reasons behind the choice of the exclusive economic zone made by the drafters of the 1997 Vienna Protocol and the Convention on Supplementary Compensation in order to extend the coastal State's civil jurisdiction in case of nuclear incidents occurring in the course of maritime transport. In fact, the choice of the contiguous zone would have extended the coastal State's jurisdiction to a mere 24 miles from the baselines of its territorial sea, and would have made little sense anyway. As for the continental shelf, this is not really a sea area since the superadjacent waters are either part of the high seas or of the coastal State's exclusive economic zone. In addition, the width of the continental shelf, as a legal concept, depends to some extent on the extension of that part of the sea-bed which can reasonably be considered as the "natural prolongation" of the coastal State's land territory.⁴²

The exclusive economic zone, whose maximum breadth is 200 miles from the coastal State's territorial sea baselines, was, therefore, the obvious candidate. As seen above, however, the exclusive economic zone only exists if the coastal State has expressly claimed it: while there may be various good reasons why some coastal States have yet to claim an exclusive economic zone, the drafters of the 1997 Conventions understandably felt that it would have been unreasonable to ask the victims to bring their actions in a court of the Installation State in the event of a nuclear incident occurring within 200 miles of the coast, simply because the coastal State had not (yet) claimed an exclusive economic zone. This explains why both conventions state that, if an exclusive

40. This is only partly true since the continental shelf may actually extend beyond the outer limit of the exclusive economic zone: see Article 76 of the LOS Convention, and *infra*, note 42.

41. This follows from Articles 78 and 86 of the LOS Convention.

42. Whereas the continental shelf has a *minimum* breadth of 200 nautical miles from the baselines of the coastal State's territorial sea, it can in fact extend much further "throughout the natural prolongation of its territory to the outer edge of the continental margin". There *is*, however, a maximum limit of the continental shelf: under Article 76 of the LOS Convention, the outer limit of the shelf cannot exceed either 350 nautical miles from the baselines of the territorial sea or 100 nautical miles from the 2 500 metre isobath, *i.e.* "a line connecting the depth of 2 500 metres".

economic zone does not exist, jurisdiction still lies with the competent court of the coastal State if an incident occurs “in an area not exceeding the limits of an exclusive economic zone, were one to be established”⁴³. In this respect also, precedents can be found in the 1969 Oil Pollution Convention, as amended by a 1992 Protocol,⁴⁴ and in the 1996 HNS Convention,⁴⁵ which, indeed, was specifically mentioned during negotiations within the IAEA Standing Committee.

4. The international law of the sea and civil jurisdiction for acts outside a State’s territory

Even if the law of the sea has influenced the new provisions on jurisdiction in the 1997 Conventions, it remains to be seen whether or not these provisions are actually in keeping with the law of the sea. In fact, in the later stages of negotiations within the IAEA Standing Committee as well as during the 1997 diplomatic conference, some states and in particular the Russian Federation expressed worries that the new provisions might actually extend coastal States’ “jurisdiction” beyond what is permitted under the 1982 LOS Convention and/or the corresponding rules of international customary law. These worries are to some extent reflected in the proviso stating that the new provisions shall not be interpreted “as permitting the exercise of jurisdiction in a manner which is contrary to the international law of the sea, including the United Nations Convention on the Law of the Sea”.⁴⁶ But in this writer’s opinion, a conflict between the new provisions on jurisdiction and the law of the sea does not really arise.

The law of the sea traditionally aims at finding a compromise between the exercise of states’ authority over sea areas and the idea of the freedom of the seas, intended mainly as freedom of navigation: this explains why the law of the sea is mainly, though not exclusively, concerned with the exercise of governmental power resulting in *material* interference with foreign shipping.

43. However, in order to be able to exercise jurisdiction, the coastal State must have notified the Depository of such area prior to the nuclear incident: see Article XIII (2) of the 1997 Convention on Supplementary Compensation and Article 12 (1) of the 1997 Vienna Protocol.

44. See *supra*, note 23.

45. See *supra*, note 24.

46. See Article 12 (1) of the 1997 Vienna Protocol and Article XIII (2) of the Convention on Supplementary Compensation.

It is significant, in this respect, that even within a coastal State's territorial sea, ships of all nations enjoy a so-called "right of innocent passage",⁴⁷ and that, in order to avoid undue interference with such passage, limits are provided in respect of the exercise of criminal and civil jurisdiction on the part of the coastal State. As far as criminal jurisdiction is concerned, the coastal State is expected not to exercise its jurisdiction "on board" a foreign ship in order to arrest any person or to conduct any investigation in connection with a crime committed on board the ship during its passage unless the consequences of the crime "extend to the coastal State" or if the crime is of a kind to disturb "the peace of the country" or "the good order of the territorial sea".⁴⁸ As for civil jurisdiction, the coastal State is expected "not to stop or divert a foreign ship passing through the territorial sea for the purpose of exercising its civil jurisdiction in relation to a person on board the ship"; in addition, it may not "levy execution against or arrest the ship for the purpose of any civil proceedings, save only in respect of obligations or liabilities assumed or incurred by the ship itself in the course or for the purpose of its passage through the waters of the coastal State".⁴⁹

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47. See Articles 14 *et seq.* of the 1958 Geneva Convention on the Territorial Sea and the Contiguous Zone and Articles 17 *et seq.* of the LOS Convention. Both conventions state that the coastal State can take "the necessary steps" to prevent passage which is not "innocent". It may be interesting to point out in this context that Article 19 of the LOS Convention contains a list of activities which are considered incompatible with the concept of innocent passage, and that the carriage of nuclear substances or materials is not listed among such activities. Although the list is not exhaustive, Article 23 of the LOS Convention implicitly confirms that foreign nuclear-powered ships and ships carrying nuclear or "other inherently dangerous or noxious substances" enjoy the right of innocent passage: in fact, the article in question provides that, when exercising passage, such ships must carry documents and "observe special precautionary measures" established for them by international agreements. In addition, under Article 22, the coastal State may require them to confine their passage to such sea lanes as it may designate or prescribe, where this is necessary for the safety of navigation.
48. See Article 19 of the 1958 Geneva Convention on the Territorial Sea and the Contiguous Zone and Article 27 of the LOS Convention. In addition, the exercise of criminal jurisdiction "on board" the ship is permitted if necessary for the suppression of illicit traffic in narcotic drugs or if requested by the ship's master or by a diplomatic agent or consular officer of the flag State.
49. See Article 20 of the 1958 Geneva Convention on the Territorial Sea and the Contiguous Zone and Article 28 of the LOS Convention. Execution or arrest are, however, permitted for the purpose of "any" civil proceedings if the ship

It seems clear, therefore, that what matters is not the fact *per se* that the coastal State extends the jurisdiction of its courts to acts committed on board a foreign ship: the purpose of such provisions is rather to avoid undue interference with the ship during its “innocent” passage through the territorial sea. *Mutatis mutandis*, similar considerations apply as regards the exercise of jurisdiction over facts occurring or acts committed beyond a coastal State’s territorial sea within its exclusive economic zone or on the high seas, where foreign ships enjoy “freedom of navigation”.⁵⁰ It must be pointed out in this respect that, if a coastal State has no exclusive economic zone, the exercise of jurisdiction on the part of its courts in respect of a nuclear incident occurring within two hundred miles from its coast but beyond its territorial sea would amount to the exercise of jurisdiction for an incident occurred on the high seas.

In a famous judgement rendered in 1927 and relating to a claim to exercise criminal jurisdiction against an officer of a foreign ship for a collision occurred on the high seas, the Permanent Court of International Justice dismissed the idea “that international law prohibits a state from exercising jurisdiction, in its own territory, in respect of any case which relates to acts which have taken place abroad, and in which it cannot rely on some permissive rule of international law”; on the contrary, the Court held that, “far from laying down a general prohibition to the effect that states may not extend the application of their laws and the jurisdiction of their courts to persons, property and acts outside their territory, it leaves them in this respect a wide measure of discretion which is only limited in certain cases by prohibitive rules; as regards other cases, every state remains free to adopt the principles which it regards as best and most suitable”.⁵¹

is lying in the territorial sea or passing through it after leaving internal waters.

50. Under Article 58 of the LOS Convention, freedom of navigation and overflight is listed among freedoms enjoyed by all states in a coastal State’s exclusive economic zone. As for the high seas, see Article 2 of the 1958 Geneva Convention on the High Seas and Article 87 of the LOS Convention.

51. *Permanent Court of International Justice, Collection of Judgements, Series A/B, No. 22, The Case of the S.S. “Lotus”*, at p. 19. The Court then held that no prohibitive rule prevented a state from exercising criminal jurisdiction in its own territory over acts occurred on board a foreign ship on the high seas (at p. 25).

In this writer's opinion, even if the evolution of the law since 1927 is taken into account,⁵² there is still no such general prohibition in customary international law, nor are there specific prohibitive rules in the law of the sea preventing the courts of a coastal State from exercising civil jurisdiction for actions for compensation arising out of a nuclear incident occurring beyond its territorial sea. This conclusion seems to be confirmed, in particular, by Part XII of the 1982 LOS Convention dealing with the "protection and preservation of the marine environment": in fact, Article 229 unambiguously states that nothing in the LOS Convention affects "the institution of civil proceedings in respect of any claim for loss or damage resulting from pollution of the marine environment".

When it comes to enforcement action, Article 220, relating to pollution from ships, allows the coastal State to "institute proceedings, including detention of the vessel" only if there is clear evidence that a vessel, while navigating in the exclusive economic zone⁵³ or in the territorial sea, committed a violation of environmental rules resulting in a "discharge causing major damage or threat of major damage to the coastline or related interests of the coastal State, or to any resources of its territorial sea or exclusive economic zone".⁵⁴ No interference with the ship seems, therefore, to be allowed if the

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52. It may be interesting to point out in this respect that a specific prohibitive rule has evolved precisely in respect of cases such as the one decided by the Court in 1927: Article 97 of the LOS Convention unequivocally states that penal or disciplinary jurisdiction in matters of collision or any other incident of navigation concerning a ship on the high seas exclusively lies with the judicial or administrative authorities of either the flag State or the state of which the person responsible is a national.
 53. Apart from the protection of the marine environment, Article 73 (1) of the LOS Convention states that "the coastal State may, in the exercise of its sovereign rights to explore, exploit, conserve and manage the living resources in the exclusive economic zone, take such measures, including boarding, inspection, arrest and judicial proceedings, as may be necessary to ensure compliance with the laws and regulations adopted by it in conformity with this Convention".
 54. Where there is no evidence of a discharge but there are grounds for believing that the vessel has violated environmental rules, the coastal State can only require the vessel to give information regarding its identity and port of registry, its last and next port of call and "other relevant information". Where there is evidence of a "substantial" discharge but only "significant pollution", as opposed to "major damage", has been caused or threatened, the coastal State may undertake "physical inspection" of the ship if the ship has refused to give information or if the information supplied is manifestly at variance with the evident factual situation, but can still not "institute proceedings". On

coastal State has no exclusive economic zone and an incident occurs on the high seas. But account must be taken in this respect of Article 221 (1) whereby nothing in Part XII of the LOS Convention “shall prejudice the right of States, pursuant to international law, both customary and conventional,⁵⁵ to take and enforce measures beyond the territorial sea proportionate to the actual or threatened damage to protect their coastline or related interests, including fishing, from pollution or threat of pollution following upon a maritime casualty or acts relating to such a casualty, which may reasonably be expected to result in major harmful consequences”.⁵⁶

5. Main implications of the new provisions

If, then, no prohibitive rule exists in the law of the sea preventing a coastal State from extending the civil jurisdiction of its courts to nuclear incidents outside its territorial sea, precisely such a rule exists for parties to the 1960 Paris Convention or the 1963 Vienna Convention, which give exclusive jurisdiction over such incidents to the competent court of the Installation State. As stated above, the purpose of the new provisions adopted at the 1997 Vienna conference is to replace that rule and allow the coastal State to exercise jurisdiction.

Indeed, a Party to the 1997 Vienna Protocol and/or the Convention on Supplementary Compensation will actually be obliged, *vis-à-vis* other Parties, to ensure that one of its courts has jurisdiction for incidents occurring within its exclusive economic zone. If, on the other hand, that Party has not (yet) established an exclusive economic zone and an incident occurs within 200 miles from its coast, jurisdiction will lie with the competent court of the Installation

the other hand, Article 216 gives general enforcement powers with respect to pollution by “dumping”, defined in Article 1 as including “any deliberate disposal of wastes or other matter from vessels, aircraft, platforms or other man-made structures at sea”, as well as any deliberate disposal of such vessels, aircraft, platforms or structures.

55. Account must be taken in this connection of the 1969 IMO Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, which was adopted following the 1967 incident of the Liberian tanker *Torrey Canyon*.

56. Paragraph 2 of Article 221 defines “maritime casualty” as “a collision of vessels or other incident of navigation, or other occurrence on board a vessel or external to it resulting in material damage or imminent threat of material damage to a vessel or cargo”.

State, unless, prior to the incident, it has notified the Depository of its intention to exercise jurisdiction for incidents occurring in an area not exceeding the limits of an exclusive economic zone.

It may be interesting to recall, in this respect, that the choice of the competent forum brings with it the determination of the applicable law: in fact, under Article XIV(2) of the Convention on Supplementary Compensation, “subject to the provisions of this Convention, the Vienna Convention or the Paris Convention, as appropriate, the applicable law shall be the law of the competent court”;⁵⁷ therefore, the answer to all questions which are not completely settled by the uniform regime of nuclear liability will be given by “the law of the competent court”.⁵⁸ This conclusion may have significant implications, for example, for the applicable definition of nuclear damage, inasmuch as both Article 2(2) of the Protocol to Amend the Vienna Convention and Article I(f) of the Convention on Supplementary Compensation state that damage other than “loss of life or personal injury” and “loss of or damage to property” will be compensable “to the extent determined by the law of the competent court”. Indeed, it was precisely the inclusion of the new provisions on jurisdiction that enabled some “non-nuclear” states to agree to the definition of nuclear damage that eventually resulted from the Vienna negotiations.

As seen above, however, a proviso was added to Article XIII of the 1997 Convention on Supplementary Compensation to the effect that, if the exercise of jurisdiction on the part of the coastal State is inconsistent with its obligations under Article XI of the Vienna Convention or Article 13 of the Paris Convention in relation to a state not party to the Convention on Supplementary Compensation, “jurisdiction shall be determined according to those provisions”. In this writer’s opinion, this proviso is, in some respects, superfluous and, in others, unfortunate in that it may have very negative and (perhaps) unforeseen consequences.

57. See also Article VIII of the Vienna Convention and Articles 11 and 14 of the Paris Convention.

58. In principle, “the law of the competent court” may not coincide with the *lex fori*, inasmuch as it is defined in Article I(k) of the Convention on Supplementary Compensation as “the law of the court having jurisdiction under this Convention, including any rules of such law relating to conflict of laws” (emphasis added). See also the corresponding definition in Article I(1)(e) of the Vienna Convention; as for the Paris Convention, Article 14 does not expressly state that “national law” includes rules of private international law, but a statement to that effect can be found in paragraph 60 of the *exposé des motifs* (*supra*, note 3). In practice, however, it is possible to assume that the applicable law will be the *lex fori* in most cases.

During negotiations within the IAEA Standing Committee, the supporters of the proviso presented it as a means of avoiding possible “conflicts of jurisdiction” which might arise until all states party to either the Paris or the unamended Vienna Convention had ratified or acceded to the new Convention on Supplementary Compensation, but such “conflicts of jurisdiction” are not very likely to arise: in fact, if the coastal State were a party to the Convention on Supplementary Compensation but the Installation State were not, the Convention would not apply and there could be no “conflict of jurisdiction”⁵⁹; if, on the other hand, both the coastal State and the Installation State were party to the Convention, the new rule would prevail in their mutual relations and there would again be no “conflict of jurisdiction”.⁶⁰

But the proviso does not in fact refer to “conflicts of jurisdiction”: rather, it refers to possible conflicts of conventional “obligations” for the coastal State. It would seem to follow that coastal States party to either the 1960 Paris Convention or the unamended Vienna Convention will be prevented from exercising jurisdiction for nuclear incidents outside their territorial sea until *all* parties to the applicable convention have ratified or acceded to the new Convention on Supplementary Compensation;⁶¹ until that happens, jurisdiction for incidents occurring within their exclusive economic zone, or equivalent area, will continue to lie with the courts of the Installation State, even if the Installation State has in fact already ratified or acceded to the new Convention. It may seem ironic that a similar proviso was not adopted in the context of the Vienna Protocol, since conflicts of conventional obligations, and indeed in some cases even real “conflicts of jurisdiction”, might well arise in relations between Parties to the Protocol and Parties to the unamended Vienna Convention.⁶²

59. Under Article II(2), the Convention only applies if liability for nuclear damage lies with the operator of an installation situated in the territory of a Party thereto.

60. This does not mean that such states would not be guilty of a violation of either the Paris or the (unamended) Vienna Convention in their relations with Parties thereto which had not yet ratified or acceded to the Convention on Supplementary Compensation: see Article 30 (5) of the 1969 Vienna Convention on the Law of Treaties.

61. Under Article 30 (2) of the 1969 Vienna Convention on the Law of Treaties, “when a treaty specifies that it is subject to, or that it is not to be considered as incompatible with, an earlier or later treaty, the provisions of that other treaty prevail”.

62. Under Article 19 of the 1997 Vienna Protocol, Parties to the unamended Vienna Conventions will still be bound by its provisions when they ratify or

Leaving aside the question of possible conflicts of conventional obligations, the main practical problems which may arise as a result of the new provisions on jurisdiction seem to relate to the delimitation of the exclusive economic zone, or of the equivalent area, between states whose coasts are opposite or adjacent.⁶³ In fact, Article 74 of the LOS Convention merely states that the delimitation of the exclusive economic zone “shall be effected by agreement on the basis of international law ... in order to achieve an equitable solution”, and that, pending such agreement, the states concerned, “in a spirit of understanding and co-operation, shall make every effort to enter into provisional arrangements of a practical nature”; no rule is laid down which might apply where neither an agreement nor provisional arrangements are reached between the states concerned. One might then ask what would happen if a nuclear incident occurred in a disputed area claimed by more than one Party as part of its exclusive economic zone, or of the equivalent area.⁶⁴

accede to the amending Protocol, in their relations with other Parties which have not (yet) ratified or acceded to the Protocol. Similarly, when states not party to the unamended Vienna Convention ratify or accede to the 1997 Protocol they will also be bound by the unamended convention in their relations with the Parties thereto, unless they express a contrary intention.

63. Of course, in the case of states whose coasts are opposite, problems would only arise if the distance between the baselines of their respective territorial seas were less than 400 miles.
64. The same question may actually be asked in the event of a nuclear incident occurring in an area claimed by more than one State as part of its territorial sea. In this case, however, both Article 12 of the 1958 Geneva Convention on the Territorial Sea and the Contiguous Zone and Article 15 of the LOS Convention provide that, in the absence of a delimitation agreement, neither of the states concerned can extend its territorial sea “beyond the median line every point of which is equidistant from the nearest points on the baselines from which the breadth of the territorial sea of each of the two states is measured”. It is true that this provision is said not to apply “where it is necessary by reason of historic title or in other special circumstances, to delimit the territorial sea of the two states in a way which is at variance therewith”. But it would seem that the median line rule could still be provisionally applied until an agreement is reached on the effect of such special circumstances (such as, for example, an island lying “on the wrong side” of the median line). As for historic titles, this writer believes that historic titles relevant for the delimitation of maritime areas between two states are really in the nature of tacit delimitation agreements: see Gioia, *The Law of Multinational Bays and the Case of the Gulf of Fonseca*, in *Netherlands Yearbook of International Law*, Vol. XXIV (1993), pp. 81 *et seq.*, at pp. 111 *et seq.* and in note 101.

As far as the delimitation of the exclusive economic zone is concerned, Part XV of the LOS Convention, dealing with the settlement of disputes, provides in general that, if no settlement has been reached by the parties by means of their own choice, disputes relating to the interpretation or application of the Convention can be submitted, at the request of any party, to compulsory procedures entailing binding decisions. But then Article 298 allows a state at any time to declare that it does not accept such compulsory procedures with respect to certain categories of disputes, among which are those concerning the interpretation or application of Article 74. If a state has not claimed an exclusive economic zone but has declared that it will exercise jurisdiction for nuclear incidents occurring within an area of equivalent extension, Part XV of the LOS Convention will not even be applicable to disputes concerning the delimitation of such area, since, for the purposes of the law of the sea, that area is part of the high seas.

It is unfortunate then that the drafters of the 1997 Conventions have finally opted for dispute settlement procedures that give no assurances of binding decisions. In fact, both Article 17 of the Vienna Protocol and Article XVI of the Convention on Supplementary Compensation provide that, if no settlement has been reached within six months, disputes shall be submitted to compulsory arbitration or judicial settlement, but then allow each ratifying or acceding state to declare that it will not be bound by such provisions.⁶⁵

65. It may be that, in order to avoid a stalemate, resort could be made to the residual rule, which can be found both in the existing conventions and in the new 1997 conventions, that “where the place of the nuclear incident cannot be determined with certainty” jurisdiction lies with the courts of the installation State, and that the prospect of having to defer to the jurisdiction of the installation State may work as an incentive for coastal States to solve their delimitation disputes.

Session III – Séance III : Discussions

QUESTIONS TO / À : O. BROWN, U. MAGNUS

M. J. Martinez-Favini

Professeur Magnus, la question du droit international privé est extrêmement importante. Est-ce que quelque chose peut être fait pour en uniformiser l'interprétation ?

Prof. U. Magnus

In Europe, we have the European Court of Justice for this purpose. On a world-wide basis, I do know, however, that the possibility of ensuring that courts interpret instruments in a uniform fashion is somewhat utopic.

Prof. H. Tanikawa

I would like to point out two difficult points in relation to private international law. The first is that the application of conflict of law rules may occasionally lead to anomalous situations whereby the state whose law has been deemed applicable in fact has no special legislation in respect of nuclear third party liability, rendering the procedure meaningless. Secondly, in respect of the maritime transport of nuclear materials, if two vessels collide on the high seas, in such a case it is usually the law of the flag rule which applies. However, this is difficult if there are different flags involved. On this subject also, the International Maritime Committee adopted rules concerning the conflict of laws and jurisdiction in Rio de Janeiro about two years ago. These rules were then presented to the IMO but were subsequently withdrawn. This problem of collision on the high seas is a very difficult issue.

M. P. Strohl

Je voudrais souligner qu'il y a un grand risque si la situation actuelle des conventions de responsabilité civile nucléaire n'évolue pas rapidement vers davantage d'uniformité, en tout cas quant aux clauses relatives à leur champ d'application et à la juridiction compétente. Sinon, il y a lieu de craindre que dans de nombreux cas, en particulier en matière de transport, ce soit le droit commun, le droit privé national qui s'applique – ce qui serait tout à fait contraire au principe de la création d'un régime spécial de responsabilité civile nucléaire.

M. W. Gehr

En ce qui concerne la présentation de M. Brown, j'ai un commentaire et une question. Dans votre présentation vous disiez que des clauses contractuelles pouvaient être appliquées sous la loi autrichienne, pour la défense des victimes autrichiennes. Je voudrais apporter une rectification : ce ne sont pas seulement des victimes autrichiennes qui peuvent bénéficier de ces clauses mais toutes les victimes quelle que soit leur nationalité. Mon deuxième point est une question : vous disiez que les limites d'assurance telles que prévues par la loi autrichienne excèdent la capacité du marché autrichien. Je serais intéressé de savoir d'où provient cette information car nous avons travaillé avec nos assureurs lors de l'élaboration de cette loi, et ils n'ont pas émis d'objections à ces montants.

Mr. O. Brown

Austria, as a sovereign State, is entitled to adopt its own law. However, its new legislation does detract from the uniformity of the approach. It would be preferable to have one central court administering all of the claims rather than having some claims being adjudicated in Austria and some in other countries. The solution to this problem is to increase the amounts of coverage so that the victims are more adequately compensated, rather than having separate forums where people can shop around and choose their judge or their country.

Ms. N. Horbach

My question is addressed to Prof. Magnus. Since the Austrian law applies a different concept in terms of jurisdiction, there may be situations where a nuclear operator is liable, either under the Paris or the Vienna Convention and also, on the basis of damage having occurred in Austria, Austrian courts may assume jurisdiction. Under private international law, to which court would jurisdiction effectively be assigned?

Prof. U. Magnus

I think that there is no reason which would prevent any state from extending its jurisdiction to cases where damage has occurred on its territory, so Austria is perfectly entitled to extend its jurisdiction to all cases where nuclear damage has occurred on its territory. It has also extended the scope of liability and the extent of damage. I believe that Austria's new liability legislation is a

model law for a non-nuclear state surrounded by nuclear states. This is a perfectly reasonable solution in terms of private international law.

QUESTIONS TO / À : W. LEIGH, A. GIOIA

Mr. F. Nocera

Dr. Leigh, I would like to compliment your analyses on the definition of nuclear damage and its implications. However, the remarks which follow, in relation to the increasing role of regulatory law, were a little less convincing. You point out the developing role played for example by the Basic Safety Standards Directive, which sets out the steps to be taken in the event of a nuclear incident. I believe that the civil liability regime, and in particular the nuclear liability regime, is totally independent from the radiation protection regime under the Euratom Basic Safety Standards. Furthermore, under the Basic Standards, the notion of incident is traditionally linked to the exceeding of a given radiation dose limit, and in any case, a radiological emergency under the Basic Standards is not necessarily an incident under the nuclear third party liability regime. In addition, the cost of remedial measures is not addressed by the Basic Standards and consequently should not be addressed by the national implementing legislation.

Dr. W. Leigh

We need to monitor this situation quite carefully, and should not make the assumption that the civil liability regime exists in isolation. We should keep a careful eye on the way regulatory laws do develop. There will be increasingly pro-environmental laws that require polluters to pay for the costs of pollution. While we look at the civil liability regime as a way of dealing with private law claims for compensation, it is conceivable that regulatory laws will be passed which will require responsible persons in a different category to take remedial action. It may well be that when implementing legislation is passed, there will be a recognition that the operator should not be exposed to any further liability than under the Convention regime. This is not necessarily the position at the moment, but it should be monitored.

Prof. H. Tanikawa

My question is addressed to Dr. Leigh. In the last part of your paper, you propose that those financial incentives which exist in relation to the

attribution of liability in the case of transport to the operator or carrier who has the lowest liability ceiling, should be removed. You refer in a footnote to the International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea 1996 (HNS Convention). However, in my experience gained through attendance at the Diplomatic Conference, the liability amount for ship-owners under the HNS Convention is a maximum amount in terms of availability on the insurance market. Also, under the HNS Convention, the second tier is based upon a contribution by the receiver of materials. Therefore, this reference to the HNS Convention is not entirely suitable here. Furthermore, the notion of carrier is a concept related to the contract of carriage: if you wish to refer to some person other than the operator being liable in relation to transport, you should refer to the ship-owner rather than the carrier.

M. J. Martinez Favini

Je profite de la présence de notre collègue de British Nuclear Fuels afin de soulever la question du lien de causalité qui a été très peu évoquée pendant ce Symposium. J'ai eu l'occasion de m'entretenir avec le juge French au sujet de l'affaire *Reay & Hope v BNFL*. Le coût de la preuve a été de 10 millions de livres sterling. Le juge French a conclu que dans l'état actuel des connaissances il était impossible de prouver un lien de causalité. Donc, au niveau judiciaire il y a un problème énorme qui est celui de la causalité.

Dr. W. Leigh

You are quite right to raise the issue of causation; there are formidable obstacles in terms of proving a causal link between any radiation exposure and a particular illness or disease. However, it is not impossible to do that. Although the two cases involving childhood leukaemia to which I referred were decided in favour of BNFL, there are other groups of cases, dealing in particular with occupational radiation exposure, where we have devised a way of actually assessing the probability that a particular cancer has been caused by radiation. These principles have been agreed with our trade unions and now represents a national scheme in the UK. It is not as hopeless a situation for victims as one might think. To demonstrate this, we should note that BNFL and other nuclear employers have paid out several million pounds of compensation over the past 15 years or so, under the UK radiation worker compensation scheme, which we would not have done if the issues of causation were that difficult to prove.

Mr. S. McIntosh

I would like to address a comment to Mr. Gioia. Although I totally agree with your overall analysis of the rationale underlining changes in jurisdiction in the 1997 Conventions, your comments in relation to the delimitation of Exclusive Economic Zones (EEZs) may be going a little far. If Exclusive Economic Zones have not been delimited as yet, it is either because there is a perception at least of a significant resource to be divided or a basic political problem, such as between Greece and Turkey. The supposition that the theoretical right to have jurisdiction over what must be considered to be an unlikely incident would override all other problems may be somewhat optimistic.

Mr. O. Brown

In respect of Dr. Leigh's comments on causation, I am not as optimistic that causation would be as easy to demonstrate before US courts. The Gleason case in the 1960s in New Jersey, brought by a transport worker who had suffered awful injuries as a result of an accident involving liquid plutonium, demonstrated perfectly that juries do not find their awards on issues related to causation. When this case went to trial in the Federal Courts in New Jersey, there were some pictures of the injury. The judge, attempting to settle the case, indicated to counsel that if the case were to go to jury, certain pictures would be shown to the members of the jury. The counsel for American Nuclear Insurers argued that there was no proof of causation, at which point the judge replied that the jury does not base its decision on or particularly care about causation.

Mr. R. Manovil

My comment relates to the principle of causation, which I think is always important. The case to which Mr. Brown referred is the best argument not to submit such cases to juries. In any legal regime all the principles of civil liability have to be respected and causality is one of them.

Ms. L. de La Fayette

Mr. Gioia, in relation to the negotiations on a new wreck removal convention which are taking place at present within the International Maritime Organisation, it has been agreed that this convention will expressly exclude nuclear incidents which are covered by the nuclear liability conventions. I am

not sure, however, that wreck removal is covered by the nuclear conventions. Under this draft convention, when there is a shipwreck, the coastal state will determine whether it is a hazard, in which case it can require the ship-owner to remove the wreck. If the ship-owner does not do so, the state may do so at the expense of the ship-owner. I would like to know whether wreck removal would be covered by the nuclear liability conventions.

Prof. A. Gioia

Your question does not actually relate to jurisdiction, but rather to the definition of nuclear damage, on the one hand, and to the geographical scope of the nuclear liability regime, on the other. Whether or not the cost of wreck removal can be regarded as nuclear damage depends, to a certain extent, on the determination of the law of the competent court. As for geographical scope, the new provisions in the revised Vienna Convention will always cover damage suffered within a Party's maritime zones or on the high seas, including the seabed thereof. On the other hand, under the new Convention on Supplementary Compensation, the geographical scope is more restricted: damage suffered beyond a Party's territorial sea will only be covered if suffered on board or by a ship flying a Party's flag, by a Party's national, or in connection with the exploration or exploitation of the natural resources of a Party's continental shelf or exclusive economic zone.

Prof. U. Magnus

Conflicts between conventions increase the more conventions are created and adopted. I feel that the time is now ripe to unify the law of conventions in order to avoid this type of conflict. This must be a primary task of the international organisations.

Mr. O. Brown

This issue has also caused concern in relation to the retrieval of materials. If a cask containing nuclear materials is in the sea, but is not leaking, would this qualify as nuclear damage? Should it be removed for political or social reasons; and, if so, would insurance cover this?

M. P. Reyners

En ce qui concerne la question posée par Mme de La Fayette, il est peut-être utile de rappeler la Convention de Bruxelles de 1971 relative à la responsabilité civile dans le domaine du transport maritime des matières nucléaires. Cette Convention visait à établir la primauté du droit nucléaire sur le droit maritime en matière de responsabilité pour les accidents nucléaires. Cette question a été soulevée lors de la négociation et de l'adoption de chaque nouvel instrument international en matière de responsabilité civile liée aux transports. Certaines Conventions ont ignoré les principes contenus dans cette Convention : on citera par exemple la récente Convention HNS, qui stipule une exclusion générale du risque nucléaire. Cette situation n'est pas entièrement satisfaisante car, si le droit de la responsabilité nucléaire ne s'applique pas pour une raison ou pour une autre, il est préférable que le droit non nucléaire s'applique. Dans le cas de l'accident du Mont Louis, il s'agissait du transport de l'hexafluoride d'uranium. Cette matière, à l'état naturel, n'est pas couverte par les Conventions nucléaires car elle ne présente pas de danger de radioactivité significatif ; en revanche, elle a des propriétés chimiques dangereuses. Ce cas en particulier fait l'objet de discussions dans le cadre de la révision de la Convention de Paris.

Mr. O. Brown

In the case of the Mont Louis accident, there was a lot of money spent on retrieval of the material, although strictly speaking there wasn't any great nuclear hazard associated with it.

M. P. Strohl

Il y a une tendance créée par la situation actuelle, qui est de s'échapper du droit nucléaire, et d'examiner la place que pourrait prendre le droit civil commun, le droit de la responsabilité. Le deuxième point que je souhaiterais mentionner est le nombre de conflits qui se créent entre les différents textes qui sont en vigueur actuellement, ou qui sont soit en cours de ratification, soit en cours de révision. Je note aussi que la tendance à sortir de la compétence du tribunal du pays de l'exploitant responsable, notamment en matière de transport, est également contraire à l'esprit du droit nucléaire international.

Session IV – Séance IV

**COMPENSATING NUCLEAR ACCIDENT VICTIMS:
PRACTICAL PROBLEMS AND SOLUTIONS**

**LA RÉPARATION DES VICTIMES D'UN ACCIDENT
NUCLÉAIRE : PROBLÈMES PRATIQUES ET
SOLUTIONS**

Chairperson / Président : Hélène Conruyt-Angent

Conseiller Général, Ministère des Affaires économiques de Belgique

COMMENT GÉRER LA RÉPARATION DU DOMMAGE ?

WHO SHOULD ADMINISTER AWARDS, AND HOW?

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Abstract

This paper examines the problems related to the administration of compensation awards following a nuclear accident, and suggests ways in which these problems could be addressed. The author first describes the existing legislation in Switzerland governing nuclear third party liability and its financial guarantee, namely the 1983 Act on Nuclear Third Party Liability and its Implementing Ordinance. He then provides an outline of the principles underlying the administration of compensation in Switzerland, describing in particular issues related to the information of the public, the organisation of a first estimate of damage three months after the incident, and the procedure applicable to accidents of catastrophic proportions, including the drafting of special legislation to govern the indemnisation regime.

The author further notes that in the context of the international third party liability regime, the Paris Convention does not regulate the administration of claims in detail, but rather refers to the national legislation of the accident state to determine such measures (Article 11). It does provide, however, that the distribution of compensation should be equitable in nature. The Vienna Convention contains similar provisions, although its Amending Protocol provides in certain cases for a priority system in favour of victims who have lost their lives or suffered personal injury. He points out that although Switzerland is not a Party to either of these Conventions, it has concluded a reciprocal agreement with Germany in this field, in light of the similarities in their national legislation. The author concludes by expressing his agreement with the approach taken by the Swiss legislator in avoiding the adoption of detailed regulations governing the administration of awards in advance. He notes that a case-by-case approach in response to the particular circumstances of a nuclear accident provides those responsible with the flexibility necessary to administer compensation in an equitable fashion.

Introduction

Cet exposé s'inscrit dans un cadre bien défini qui est celui de la gestion de la réparation du dommage résultant d'un accident nucléaire. Il s'agit d'en cerner les problèmes pratiques et de tenter d'apporter des solutions. Cet exposé s'inspire de la structure mise sur pied en Suisse grâce à l'étroite collaboration du Pool suisse d'assurance des risques nucléaires et des autorités fédérales. Avant d'entrer dans le vif du sujet, il est essentiel d'expliquer le fonctionnement de la législation suisse sur la responsabilité civile en matière nucléaire.

Législation suisse sur la responsabilité civile en matière nucléaire

Cette législation est composée de deux textes qui sont :

- la loi fédérale sur la responsabilité civile en matière nucléaire ;
- l'ordonnance du Conseil fédéral (gouvernement) sur la responsabilité civile en matière nucléaire.

La loi et l'ordonnance datent de 1983. Elles sont toutes deux entrées en vigueur le 1^{er} janvier 1984.

La loi renferme les principes retenus par le législateur suisse ; l'ordonnance contient des dispositions d'exécution de la loi.

Principes contenus dans la loi fédérale

Avant d'en préciser quelque peu la signification, il est bon d'énumérer les principes afin de comprendre à quel type de législation se rattache le droit suisse. Cette loi ne règle pas seulement la responsabilité civile, mais également la couverture. Les principes sont les suivants :

- responsabilité exclusive et illimitée de l'exploitant d'une installation nucléaire ou du détenteur d'une autorisation de transport ;
- assurance privée ou garantie financière obligatoire ;
- assurance étatique assortie de paiement de primes à l'État ;

- péremption du droit d'action des lésés après 30 ans depuis la survenance du dommage ;
- libération de la responsabilité civile de l'exploitant en présence d'une faute ou d'une négligence grave du lésé ;
- couverture financière même en cas de phénomène naturel extraordinaire ou de guerre ;
- couverture étatique des dommages différés ;
- procédure de règlement des grands sinistres.

Principes régissant la responsabilité civile

Par dommage d'origine nucléaire, il faut entendre le dommage causé par les propriétés dangereuses des substances nucléaires ainsi que celui survenu à la suite de mesures ordonnées ou recommandées par les autorités afin d'écartier ou réduire un danger nucléaire imminent. Le gain manqué (*lucrum cessans*) n'est pas couvert, s'il résulte de mesures ordonnées ou recommandées par les autorités ; seule la perte effective et immédiate est prise en compte (*damnum emergens*). Par substances nucléaires, il faut comprendre le combustible nucléaire, les produits et les déchets radioactifs. La loi définit chacun de ses éléments.

La loi institue le principe de la responsabilité exclusive et illimitée de l'exploitant ou du détenteur d'une autorisation de transport. L'exploitant répond non seulement des dommages d'origine nucléaire mais encore du coût des mesures prises par les autorités.

La personne responsable civilement est libérée de sa responsabilité si elle prouve que le lésé a causé le dommage intentionnellement ou par une négligence grave. Cette libération n'a d'effet qu'à l'égard du lésé coupable et non des autres victimes de l'accident nucléaire à l'égard desquelles l'exploitant demeure civilement responsable. La personne responsable civilement dispose d'un droit de recours contre la personne qui a causé le dommage de manière intentionnelle ou contre celle qui lui a accordé contractuellement un tel droit. Les actions en dommages-intérêts fondées sur la présente loi se prescrivent par trois ans à compter du jour où le lésé a eu connaissance du dommage et de la personne qui en assume la responsabilité ou la couverture. Les prétentions des victimes de dommages nucléaires se périment si aucune action n'est intentée dans les 30 ans qui suivent l'événement dommageable.

Principes régissant la couverture des risques par l'assurance privée et par l'assurance étatique

La personne civilement responsable est tenue de contracter une assurance responsabilité civile auprès d'un assureur privé autorisé à opérer en Suisse. La couverture d'assurance doit être d'au moins 700 millions de francs suisses (CHS) pour les dommages auxquels il faut ajouter 70 millions pour les intérêts et les frais de procédure. Il s'agit là bien entendu de montants minimums obligatoires. Dans le cas de transit de substances nucléaires, la couverture d'assurance est fixée à 50 millions de CHS au minimum et 5 millions pour les intérêts et les frais de procédure.

Ces montants de couverture sont non seulement des minima obligatoires, mais encore ils doivent être augmentés par le gouvernement suisse lorsque le marché de l'assurance offre une couverture plus élevée à des conditions acceptables. En contrepartie, l'ordonnance sur la responsabilité civile en matière nucléaire définit les risques qu'un assureur privé peut ne pas couvrir.

De son côté, l'État couvre la personne civilement responsable d'un dommage d'origine nucléaire jusqu'à concurrence de 1 milliard de CHS + 100 millions pour les intérêts et les frais de procédure. Dans le cas des risques couverts par l'assurance privée, la Confédération intervient à partir de 700 millions et jusqu'à 1 milliard de CHS. La Confédération prend ainsi à sa charge les 300 millions manquants. S'agissant des risques non-couverts par l'assurance privée, la Confédération intervient entre 1 franc et 1 milliard de CHS + 100 millions pour les intérêts et les frais de procédure.

Les risques que l'assureur privé peut ne pas couvrir sont de trois types :

- les risques nucléaires imputables à des événements de guerre ou des phénomènes naturels extraordinaires ;
- les prétentions n'ayant pas fait l'objet d'une action dans les 10 années suivant l'événement dommageable ;
- des prétentions n'ayant pas fait l'objet d'une action dans les 20 années à partir de la perte, du vol, du largage ou de la fin de la possession de substances nucléaires.

La Confédération prend également à sa charge jusqu'à 1 milliard de CHS + 100 millions pour les intérêts et les frais de procédure, les dommages

d'origine nucléaire dont la réparation ne peut plus être réclamée à la personne responsable car le délai de 30 ans est écoulé.

De la même façon qu'il paie des primes d'assurance à sa compagnie privée, l'exploitant est tenu de s'acquitter de primes d'assurance auprès de l'État. Ses primes sont, depuis 1998, fixées en francs par installation nucléaire et figurent dans l'ordonnance. Seule la prime due à la Confédération par un transporteur de substances nucléaires en transit reste fixée en pourcentage de la prime due à l'assureur privé. En revanche, jusqu'à 1998, les primes dues à la Confédération au titre de l'assurance étatique étaient toutes calculées en pourcentage de la prime due à l'assureur privé.

Le montant des primes encaissées par l'État est versé dans un fonds appelé « Fonds pour les dommages nucléaires ». La fortune de ce fonds s'élève à 242 millions de CHS au 31 décembre 1998.

La loi impose également à la Confédération de couvrir des dommages d'origine nucléaire non pas grâce à l'argent de ce fonds, mais à la charge de ses ressources générales. Il s'agit des dommages nucléaires suivants :

- dommage dont il est impossible de déterminer la personne responsable ;
- dommage provenant d'une installation nucléaire ou d'un transport qui n'aurait pas été assuré ;
- dommage dont l'assureur et/ou la personne responsable ne peuvent assurer la couverture étant donné leur insolvabilité ;
- ou, enfin, des cas dans lesquels une personne ayant subi en Suisse un dommage d'origine nucléaire à la suite d'un accident survenu à l'étranger et qu'elle ne peut y obtenir réparation.

S'agissant des dispositions concernant l'assurance et la procédure, signalons encore que le lésé peut agir directement contre l'assureur privé ou la Confédération.

La loi, enfin, contient deux dispositions relatives aux grands sinistres. Il s'agit de la mise en place d'une législation d'indemnisation exceptionnelle lorsque les moyens financiers de l'assureur privé, de l'assurance fédérale puis de la personne responsable ne suffisent pas à satisfaire toutes les demandes de réparation. En présence d'un sinistre d'une ampleur exceptionnelle, le Parlement établit :

- un régime d'indemnisation exceptionnel ;
- le paiement de contributions supplémentaires pour les dommages non couverts ;
- la suppression du droit de recours de toutes les institutions d'assurance publiques et privées.

Cette législation d'exception doit assurer une juste répartition des moyens disponibles. Elle peut, pour cela, déroger à la législation existante. Une autorité spéciale indépendante peut être chargée d'en assurer l'application.

Nous arrivons ainsi au cœur de l'exposé.

La gestion de la réparation du dommage à la suite d'un accident nucléaire grave

Afin de décrire de la façon la plus complète possible la gestion de la réparation du dommage, nous avons imaginé la survenance d'un accident grave dans une installation nucléaire suisse.

Je laisse volontairement de côté les mesures prises par l'autorité compétente pour écarter ou réduire un danger nucléaire imminent ainsi que tous les aspects et les diverses procédures d'alarme de la population en cas d'augmentation subite de la radioactivité. Tous ces moyens mis en œuvre après l'accident font l'objet d'une législation séparée. Elle régit de façon très structurée l'organisation de la radioprotection en Suisse. Il s'agit de mesures d'ordre organisationnel, technique et médical. Ces mesures ne touchent pas directement la gestion de la réparation du dommage.

Lorsque survient une catastrophe de grande ampleur, la première démarche est informative.

Information de la population

Par la voie des médias, l'État informera rapidement la population sur les points suivants :

- le type d'événement dommageable ainsi que le lieu où il s'est produit ;
- l'organisation de la responsabilité civile, son assurance et sa couverture financière ;
- le rôle de l'État dans le cadre de la gestion de la réparation du dommage ;
- le déroulement et l'organisation durant les premiers mois suivant l'accident ;
- le rôle des compagnies d'assurance privées et, en particulier, la compagnie privée chargée de recueillir l'ensemble des prétentions des personnes qui se prétendent lésées par suite de l'accident nucléaire ;
- les endroits où les personnes prétendument lésées peuvent se procurer les formulaires spéciaux de déclaration sommaire du dommage subi.

Il est bon de préciser ici que les compagnies d'assurance privées ont l'obligation contractuelle de traiter l'ensemble des prétentions des personnes prétendument lésées, à savoir non seulement celles formulées à l'égard de l'assureur privé, mais également celles formulées à l'égard de la Confédération. En effet, par un contrat datant de 1990, conclu entre le Pool suisse de l'assurance des risques nucléaires et la Confédération, le Pool s'est engagé à traiter l'ensemble des demandes de réparation de toutes les personnes qui se prétendent victimes de l'accident nucléaire. La Confédération a estimé plus raisonnable de confier à des professionnels toute la phase de l'enregistrement et du traitement des demandes de réparation.

Première estimation du dommage et conservation des preuves

Les personnes lésées disposent, à ce moment, d'un délai de trois mois suivant la date de l'information pour s'annoncer en indiquant la date du dommage et l'endroit où il aurait été subi. Ce délai de trois mois n'est pas un

délai de prescription et si une personne prétendument lésée omet de s'annoncer, elle ne perdra pas son droit à la réparation. Ce délai de trois mois est destiné à permettre à l'exploitant responsable, à l'assureur privé et à l'État, de faire une estimation grossière du dommage engendré par l'accident. Il permettra d'écarter rapidement les demandes de réparation manifestement infondées ou abusives. Au terme des trois mois, l'État, en collaboration avec l'assureur privé, se chargera de faire une première estimation du dommage et en informera non seulement l'exploitant, mais aussi le Parlement.

Au cas où le dommage estimé dépasse le milliard de francs, à savoir le montant couvert par l'assurance privée et l'assurance étatique, l'exploitant, qui répond de manière illimitée, rappelons-le, sera amené à inventorier l'ensemble de ses actifs et, si nécessaire, à réaliser toute ou partie de ses biens afin de dédommager les victimes dont le dommage n'aurait pu être indemnisé par les assurances privées et étatiques.

Procédure applicable à un grand sinistre

S'il se révèle que le montant du dommage non couvert excédera largement la valeur du patrimoine de l'exploitant, le gouvernement, dans le cadre de la procédure des grands sinistres, soumettra au Parlement une législation exceptionnelle relative à un régime d'indemnisation spécial. La seule « contrainte » pour le Parlement est d'établir une législation garantissant une juste répartition des moyens disponibles. Il n'est pas exclu qu'en fonction de la nature et de l'étendue du dommage la législation spéciale favorise la réparation des dommages aux personnes avant même la réparation des dommages aux biens ou encore établisse un état de collocation en déterminant plusieurs catégories de personnes lésées puis en procédant à une réduction proportionnelle des indemnisations en fonction de la nature du dommage, de ses particularités et de son évolution probable sur certaines victimes par exemple.

Lorsque le sinistre entraîne un état de détresse important, le gouvernement peut également modifier les règles régissant les autres assurances privées ou publiques; comme par exemple modifier les prestations des assureurs, le mode de perception des primes, etc.

Sur le plan international

La Convention de Paris sur la responsabilité civile dans le domaine de l'énergie nucléaire ne règle pas en détail la nature, la forme et l'étendue des indemnités. Son article 11 renvoie à la législation des États-parties le soin de

déterminer la nature, la forme et l'étendue de la réparation. Cet article, en revanche, énonce le principe de la répartition équitable des indemnités comme garde-fou des législations nationales. Nous saluons la sobriété de cet article. Cette sobriété et cette brièveté traduisent à merveille la complexité et le risque que comporte la mise en place, par avance, de règles touffues et détaillées sur la façon de gérer la réparation d'un dommage. Cette article ne devrait pas subir de modification au terme de la révision en cours.

L'article 8 de la Convention de Vienne de 1963 est comparable à l'article 11 de la Convention de Paris. Alors que l'article 10 de la Convention de Vienne révisée de 1997 introduit, sous certaines conditions, une notion de priorité dans la répartition des indemnités en faveur de celle qui concerne les décès et les dommages aux personnes.

Pour conclure ce bref aperçu de la situation sur le plan international, rappelons que la Suisse n'est partie à aucune des Conventions existantes sur la responsabilité civile dans le domaine de l'énergie nucléaire. Elle a cependant conclu un accord de réciprocité avec l'Allemagne étant donné la similitude des législations nationales. Cet accord renferme notamment le principe de l'égalité de traitement qui prévoit que les ressortissants de l'État voisin ainsi que les personnes qui y ont leur siège, leur domicile ou leur lieu de séjour ordinaire bénéficient du même traitement que les ressortissants de l'État source, tant sur le plan matériel que sur celui de la procédure. S'agissant du droit applicable, le droit interne du pays où les tribunaux sont compétents est applicable aux demandes en dommages et intérêts. En matière de grands sinistres, l'accord prévoit que si le montant de la couverture disponible dans l'État source ne suffit pas à satisfaire toutes les demandes en dommages et intérêts, les parties contractantes se concertent sans délai pour parvenir à une solution appropriée. Cet accord étend donc l'applicabilité du droit suisse à tout le territoire de l'Allemagne au cas où un accident nucléaire se serait produit dans une installation située en Suisse et que des dommages se seraient produits en Allemagne et vice-versa.

Conclusion

Le législateur suisse s'est abstenu de régler par avance et dans les moindres détails la façon de gérer la réparation du dommage. Il s'est contenté de fixer dans la loi sur la responsabilité civile en matière nucléaire un chapitre consacré au règlement des grands sinistres malgré le fait que la loi instaure le principe de la responsabilité illimitée de l'exploitant. Or, tout a une fin; y compris les moyens de l'exploitant et ceux de l'État. La juste répartition des moyens disponibles, d'où qu'ils proviennent, doit rester le principe régissant la

mise en place des structures administratives et privées chargées de gérer la réparation du dommage.

L'État et les assureurs nucléaires ont élaboré une liste commune de documents relatifs à la mise en place d'un système de gestion progressive de la réparation du dommage.

À la suite d'un exercice de simulation d'accident effectué en 1990, les responsables des exploitants, les assureurs nucléaires et l'Administration fédérale avaient tiré les enseignements suivants :

- la gestion de la réparation du dommage doit se faire en plusieurs phases, bien distinctes les unes des autres et peu nombreuses ;
- la première phase, la phase informative, doit permettre de réunir rapidement le plus grand nombre de preuves possibles sur la nature et l'ampleur du dommage ;
- la seconde phase doit permettre l'examen sommaire des demandes en réparation afin d'en écarter rapidement celles qui sont manifestement infondées, voire abusives ;
- la troisième phase doit permettre la mise en place de l'organisation de gestion des grands sinistres.

Les réglementations trop détaillées ne sont guère utiles, au contraire, elles distraient les intervenants de leurs tâches essentielles qui sont, dans un premier temps, d'informer rapidement la population sur l'événement et lui indiquer les formalités très simples à accomplir afin de permettre aux responsables d'avoir une première estimation globale de la nature et de l'ampleur du dommage. Ensuite, de procéder, à l'aide d'experts, à la vérification des prétentions des lésés puis, si nécessaire, d'accorder aux victimes ou à certaines catégories de victimes une avance sur les indemnités auxquelles elles ont droit avant d'examiner plus en détail le bien fondé de l'ensemble des prétentions. Cette dernière phase est, à n'en pas douter, la plus longue et la plus délicate, étant donné la nature particulière d'un dommage dû à des radiations dont les conséquences peuvent apparaître après de nombreuses années.

**AN EQUITABLE DISTRIBUTION OF COMPENSATION: REALISTIC
OR WISHFUL THINKING?**

**RÉPARTITION ÉQUITABLE DE LA RÉPARATION : UN OBJECTIF
RÉALISTE OU UN VŒUX PIEUX ?**

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Résumé

Le point de départ de la présente communication est qu'en cas de grave accident nucléaire causant des dommages qui dépassent la capacité de réparation normalement disponible, se pose la question de la répartition équitable des indemnités. L'introduction de règles de priorités à ce sujet est un moyen qu'il est logique d'envisager. Cette question est particulièrement d'actualité en raison de la révision de la Convention de Vienne qui a élargi la notion de dommage nucléaire et allongé la durée de prescription des actions en réparation. Le problème est de savoir si la « prioritisation » sert l'intérêt bien compris des victimes, notamment celles dont les dommages se manifestent de façon différée.

La première partie de l'exposé est consacrée à une analyse des principes de priorité dans des régimes juridiques extérieurs au nucléaire, en s'appuyant sur des cas empruntés aux Pays-Bas et à la Belgique. L'auteur examine également certaines réglementations internationales récentes, notamment la Convention HNS de 1996 et la Convention CRTD de 1989.

L'auteur passe ensuite à l'analyse des conventions nucléaires qui, jusqu'au Protocole de 1997, ne prévoyaient pas de règles de priorité. Le nouveau principe de priorité accordée à la réparation des dommages corporels ne s'accompagne pas d'ailleurs de règles détaillées sur la mise en pratique de cette priorité. Elle doit aussi être combinée avec les nouvelles dispositions de la Convention en matière de prescription.

À l'appui de cette analyse, l'auteur étudie la façon dont les règles de priorité ont été introduites dans un nombre limité de législations nationales sur la responsabilité civile nucléaire. Les cas des Lois néerlandaise et slovaque sont privilégiés parce que plus détaillés.

La partie suivante de cet exposé porte sur les conséquences pratiques que peuvent avoir pour les assureurs nucléaires l'introduction de règles de priorité. Cette analyse conduit l'auteur à exprimer un certain scepticisme quant à la possibilité qu'un système quelconque de priorité puisse subvenir à l'insuffisance des fonds disponibles en cas d'accident grave et il craint que ces règles ne compliquent et retardent la réparation des victimes dont le dommage s'est manifesté immédiatement.

I. Introduction

The nature and possible implications of an incident at an installation employing nuclear power for peaceful purposes have resulted in both international and national legislation on third party liability in the field of nuclear energy. The primary objective of this legislation is to protect the general public by imposing the concept of strict liability on the part of the operator of nuclear installations. However, in order not to burden the nuclear industry with obligations that may inhibit the operation of its plants, the operator is granted some protection as well. Apart from provisions limiting the right to compensation to a certain period of time, with a few national exceptions,¹ protection is also granted to the operator by limiting his liability to a certain amount.

As long as this amount, possibly supplemented by other funds, is sufficient to compensate all claims resulting from a nuclear incident, the distribution of the total amount available will automatically be on an equitable basis. However, given the high catastrophe potential of nuclear energy generation, the damage to be compensated could exceed the maximum liability amount of the operator. In such a case, the question arises whether an equitable distribution of the available funds should be safeguarded by giving priority to certain claims, and if so, how? Another question which could be disputed is the question of which claims should be prioritised. Depending on personal priority preferences, it could, for instance, be argued that damage to the environment should be given priority over other damage or that priority should be given to certain categories of claimants (individuals over business, business over government, etc.). Since priority is mostly assigned to claims in respect of loss of life or personal injury in discussions on the issue and in legal provisions, if any, I will focus on this concept of prioritisation.

The reason for favouring some kind of prioritisation for compensation of personal injury and death is that such damage, in contrast to property and other forms of damage, may take the longest period of time to manifest itself. Therefore, it would obviously be in the best interest of the victims to have some portion of the available funds set aside for these eventualities. If one takes into account recent trends to expand the definition of “nuclear damage”,² which

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1. The operator's liability in the Swiss, German and Japanese Nuclear Liability Acts is unlimited.
 2. This subject will be dealt with by others in the course of this Symposium.

could reduce the amount of compensation available for claims in respect of personal injury and death, prioritisation would seem attractive.

Evidently, from a social point of view, favouring such claims would meet with a lot of sympathy. In order to establish whether, and if so, how, such prioritisation could be feasible, I shall go into the concept of prioritisation in non-nuclear and nuclear law and practice. I shall do so both on a national and an international level, without the pretention of being limitative and restricting myself to regulations that have definitely been adopted. Being an insurer, it is of course inevitable to also include the insurance point of view.

II. The prioritisation principle in non-nuclear regulations

II.1 National regulations

The concept of prioritisation does not seem to be widely settled in national practice, although it was recently acknowledged in a number of cases which are mentioned below.

Prioritisation considerations played a role in 1996, following the crash of a Dutch Dakota in the Waddensea, which caused considerable loss of life. The plane was carrying a number of civil servants who were on an outing in the northern Netherlands. Its liability insurer, the Dutch Aviation Pool, covered the liability limit laid down in the national Aviation Act amounting to Netherlands Guilders (NLG) 40 million. The total compensation claimed exceeded that amount, on which the relevant State Pension Fund also had laid a claim based on its right of recourse vis-à-vis the pool. Doubtlessly long and costly litigation about who should have priority was not considered an attractive option by all parties concerned. Therefore, it was negotiated that the State Pension Fund would waive its right of recourse on the condition that the pool would pay all claims without limitation. In this way, payments out of the State Pension Fund were limited, whereas at the same time priority was assigned to directly injured parties over claims based on the right of recourse.

Recently the same kind of priority solution was officially laid down by Dutch insurers in a special Claims Settlement Protocol called the *Schaderegelingsprotocol Datumgerelateerde Storingen*.³ Ample publicity has been given to the year 2000 problem (Y2K): computer systems cannot recognise the year 2000 as they were programmed to recognise years expressed

3. Filed at the County Court of The Hague on 29 October 1998.

in two digits instead of four. The nature and possible extent of the problem and its ensuing liabilities have led Dutch insurers to form a special reinsurance company, the *Nederlandse Millenium Herverzekeringsmaatschappij* (NMH), funded with a maximum capacity of NLG 1 billion. Insurers have introduced special clauses in their policies, limiting cover for Y2K-related liability to the amount they can claim with the NMH. Should the NMH not be able to provide the financial means to compensate all claims presented by the participating insurers, priority will be given to claims pertaining to directly injured parties over those based on a right of recourse. The protocol also provides for a priority arrangement in the event that the first category can be fully compensated, but the remaining financial capacity of the NMH appears insufficient to compensate all claims in the second category (1. employers, 2. social insurers, 3. other claimants). Another interesting fact is that the regulation provides in principle for a deadline for the final determination of compensation percentages (1 January 2002).

Continuing with national law, two prioritisation examples should also be mentioned under this heading.

In Belgium an *Act on the prevention of fire and explosion in public buildings and the obligation to insure the liability in such cases* was introduced on 30 July 1979.⁴ Assuming that fire or explosion presuppose insufficient measures of precaution, the act imposes strict liability on the responsible natural and corporate bodies. By Royal Decree of 5 August 1991,⁵ priority was given in Art. 3 to claims in respect of bodily injury over those concerning property damage. Contrary to the examples given above, the legislator not only listed those categories of claims which should be given priority but also laid down the amounts for the two types of damage mentioned in the decree. For claims in respect of bodily injury, liability was limited to Belgian Francs (BEF) 600 million and for those in respect of property damage to BEF 30 million. Should the total claims exceed those sums, both categories of claims are to be reduced *pro rata*.

4. *Loi relative à la prévention des incendies et des explosions ainsi qu'à l'assurance obligatoire de la responsabilité civile dans ces mêmes circonstances*, Moniteur Belge, 20 septembre 1979.

5. *Arrêté royal portant exécution des articles 8, 8bis et 9 de la loi du 30 juillet 1979 relative à la prévention des incendies et des explosions ainsi qu'à l'assurance de la responsabilité civile dans ces mêmes circonstances*, Moniteur Belge, 30 août 1991, F.91- 2216.

The same sequence – introducing the prioritisation principle, listing the types of damage in order of priority and specifying the types of damage in absolute figures – is laid down in German motor liability insurance legislation. In §1 of the most recent decree changing the minimal insurance amounts in obligatory motor insurance,⁶ the following minimum insurance amounts are mentioned:

- for claims in respect of bodily injury, German deutsche mark (DEM) 5 million per person with an aggregate of DEM 15 million in the event that there is more than one victim;
- for claims in respect of property damage, DEM 1 million;
- for claims in respect of pure capital losses, DEM 100 000.

II.2 International regulations

Priority regulations in international practice are scarce as well. They seem to play a role exclusively in international transport conventions.

The *International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea* (HNS Convention) was concluded in 1996. It aims at ensuring adequate, prompt and effective compensation for persons suffering damage from incidents in connection with the carriage of such substances by sea. The convention provides for a total compensation of 250 million units of account (the SDR-value on the date of the accident) for victims of accidents involving hazardous and noxious substances, excluding radioactive materials. The amount comes from two sources.

First, the ship-owner is liable (Art. 7), according to Art. 9 up to a limit, ranging from ten to 100 million units of account, depending on the ship's tonnage. For these amounts he, his insurer or any other person providing financial security has to set up a fund from which claims are to be paid in the event of an incident. In Art. 11 an arrangement is introduced according to which claims in respect of death or personal injury have priority over other claims. However, this priority is capped at two thirds in the event that the aggregate of the total amount of such claims exceeds that part of the total liability amount.

6. *Dritte Verordnung zur Änderung der Mindesthöhe der Versicherungssummen in der Pflichtversicherung für Kraftfahrzeughalter*, 26 May 1997, Veröffentlichungen des Bundesamtes für das Versicherungswesen 12/97.

When the above amount is insufficient, or no liability can be associated with the shipowner, payment comes from a compensation fund, up to a limit of 250 million units of account. The fund consists of contributions from importers of hazardous and noxious substances. The compensation of claims in respect of death or personal injury shall again have priority over other claims, save to the extent that the aggregate of such claims exceeds two-thirds of the 250 million units of account limit.

The two-tier system is modelled on the International Oil Pollution Compensation fund which was set up in 1971. The HNS Convention does not comprise a provision on how to divide the available fund in the event that the total claims exceed the fund.

The liability of road and rail carriers is laid down in the *Convention on Civil Liability for Damage Caused during Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels* (CRTD Convention) of 1989. This convention also gives priority to claims in respect of loss of life or personal injury over other claims. According to Art. 9, liability is limited to 18 million units of account for the first category of claims and to 12 million for the second. These amounts were believed to ensure adequate compensation to victims in all but the most exceptional circumstances, at the same time not placing too heavy an insurance burden on carriers. For the liability of the carrier by inland navigation vessel, amounts of seven or eight units of account have been established, which take into account doubts as to the possibility for small inland navigation carriers to meet the costs of insuring their liability under the convention up to the former amounts. Contrary to the HNS Convention, the CRTD Convention contains a provision for arrangements to be made in the event that the total fund available appears to be insufficient to pay all claims in full. In such a case the amount for other claims is to be made available for payment of the unpaid balance of claims for loss of life or personal injury; such unpaid balance ranking rateably with other claims.

III. Prioritisation in nuclear third party liability conventions

The prioritisation principle does not feature in the two international conventions which have dominated international nuclear third party liability for more than three decades. Both the *Paris Convention on Third Party Liability in the Field of Nuclear Energy* of 29 July 1960 (Art. 11) and the *Vienna Convention on Civil Liability for Nuclear Damage* of 21 May 1963 (Art. VIII) merely refer to an equitable distribution of compensation, to be governed by national law. Pursuant to these provisions, the issue of how the compensation

funds are to be distributed is to be determined by the law of the court having jurisdiction over actions for compensation.

As regards the newly developed nuclear liability conventions dated 12 September 1997, the *Convention on Supplementary Compensation for Nuclear Damage* (CSC) seems to be quite compatible with the relevant articles in the above two conventions. Article X.1 of the main body of the CSC provides that the system of disbursements by which the funds, as required under the first tier of compensation, are to be made available and the system of apportionment thereof shall be that of the contracting party whose courts have jurisdiction.

However, the *Protocol to amend the Vienna Convention* introduces the prioritisation principle. Since the existing conventions leave the distribution of compensation at the discretion of national courts, it was felt that this could lead to an unbalanced distribution of compensation in the event of insufficient funds. This could be to the detriment of victims with bodily injury which is assumed to manifest itself often after a long period of time. Therefore, provision was made in Art. 10 of the Protocol in order to give priority to claims in respect of loss of life or personal injury when distributing compensation.

Thus, the examples in non-nuclear regulations as set out under II above were followed, albeit to a limited extent, as no specification is made as to how the prioritisation is to be implemented or how the amount or percentage of compensation funds is to be dedicated to satisfying such claims. In this respect the competent court will continue to play a role.

Furthermore, the obligation is made subject to the application of the rule in Art. VI.1(c). This article states that actions for compensation for loss of life and personal injury brought after a period of 10 years from the date of the nuclear incident that inflicted the damage shall not affect the rights of compensation of any person who brought an action within that 10-year period. It should be noted that the period prescribed under the Protocol, as far as claims with respect to loss of life and personal injury are concerned, amounts to 30 years. Had this longer period been taken as the time limit for prioritisation of said claims, so it has been argued,⁷ it might become necessary to withhold a portion of the compensation amount in order to be able to compensate claims brought after a longer period than 10 years, taking into account that personal injuries following a nuclear incident could manifest themselves beyond such

7. See for instance Vanda Lamm, *The Protocol amending the 1963 Vienna Convention*, NEA/OECD *Nuclear Law Bulletin* No. 61, June 1998.

period of time. Personally, I seriously doubt whether a 10-year period would solve this problem, which I will come back to under V.

IV. Prioritisation in national nuclear liability law

In national nuclear liability law, prioritising claims also seems to be the exception rather than the rule. Only a small number of countries have incorporated the obligation to prioritise claims into their national nuclear liability legislation.

In the majority of these cases the concept of prioritisation of personal injury claims is mentioned in legislation, although little detail is provided on how to put it into practice. A case in point is the *Bulgarian Act on the Use of Atomic Energy for Peaceful Purposes*⁸ which comprises provisions on civil liability for nuclear damage and incorporates the principle in Art. 36a. The same goes for Hungarian nuclear liability legislation,⁹ which also provides for long latent claims; it lays down that the government may decide that, for a certain period of time, only a specified portion of the available amount for compensation be used to satisfy claimants,¹⁰ thereby setting aside part of the available fund for future claims. The principle of prioritisation of personal injury claims has also been introduced in Spanish¹¹ and French¹² nuclear legislation. In both cases the extent of compensation for bodily injury is related to the relevant provisions in workers compensation legislation.

A number of national acts relating to claims priority arrangements provide a larger degree of detail.

8. State Gazette 79/1985, corrected in Issue 80/1985 and altered in Issue 69/1995.

9. §10(4) of Government Decree 227/1997 on Characteristics, Conditions and Terms of Insurance or Financial Guarantee covering Nuclear Liability.

10. Chapter V, Section 56 (2), Act CXVI of 1996 on Atomic Energy.

11. Art. 51 of the Act 25-1964 of 29 April, on Nuclear Energy, Official State Bulletin of 4 May 1994.

12. Art. 13, *Loi sur la responsabilité civile dans le domaine de l'énergie nucléaire*, Loi No. 68-943 du 30 octobre 1968 modifiée par la Loi No. 90-488 du 16 juin 1990.

Chapter Five of the *Slovakian Act on the Peaceful Use of Nuclear Energy* of 1998,¹³ which deals with nuclear damage and the compensation thereof comprises a Paragraph (29), which provides for a unique system of meeting claims. Hereby the risk of not being compensated increases with the length of time between the occurrence and the claim being submitted. This is particularly the case given the absence of supplementary state compensation.

Claims are divided into three groups:

- Group I comprises justified claims made within one year of the occurrence of a nuclear incident. These claims are to be met within 60 days of the date they were submitted, whereas compensation thereof is confined to 70% of the liability limit. In the event that this percentage proves insufficient, compensation for damage to health and death are met in full and other claims proportionately.
- Group II comprises subsequent claims made between one and three years after the occurrence. They are also to be met within 60 days of the date of the claim. This Group includes the proportionately compensated claims of Group I.
- Group III comprises claims made after 3 years of the incident, which are to be met within 90 days of the submission of the claim; that is, until the liability limit is exhausted. Both other Groups are included proportionately in this category.

At first sight this compensation system looks appealing in the sense that it seems practically workable and that it requires no large sums of an unknown magnitude to be set aside for personal injury claims, brought in the distant future. However, it hardly takes into account the fact that the arguments for prioritisation of personal injury claims are based, at least in part, on the assumption that radiation-related injury claims are likely to be submitted after a very long period and should therefore be protected. In this respect it is questionable whether a system which compensates mainly those claims submitted in the first few years after a major incident and thus will apply largely to claims other than those for personal injury, will be seen as a real alternative to a “first come, first serve” system.

13. Collection of Laws of the Slovak Republic, 1 April 1998, 130/1998.

A more equitable distribution of the available funds among losses that occur shortly after a damage inflicting accident and personal injury that manifests itself many years later has been laid down in the *Dutch Nuclear Liability Act*.¹⁴ Article 27 (1) of the Act provides for a specific distribution of compensation in the event that the available funds from both private and state sources do not suffice to compensate total claims. It could be described as a two-fund system that allows for an overflow between both funds and assigns priority to personal injury. It works according to the following principle:

When claims relate exclusively to either personal injury or other damage, each individual claim is to be paid on a pro-rata basis. However, should a nuclear accident lead to claims in both categories, two thirds of the available funds – we have already seen this percentage in the HNS Convention – are to be dedicated to the compensation of personal injury claims, which will be reduced pro rata if necessary. The remaining funds are to be used for the compensation of both personal injury and other claims, if the former have not already been paid. Furthermore, the article states that any residual amount of the personal injury fund can be used to compensate other claims.

Finally, Art. 27 (2) states that at least 10% of the available state fund should be set aside for personal injury claims submitted after 10 years of the accident (according to the Act, the prescription period for personal injury is 30 years). In doing so, the Act extends the period, during which priority must be given to personal injury compensation, beyond the ten year limitation in the Protocol to amend the Vienna Convention.

The above prioritisation scheme certainly favours personal injury claims above others in a carefully thought out manner. It firstly does in an indirect way where it provides for a prioritisation of claims submitted long after the accident by assigning at least two-thirds of available funds to the compensation of this kind of claims (in practice mostly personal injury claims). Secondly, the act directly provides more protection for personal injury claims by introducing a special fund for claims made ten or more years later.

Whether such a scheme will eventually lead to an equitable and workable distribution of funds is a question I shall come back to later.

14. Act on Liability for Nuclear Accidents (Government Gazette 1979, 225), last modified by the Act of 26 June 1991, State Bulletin 1991, 373.

V. Insurance and other aspects

The mere concept of prioritising personal injury claims would probably not meet with a lot of opposition from insurers. This personal assumption should be seen in the light of the present restriction of financial guarantees on the commercial insurance market to claims submitted within a 10-year period after the accident. Without this restriction, problems to prove causation in respect of claims made could be expected on too large a scale. Delayed personal injury claims due to a nuclear incident would be indistinguishable from personal injuries that are unrelated to such an accident.

The difficulties faced by insurers would relate to practical methods of implementation rather than to the concept itself. Questions of how to manage and settle a large number of claims over a long time period arise. Such problems are difficult anyway, but are even more so in countries such as my country of residence, Switzerland; here insurers have committed themselves by contract to settling claims on behalf of the government for its guarantee, which amongst others relates to actions filed beyond a 10-year period. During the course of the discussions on the revision of the Vienna Convention it has been suggested that such distribution of compensation on a basis that is equitable and conforms to a predetermined schedule of priorities could only be feasible if liability were to be extinguished by payment of the policy proceeds to a central claims tribunal or bureau.

Although this would indeed facilitate the task of insurers, apart from the costs of such an institution, solutions to other practical problems in respect of the prioritisation scheme would still have to be found. Should the simple decontamination of a private house following a nuclear incident have to wait for ten or more years until all personal injury claims are known and a predetermined distribution of compensation can finally materialise? Should agricultural and commercial enterprises be allowed to go bankrupt because their claims following a nuclear incident are for property-related damage and not personal injury? Should, for the same reason, evacuated people in need of financial means to purchase the basic necessities of life be deprived of prompt compensation? These questions gain in importance when one realises that the total amount to be paid out for personal injury and death is likely to be small compared to the amount involved in compensation for property and related damage.

Even if the individuals or entrepreneurs concerned contract a disease related to radioactive contamination, they would probably realise this only decades later. However, their first priority after a nuclear incident would no doubt be to assume their businesses and to carry on with normal daily lives. In

this respect the order of priority of the Protocol to amend the Vienna Convention is almost exactly the opposite of the order in which the claims will materialise. It would be interesting to see how courts will respond to this dilemma; but it would surprise me if, in many countries of the OECD, each case were not treated on its merits and a court fail to settle an action in favour of the plaintiff. I would, however, not wish to speculate on the question of whether such treatment could be expected from non-OECD members. In this context an article in the Swiss Nuclear Liability Act¹⁵ could lead to an assumption that I believe to apply to many other countries; again I specifically refer to OECD members. Article 29 determines that, in the event of the likelihood of the total private insurance and state funds (CHF 1 billion) being insufficient to satisfy all claims, the Federal Assembly may enact a compensation order in the form of a generally binding federal decision. I am fairly confident that the assembly, or its competent counterpart in other countries, would make additional funds available in order to ensure that subsequent claimants would not be left empty-handed.

VI. Conclusions

So far I have dealt with the question of what arrangements should be made if funds do not suffice to compensate all claims ensuing from a nuclear incident and whether certain types of claims should be given priority over others. The *Protocol to amend the Vienna Convention on Civil Liability for Nuclear Damage of 1997* has explicitly introduced the concept of prioritising personal injury claims in international nuclear liability legislation. Nevertheless this has not been universally greeted with enthusiasm. I have therefore investigated whether the principle features widely in other areas. This appears not to be the case.

On the international level prioritisation of bodily injury and death has been introduced in a very limited number of international transport conventions. In national legislation and practice it is also the exception rather than the rule. In contrast to at least some claims made following a nuclear accident, in all the examples mentioned in respect of non-nuclear national regulations, many are submitted at short notice. Furthermore, the importance of clarifying as soon as possible the amount of compensation available to those entitled is emphasised in both the German Motor Liability Act¹⁶ and the Dutch Y2K Claims

15. *Kernenergiehaftpflichtgesetz*, 18 March 1983, *Bundesblatt* 1980 I 164, SR 732.44.

16. Norbert Sprung, *Das Verteilungsverfahren bei Deckungssummenüberschreitung in der Kfz-Haftpflichtversicherung*, *Versicherungsrecht* 1992, Heft 16.

Settlement Protocol.¹⁷ This seems to be in conflict with the consequences of assigning priority to long latent personal injury claims following a nuclear incident, which would mean that other payments would have to be withheld until the extent of the personal injury claims became clear.

National nuclear liability legislation seldom explicitly incorporates the concept of prioritisation either. In the few cases where it does so, it again gives priority to personal injury over other types of claims. The question of how to put this into practice remains the task of the competent court. Of the two cases that have been distinguished as providing more detailed guidance on the order of distribution of compensation, the Dutch one seems to be the one that most effectively responds to the need to give priority to long latent personal injury claims. However, also in respect of this distribution system it is also debatable whether the necessity to withhold a portion of the total compensation amount for compensation of future personal injury claims would lead to an “equitable” distribution of funds.

Even if setting a time frame for the submission of personal injury claims as a condition for their being prioritised is restricted to 10 years (as is the case in the *Protocol to amend the Vienna Convention*) it is questionable whether this would justify postponing property-related claims for that period of time. It should be realised that this could lead to the bankruptcy of commercial enterprises and considerably increase the interruption or perhaps even disruption of economic and social life following a major nuclear accident.

Let us return to the Dutch priority arrangement once more. Total private and state funds, which rank among the highest compensation amounts laid down in national legislation, amount to NLG 5 billion. The Dutch Pool for the Insurance of Nuclear Risks covers NLG 750 million, leaving NLG 4 250 billion for the state guarantee.

In case a nuclear incident is expected to exceed the NLG 5 billion limit, two-thirds (*i.e.* NLG 3 333 billion) is to be allocated to the compensation of personal injury claims. At least NLG 425 million thereof, which represents 10% of the state guarantee, is to be set aside for payments in respect of personal injury claims submitted ten years after the accident. However, as most personal injury claims will manifest themselves many years after the incident, in practice almost the full NLG 3 333 million will have to be set aside. This leaves NLG 1 667 billion for immediate compensation of both personal injury and

17. Consideration IV to the *Schaderegelingsprotocol Datungelieerde Storingen*, 29 October 1998.

other claims. Let us assume that NLG 500 million will be paid for compensation of personal injury (and related) claims manifesting themselves directly or soon after the incident.

This would leave NLG 1 167 billion for compensation of other claims. Just think of an accident happening in a densely populated and highly industrial area. One can imagine that the cost of decontaminating such an area will by far exceed that amount. If those countries whose nuclear legislation provides for considerably lower funds were to incorporate into their national nuclear liability law a regime similar to the one in place in the Netherlands, the amount available for such claims would be almost negligible.

Given the extremely low frequency of catastrophes caused by accidents at nuclear power installations;

Given the loss potential of such accidents, compared to which the available funds would probably look like a Smart car in the shadow of a double-decker bus;

Given the chance that judges will not set priorities in claims allocation;

Given that social security schemes will have difficulties to prove the causal link between a nuclear incident and physical complaints that manifest themselves decades later and thus not be able to take recourse to additional, separate funds, I suggest the following:

- let insurance amounts, possibly supplemented by governmental and other funds, be used fully to enable people to pick up their lives again as soon as possible after a major nuclear accident;
- let us realise that, after balancing the pros and cons of nuclear energy generation, we as a society have decided to enjoy the benefits thereof;
- let us therefore accept that the state should be responsible for claims in respect of physical complaints associated with a nuclear incident far back in the past, and let us trust that it will take up that responsibility.

In short, let us be realistic!

**NUCLEAR LIABILITY IN THE RUSSIAN FEDERATION:
THE PROBLEM OF INDEMNITIES**

**LA RESPONSABILITÉ NUCLÉAIRE DANS LA LÉGISLATION DE LA
FÉDÉRATION DE RUSSIE : LE PROBLÈME DES GARANTIES**

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Résumé

Les auteurs notent en introduction de leur communication que la question du développement d'une législation sur la responsabilité civile nucléaire en Russie s'insère dans le mouvement plus général de la réforme du droit dans ce pays, elle-même liée à la transition vers une économie de marché. Le code civil est ainsi en cours de révision et celle-ci aura une influence directe sur le régime de responsabilité nucléaire puisqu'en Russie la *Lex Specialis* ne doit pas contredire le droit commun. Par ailleurs, les accords internationaux ont la priorité sur les lois nationales en cas de conflit.

La première partie de la communication est consacrée à l'analyse détaillée des dispositions régissant la responsabilité des exploitants nucléaires, qui figurent, à défaut de loi spéciale, dans la loi fédérale de 1995 sur l'utilisation de l'énergie atomique. Les auteurs passent en revue la nature de la responsabilité, son champ d'application, les dommages couverts, le système de limitations et d'exonérations, la garantie financière et l'intervention de l'État. Les auteurs observent que la Loi ne possède pas de règles de priorité mais que de telles règles sont incluses dans le Code de procédure civile au cas où les moyens de réparation seraient insuffisants pour réparer le dommage.

Les auteurs concluent leur présentation en constatant que la législation actuelle comporte un certain nombre de lacunes et de contradictions et elles soulignent la nécessité de l'adoption d'une législation spécifique, laquelle est actuellement à l'étude au sein du Parlement.

The reason for reform of the nuclear liability legislation in the Russian Federation lies not only in the necessity to improve the nuclear legislation itself but is also due to the need for legal reform in general in Russia following the transition to a market economy. That is why, first of all, essential changes should be made to the civil law and then the special regulations in the nuclear legislation should be changed.

The Civil Code of the Russian Federation, which is the main source of law and of general civil regulation in the nuclear liability field, is being reformed at present, and has already been substantially modified. Parts 1 and 2 have been adopted and have entered into force: the first part in October 1994 and the second in December 1995, although Part 3 is just being elaborated at the time of writing. The Federal Law on the Use of Atomic Energy, adopted in November 1995 and amended in 1997, is a special source of law. This is the first special act of the highest legal order in the nuclear legislation of the Russian Federation.

According to the provisions of Article 3 of the Civil Code, the civil law norms contained in various other legislative acts must correspond to those of the Civil Code. This means that the rule providing for priority of the special law over the general law is not applied. So the provisions of the Federal Law on the Use of Atomic Energy governing nuclear liability must not contradict the Civil Code. Therefore, if it is deemed appropriate to make special regulations which differ from those of the Civil Code, it will be necessary to make appropriate amendments to the Civil Code.

Delictual liability is regulated by Chapter 59 of the Civil Code [Art. 1064-1103]. It consists of four parts. The first part contains the general provisions [Art. 1064-1083], which are applicable if there are no special regulations in the other parts. The other parts contain special regulations, one of which concerns liability for loss of life or personal damage [Art. 1084-1094]. As delictual liability is a special type of civil liability, the general provisions set out in Chapter 25 of Part 1 of the Civil Code are also applicable if they are not changed by the provisions of Chapter 59.

The norms and principles of the international agreements to which the Russian Federation is a Party are incorporated into the national legal system. In the event of contradiction between international and internal norms, the former take priority.

Thus if the Vienna Convention on Civil Liability for Nuclear Damage is ratified by the Russian Parliament, it will also be incorporated into the domestic legislation, and will take up a central position in the system of special

sources of law regulating liability for nuclear damage. In 1996, the Russian Government took the decision to sign the Vienna Convention, but it has not yet been ratified.

At present, special regulations on liability for nuclear damage are set out in Chapter XII of the Federal Law on the Use of Atomic Energy of 1995. There are 8 Articles in this Chapter [Art. 53-60].

Article 53 is entitled “Liability for loss and damage caused by radioactivity to bodies corporate, individuals and the health of the citizens”. It states that the operator of a nuclear installation (in Russian law, the term “exploiting organisation” is used, which corresponds to the term “operator”) is liable for damage caused to bodies corporate and individuals due to exposure to radiation. There is no definition indicating that the liability is absolute or channelled. Moreover, this term and this type of liability do not exist in Russian law. Nevertheless, one can comment on the provisions of this Article with the help of the provisions of Art. 34 devoted to the legal status of the operator of the nuclear installation, which determines his liability as absolute or exclusive. At the same time, Russian law does not exclude the operator’s rights of recourse.

Russian civil legislation recognises the equal legal capacity of Russian and foreign citizens, as well as persons of no citizenship, although some Federal laws may constitute an exception to this principle. This means that the general provisions governing compensation of nuclear damage are applicable to all persons if the incident takes place on the territory of the Russian Federation, as there is no exclusion under the present legislation.

Damage subject to compensation is also defined in Article 53. Its definition closely resembles that in the Vienna Convention [Art.1(k)]. In accordance with Article 60, the personnel of the nuclear installation who suffer nuclear damage while implementing their obligations under a labour contract are not considered as victims, as established in Article 53, because labour legislation regulates indemnities for this kind of damage in detail.

Article 59 provides that the operator is also liable for environmental damage. The competent State and municipal authorities have a right of action to claim compensation for such damage.

Article 54 constitutes the basis of operator liability, excluding the term of operator’s fault. This Article is based on Article 1079 of the Civil Code: “Liability for damages caused by activities related to an increased hazard to the general public”, providing for so-called “no-fault liability”, which corresponds to strict liability in terms of foreign civil law. At the same time, some

circumstances, if proved in the court, can lead to exemption, such as *force majeure*, military actions, armed conflict and the intentional fault of the person suffering the damage.

In this Article, there is also a provision stating that the limits of liability (depending on the type of nuclear installation) will be indicated in other acts, but that these limits may not be more than those indicated in the international agreements to which the Russian Federation is a Party.

The obligation to carry financial security covering liability is a condition *sine qua non* for obtaining a licence to carry out activities in the nuclear field [Art. 56]. Such security can consist of all kinds of guarantees, including State guarantees or insurance. This Article is very short and is not sufficient. Certainly the general provisions on third party liability insurance contained in the Civil Code and in the other acts in the field of insurance are applicable, but a close examination demonstrates the need to have more specific norms. For example, the limitation of action in connection with the insurer is two years, which contradicts the limitation of action in connection with the operator. Actions for loss of life or personal injury have no limitation. This corresponds to Article 208 of the Civil Code. The time limitation for other actions is three years from the date on which a person became aware or should have become aware of the existence of his right [Article 58 of the Federal Law on the Use of Atomic Energy].

This renders problematic the realisation of victims' rights to choose as defendant either the operator or the insurer. From the point of view of legal techniques used in the Russian legislation, it would be efficient to include nuclear insurance as a specific type within the legislation, at first in Article 970 of the Civil Code. This will allow the regulation under the Civil Code to be considered as subsidiary, and thus the special regulation might differ from the general.

State participation in the mechanism of compensation is regulated in Article 57. According to this Article, the Government of the Russian Federation provides payment in full of compensation above the liability limits of the exploiting organisation, indicated in Article 55. This counteracts the risk of victims themselves not to get compensation, partly or at all, in the event that the operator or the insurer is unable to pay compensation up to the prescribed level. Nevertheless, this Article mentions other forms of state participation in the compensation regime. This Article is very short and does not explain in detail how the State is to participate. In any case, there is a reference formulated as follows: "if provided by the legislation", which gives the opportunity to provide further regulation in other laws or bylaws. State participation might deal with

damage, besides those mentioned above, that could become evident many years after the accident, or provide compensation if the exploiting organisation is in liquidation. This regulation requires the elaboration of a financial mechanism to generate sufficient funds: to create a special public foundation or to provide compensation “ad hoc” directly from the State budget, or combine both of them. At present there are no acts with such regulation in Russia, except those devoted to Chernobyl victims and other individuals who suffered from radiation in the Altay, Cheljabinsk and other regions of Russia. These acts regulate state participation in the framework of social protection, addressed only to the citizens and not in the context of civil liability. Besides, the practice shows that such state assistance is not always efficient, especially in the present financial situation in Russia. So in the future, when appropriate legislation is drafted, this form of state assistance could be used as an additional measure to the main mechanism, elaborated in the framework of third party liability, in which the State will play the role of subsidiary debtor.

This Federal Law fixes no priority rules under which certain types of damage would be compensated before others. In Chapter 41 of the Civil Procedural Code, there are general rules regulating such priority in the event of lack of resources to fully satisfy all claims. Five categories are fixed, and the claims of each category will be satisfied subject to the full satisfaction of the claims in the previous category. If full satisfaction of any category is not forthcoming due to the lack of funds, the claims of each person included in that category must be satisfied proportionally to the amount of each claim. The Russian Civil Procedural Code has not yet been reformed, so the categories created under the socialist regime contradict to a certain extent the modern principles of the Russian civil law. For instance, this Article says that the claims of State organisations and State enterprises take priority over others, but now the Russian Constitution proclaims the equality of all forms of property, so the priority of a public organisation over a private one is illegal and must not be applied. Nevertheless, based on the procedural norms, one can fix the following priorities when compensating nuclear damage. The claims of individuals (including those who work under a labour contract) for compensation in respect of loss of life or personal injury must be satisfied first. The claims of State and municipal authorities for compensation of damage to the environment obviously come second. Although there is no explicit mention of the priority of environmental damage in the legislation, due to the general provisions of the Civil Procedural Code, all the public authorities’ claims must be satisfied second. Losses and damage caused to all individuals and bodies corporate are satisfied third.

This system of priorities does not seem very fair. Certainly there is no doubt about the priority of such type of losses as loss of life and personal injury.

As for the other types of losses and damages, it seems advisable to divide them into different groups. Losses and damages of individuals could be separated from losses and damages of bodies corporate with the priority of the individual ones. Within the category of bodies corporate, a division might be made between the commercial enterprises and the non-profit-generating organisations. It seems that it should not be the task of lawyers alone to indicate which of these categories should take priority. The answer to this question can come from special studies also involving economists, sociologists, psychologists and representatives of the other sciences and practical specialists.

A definite problem concerns the compensation of environmental damage. No special regulation of priority of claims for compensation of this damage allows the use of the legal principle of the priority of the private interest in private law. It means that such damages must be compensated last, as environmental protection is a subject of public law. Modern civil regulation however allows a very special exception to this principle to satisfy public interest prior to a private one. Motives for such exclusions are explained in the Russian Constitution and in the Civil Code.

The study of the present Russian legislation shows that it has the general basis for regulation of nuclear liability but there are a lot of lacunae and contradictions. Certain steps are being made to improve this situation. The Draft Law on Civil Liability for Nuclear Damage and its Financial Security prepared by the Ecological Committee of the State Duma has passed the first reading. Now the Committee is preparing the Draft Law for the second reading. Probably, its adoption will solve some of the problems, including those mentioned in this presentation. In parallel to this, it is necessary to make amendments to other acts, especially to the Civil Code and to the Federal Law on the Use of Atomic Energy.

CLAIMS SETTLEMENT PROCEDURES AND COSTS

**PROCÉDURES ET DÉPENSES RELATIVES À LA GESTION DES
DEMANDES EN RÉPARATION**

Dirk Harbrücker

Managing Director of the German Nuclear Insurance Pool

Résumé

L'auteur constate, au début de sa communication, que ni les conventions internationales ni les législations nationales sur la responsabilité civile nucléaire ne prévoient en général une procédure détaillée concernant la façon dont les demandes en réparation de dommages nucléaires devraient être traitées. Dans certains pays comme les Pays-Bas et la Slovaquie, ce serait à l'État de prendre en charge cette procédure, celui-ci faisant appel à la garantie financière assurée. Dans plusieurs autres pays, notamment l'Allemagne, il est entendu que ce serait aux assureurs nationaux de se charger de gérer les demandes en réparation.

Tout en considérant que cette seconde solution répond à l'idée que l'on se fait habituellement du rôle des assureurs, l'auteur observe que cela impliquera une mobilisation de toutes leurs ressources matérielles et humaines et que cela soulève une série de questions pratiques. Une première concerne le traitement des demandes en réparation pour la part de la garantie financière incombant à l'État. Une autre a trait aux caractéristiques particulières d'un sinistre nucléaire par rapport à un accident conventionnel : nombre élevé des demandes en réparation, dommages différés ou demandes spéculatives.

L'auteur insiste donc sur l'importance pour l'assureur d'être techniquement préparé à affronter cette situation et suggère les éléments de cette préparation.

Le développement suivant du rapport porte sur la question du coût du traitement des demandes en réparation, sachant que celui-ci n'est pas inclus dans le montant de la responsabilité de l'exploitant au sens des conventions. L'auteur analyse le problème de la couverture de ces coûts en s'inspirant de l'exemple allemand et notamment de l'expérience de l'accident de Tchernobyl. Il distingue entre les coûts externes et internes, en soulignant la difficulté de les évaluer à l'avance et d'extrapoler cette évaluation à d'autres pays. Le problème est aggravé par le fait que dans le cas d'un accident nucléaire, les frais internes et de défense pourraient être très élevés même si le montant du dommage réel est limité.

The nuclear conventions and the individual national nuclear acts foresee a liability regime which is normally guaranteed by liability insurance and state intervention. In most cases, no further details are given as to the procedure after a nuclear incident, *i.e.* how to proceed with the claims settlement or which institution should conduct the compensation of victims.

Two solutions are possible and might be practised: the settlement through the competent governmental state offices or through the organisation offering the liability coverage, *i.e.* the insurance industry or nuclear insurance pools.

In certain countries like the Netherlands and Slovakia, the compensation of victims will be done by the state which will have to set up specific services for this purpose. This does not need any further discussion with one exception: at which stage the insurer will have to transmit the indemnification amount to the authorities: immediately after the incident, in certain prefixed instalments or in partial amounts according to the payments performed by the government? The latter seems to be the most accurate, as most probably all payments will cover a period of at least ten years. This solution is quite attractive to the insurance industry: there would be no further involvement of manpower, no attention and possible criticism from the public about the claim settlement being too slow, too restrictive or whatever.

In France, Germany, Spain, Switzerland and the Czech Republic – to name only a few examples – there is an understanding – either written or by mutual consensus – that the claims settlement should be carried out by the insurance industry. I do not know the motivation for this decision in other countries but I would like to explain the reflections which led the German insurance industry to make this decision.

After the Chernobyl incident, we started discussions as to whether the insurance industry should take over the claims handling or transfer the settlement to the government and enjoy the advantages I just described.

There has been a common agreement in the insurance industry that such a restriction in the willingness to settle a loss would be a renunciation of the insurer's obligations and declaration of bankruptcy for the insurance industry disposing of all the instruments and the knowledge to settle claims appropriately. Finally it is in the interest of the insurer to define the criteria of claims settlement even when in view of the type and the size of the loss, an agreement should be reached with the operator and the state authorities at an early stage. The insurer has the capability to handle claims. He has the necessary infrastructure and experience for both material claims and personal

injury claims in his third party liability and motor third party liability claims department.

However, the burden of claims handling after a nuclear incident would be too heavy to lay on the shoulders of one company only, even for the market leader. This will have to be organised by the national nuclear pool and therefore by all participating members. The pool rules in Germany foresee a clear obligation for all members to participate – apart from the financial engagement according to the share subscribed – in the claims handling by delegating experts and by using their network.

Financial security provided by government guarantee and claims handling

The question may be raised whether the insurer should extend his claims settlement in excess of his cover where the government guarantee provides financial security for indemnification.

It seems logical that the insurer should also take over the handling of compensation on behalf of the competent governmental body. This would ensure that there would be no differences in the adjustments and the judgement of personal injuries or property and other damages. How could you explain to a claimant that he will receive a smaller amount of compensation than his neighbour just because other claims settlement criteria will be applied?

Such an arrangement between the insurance industry and the state authorities exists for instance in Switzerland.

The essential point of such a contract will be an arrangement about the main features of the loss settlement on behalf of the government for their scope of coverage. In order to harmonise the interests between operator, government and insurer, a board should be established, which assembles after the occurrence of a nuclear incident. The board should be composed of representatives of each affected party: the responsible government department, the operator of the nuclear installation, and the insurer (nuclear insurance pool).

The contract transferring the loss settlement from the government to the insurer should include some essential regulations in advance:

- From the insurer's point of view it is important that the loss settlement authority is transferred to the loss adjusters of the nuclear insurance pool. Their decisions should be binding on the government and the liable operator of the nuclear installation.

- It has to be agreed which party will make the indemnification payments.
- The government will have to reimburse the insurers for the employment of the loss adjusters (labour costs per hour) and for other expenses.

Specifics of a nuclear incident

What will be the differences in loss settlement of a (severe) nuclear reactor accident as compared to other (conventional) liability claims?

Differences already result from the fact that in the case of a (severe) nuclear incident a huge number of claimants must be expected and that several insurers will be involved in the loss settlement. After the nuclear catastrophe in Chernobyl, 300 000 applications for compensation of material and pecuniary damages were submitted, filed and settled by the government in former West Germany. This figure is marginal compared to an incident in Germany or in one of its direct neighbour states.

The insurance industry will have to agree upon responsibilities and competences in connection with the loss settlement. If the combined manpower of loss adjusters at the disposal of the leading insurer and the participating co-insurers is not sufficient, a corresponding regulation should provide that all members of the pools are bound to participate in the loss settlement of a domestic liability accident in the frame of their financial commitment in those risks.

In order to achieve uniformity in the settlement for the total limit of compensation, a comparable regulation has to be agreed between the government and the insurers.

Finally, personal injuries caused by a nuclear incident might only be noticed under certain circumstances after many years. These belated claims raise difficult factual and judicial problems. The difficulties result from the proof of causation and effects for the impairment of health and the statutory period of prescription. In addition insurers are occasionally faced with long-lasting loss settlements and the necessity to establish adequate loss reserves.

Another question is whether priority will be given in the claims settlement to the life and health of persons as compared to property damage. This has been discussed in the preceding lecture by my Swiss colleague.

Necessary preconditions

Besides the financial precautions, the insurer should also be technically prepared for the settling of nuclear claims. There is a substantial difference between the settlement of a normal third party liability claim where only one or a few claimants ask for compensation, and the procedure after a nuclear incident where hundreds, thousands or even more people could and would claim for compensation. In addition, the insurer and the public will be confronted with all the problems of a national catastrophe.

The first task should be the elaboration of a manual for the adjustment of claims primarily as instructions but also to guarantee uniform handling. Such guidelines should include all organisational, judicial and personal regulations necessary to handle and settle the losses of a (severe) nuclear incident.

I would like to give you a short enumeration of the main chapters of the guidelines we have developed in Germany:

- Instruction map including names, office and home telephone numbers of responsible persons at the plant and in the insurance industry which must be updated once a year.
- Press information, press releases (*i.e.* advice concerning where to submit claims).
- Power of attorney and competences of insurance representatives.
- Checklist for claims advices (general information).
- Questionnaire for claims reporting: type of claim (evacuation costs, personal injuries, material damages, others); release from medical confidentiality.
- Checklist for claims recording individual data required, identification of claimant, precautions against multiple filing of claims specimen (uniform letters, registration forms) registration in data processing.
- Regulation for claims payments.
- Advices for claims adjusters with regard to radiation and their own protection.

Most probably it will be necessary to train all loss adjusters as they will come from different companies with different backgrounds. Despite their professional experience, they will have to be trained for an exceptional occupation which requires specific knowledge as described earlier.

Claims settlement costs

Apart from the claims settlement procedure, I would like to discuss another item: the question of claims settlement costs. The liability limit expressed in Article V of the Vienna Convention¹ and Article 7 of the Paris Convention² is restricted to the compensation of victims or the indemnification of damages. Any costs of litigation including extra judicial costs are normally subject to the scope of insurance protection (stated in Article 150 of the German Insurance Act³). This is in accordance with Article V, paragraph 2 of the Vienna Convention pursuant to which any interests or costs awarded by a court in actions for compensation are not included in the limit. In my understanding, costs awarded by a court are legal costs and include all costs relating to the court proceedings. These comprise court fees and fees of the law firms involved. They might differ from country to country, therefore I am concentrating on German practise.

Again I would like to remind you what I said earlier: in the settlement of a nuclear incident we will be confronted with thousands of claimants, making the risk and the attached costs uncalculable for insurers. Therefore insurers have fixed and imposed additional limits for interests and costs awarded by court. Amounts exceeding these limits will be payable by the operator, and in the event that he can not meet his obligations, by his insurer (see table “Limits in Third Party Liability Insurance”). To my knowledge, additional limits for court fees, interest etc. are fixed by law in three European countries only: namely Belgium,⁴ Finland and Switzerland.⁵

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1. Article V (1) of the Vienna Convention.
 2. Article 7 (b) of the Paris Convention.
 3. Article 150.1,2 *Versicherungsvertragsgesetz*.
 4. *Art. 82, Art. 52 de la Loi du 25 juin 1992 sur le Contrat d'assurance terrestre modifiée par la Loi du 16 mars 1994 ;*
Art. 4 § 1, Art. 6 ter § 1 Arrêté royal du 24 décembre 1992, modifié par Arrêté royal du 29 décembre 1994 portant exécution de la Loi du 26 juin 1992 sur le Contrat d'assurance terrestre.

I would like to give you an idea of the possible extent of legal costs, but I cannot. The legal systems vary too much from country to country, as do consumer habits. While it is unimaginable in the United States not to contact a law firm to claim damages, compensation might very well be paid without involving a lawyer in Europe. But imagine that a certain number of claimants would contact law firms in order to receive higher compensation or would disagree on certain principles of indemnification. Court and lawyers' fees depend in Germany on the amount sued for. I have to admit that I have enormous problems to fix even an exemplary amount. For 10 000 claimants they would vary between German deutsche mark (DEM) 5⁶ and 100 million. Multiply the number of claimants by 10 or 100 to understand the dimensions. These numbers are not illusory. Just remember the 300 000 claimants in Germany after the Chernobyl incident and Chernobyl is about 2 000 km away from South Germany. Or would we just be confronted with a few model suits? Class actions like in the United States are not known in Germany.

Interests are awarded by a court when a payment (or compensation) has been due but delayed by the other party (insurer). Even though interest rates are rather low for the time being in Europe, the restraint of an indemnification amount of euros 100 million representing the whole limit in some countries for only one year would result in euros 3 to 4 million interest and blow up the sub-limits fixed in certain countries. But what could the reason be for not settling the claims in time – supposing the insurer is prepared to meet his obligations? It could be a disagreement between Government, operator and insurer about the claims assessment – mainly when in view of the size of damages the limit insured will seem to be insufficient – or a missing distribution order – most probably a priority of personal injuries over other damages would be necessary.

Costs and interests on awards are defined by insurance, understanding as “external costs” those which arise outside their own organisation. Expert opinions and medical expertises should, in principle, be external costs as well. Expert opinions on material damages in order to determine the extent of damage will not fall under the limit. Medical examinations as part of medical treatment, however, will have to be considered as compensation according to Article V of

5. *Art. 11.I Kernenergiehaftpflichtgesetz; Art. 3 Kernenergiehaftpflichtverordnung vom 02.12.1996.*

6. *i.e.* 500 DEM per claim;

According to the German Code of Civil Procedure (*Zivilprozeßordnung*, Art. 91 I,2) the defeated party has to bear all costs of the lawsuit including all necessary costs of the party opposed.

the Vienna Convention and therefore will fall within the liability limit. Examinations and assessments of remote consequences on a pure precautionary basis will not fall within the limit.

Finally we will have to consider the internal efforts of the insurance industry in the claims settlement procedure. This is never a subject of discussion in any traditional class of business. This is part of the contractual obligation of the insurer irrespective of whether the policy covers damages caused by the insured or by a third party.⁷ After a (severe) nuclear incident, however, the insurance industry will be confronted with a mass problem requiring tremendous efforts of management, man power and data recording. This might even block most of their normal activities. Claims will have to be recorded, filed, checked, analysed, approved or rejected, answers mailed and payments arranged, in many cases repeatedly. An estimation of these internal costs is hard to establish. We once roughly calculated an amount of DEM 500 as a minimum per claimant including the back-up services and the use of Electronic Data Processing systems.

Again, when you take the aftermath of Chernobyl in Germany, the processing of 300 000 applications would have produced some DEM 150 million of internal claims handling costs for the insurance industry.

These internal costs are incurred whether a claim is approved or rejected. This could result in another problem when the coverage is two-tiered as in most countries, *i.e.* an insurance policy followed by a state guarantee. A solution could be to share the costs the following way: until the insurance coverage is exhausted, the insurer should bear all costs and then leave it to government. But after an incident with minor release of radioactivity, compensation to be paid might be minimal – internal and defense costs however could be huge and would remain on the insurer's shoulders. Therefore, he could rather be interested in paying out the claims submitted in order to fulfil his limit and to hand over the responsibility for any further actions to the government.

I have developed a number of issues based on the facts given in Germany. These might be different in other countries. I did not give you too many answers. It is up to you to think it over and to find solutions yourselves which you believe could be appropriate for your market. I sincerely hope, however, that the scenarios I outlined will remain purely hypothetical and we will never be confronted with such problems in reality.

7. Art. 150 *Versicherungsvertragsgesetz*.

Limits in Third Party Liability Insurance of Nuclear Power Plants in 1998

	Limit in Currency	Limit in Euro
Belgium	BEF 4 000 mio nuclear +BEF 480 mio interest, court and expert costs* +BEF 480 mio salvage costs*	99,16 mio nuclear +11,90 mio interest, court and expert costs* +BEF 11,90 mio salvage costs*
Great Britain	GBP 145 mio any one occurrence GBP 140 mio nuclear GBP 80 mio evacuation and legal costs	217,59 mio any one occurrence 210,08 mio nuclear 120,05 mio evacuation and legal costs
Germany	DEM 500 mio nuclear DEM 1 mio interest and court fees DEM 1 mio salvage expenses	255,65 mio nuclear +0,51 mio interest and court fees +0,51 mio salvage expenses
Finland	SDR 175 mio nuclear per incident SDR 210 mio nuclear per installation +SDR 11 mio interest and legal costs* +SDR 11 mio claims expenses*	187,22 mio nuclear per incident 225,87 mio nuclear per installation 11,29 mio interest and legal costs* +11,29 mio claims expenses*
France	FRF 600 mio nuclear per loss FRF 1 200 mio nuclear in the same 3 years +FRF 30 mio legal costs and expenses	91,47 mio nuclear per loss 182,94 mio nuclear in the same 3 years +4,57 mio legal costs and expenses
Japan	JPY 30 000 mio nuclear	233,74 mio nuclear
Netherlands	NLG 750 mio nuclear +NLG 25 mio costs and interest +NLG 75 mio other costs and interest	340,34 mio nuclear +11,34 mio costs and interest* +34,03 mio other costs and interest
Spain	ESP 25 000 mio nuclear	150,25 mio nuclear
Sweden	SDR 175 mio nuclear – any one accident SDR 210 mio nuclear per cover period +SDR 21 mio interest, legal costs, internal & external claims expenses	219,59 mio nuclear – any one accident 263,51 mio nuclear per cover period +26,35 mio interest, legal costs, internal & external claims expenses
Switzerland	CHF 700 mio nuclear +CHF 70 mio interest and procedural costs* +CHF 5 mio interest and procedural costs +CHF 5 mio loss prevention costs*	440,39 mio nuclear +47,18 mio interest and legal costs* +3,15 mio interest and legal costs +3,15 mio loss prevention costs*

* costs as requested by law.

Limits in Third Party Liability Insurance of Nuclear Power Plants in 1998

	Limit in Currency	Limit in Euro
Czech Rep.	CZK 1500 mio nuclear +CZK 10 mio loss preventive measure costs	39,30 mio nuclear +0,26 mio loss preventive measure costs
Slovakia	SKK 2000 mio nuclear SKK 10 mio defence and legal costs	45,23 mio nuclear 0,23 mio defence and legal costs
Hungary	SDR 100 mio any one occurrence SDR 125 mio in the aggregate +HUF 50 mio for currency interest +HUF 50 mio for legal expenses	125,48 mio any one occurrence 156,85 mio in the aggregate +0,20 mio for currency interest +0,20 mio for legal expenses

**NUCLEAR LIABILITY INSURANCE IN THE UNITED STATES:
AN INSURER'S PERSPECTIVE**

**ASSURANCE RESPONSABILITÉ CIVILE AUX ÉTATS-UNIS :
LE POINT DE VUE D'UN ASSUREUR**

John L. Quattrocchi
American Nuclear Insurers, United States

Résumé

Le début de cette communication traite des circonstances qui ont conduit à l'adoption, en 1957, de la première législation sur la responsabilité civile nucléaire, c'est-à-dire la Loi Price-Anderson – ainsi qu'à la création d'un pool d'assurance nucléaire aux États-Unis – et contient une analyse des dispositions de cette Loi, notamment le système de la garantie financière, la limitation des responsabilités, la canalisation économique, le régime applicable aux accidents nucléaires exceptionnels (ENO), la compétence juridictionnelle.

L'auteur passe alors à une description de la réaction des assureurs nucléaires à l'accident de TMI et de ses suites judiciaires. Le champ de l'exposé est ensuite élargi à l'expérience plus générale des assureurs en matière de demandes de réparation en responsabilité nucléaire aux États-Unis et comporte aussi une description des types de couverture financière disponible.

La dernière partie de l'exposé traite des amendements apportés, en 1988, à la Loi Price-Anderson ainsi que du rapport déposé, en 1990, par la Commission présidentielle chargée de réfléchir aux moyens d'assurer une pleine indemnisation des victimes d'un accident nucléaire catastrophique. L'exposé contient aussi une analyse détaillée des diverses conclusions et recommandations proposées par la Commission.

L'auteur conclut que ces conclusions et recommandations seront utiles au Congrès lorsque celui-ci abordera dans un avenir proche la question du renouvellement de la Loi Price-Anderson.

I would like to begin by offering my sincere appreciation for the kind invitation to address this International Symposium. So my thanks to the OECD Nuclear Energy Agency and to the International Atomic Energy Agency. And a special thanks to our Hungarian hosts for their gracious hospitality in this beautiful city of Budapest.

The dawn of the atomic age brought with it both the hope of great benefit and the fear of great disaster. Now, as we approach the dawn of a new century, those hopes and fears are still with us. For the benefits of nuclear power to be fully realized, public fears must be addressed on at least two fronts, namely – a continued commitment to safe operations and a legal system that assures prompt compensation for accident victims. For those of us gathered in this room, our focus is on legal and compensation issues.

We can take pride in the fact that so much has already been accomplished to address compensation issues. In the United States, we adopted the Price-Anderson Act. In Europe and elsewhere, the nuclear conventions – Paris, Brussels and particularly the Vienna Convention have served the nuclear industry and the general public well. As we look to improving these systems, it often helps to look back at where we've been. Let me share with you the American experience.

By the mid-1950s the United States recognised that it was in the national interest to promote commercial development of nuclear energy in medicine and industry, particularly in the generation of electric power. But the uncertainties of the technology and the potential for severe accidents were clear obstacles to commercial development. Exposure to potentially serious uninsured liability inhibited the private sector.

These impediments led Congress to enact the Price-Anderson Act¹ in 1957. The Act had several purposes:

- the first was to encourage private development of nuclear power;
- the second was to establish a legal framework for handling potential liability claims;
- and the third was to provide a ready source of funds to compensate injured victims of a nuclear accident.

1. The Price-Anderson Act is Section 170 of the Atomic Energy Act of 1954, as amended. Section 170 was added in 1957.

The Act requires the operators of nuclear power plants to provide evidence of financial protection² against public liability³ claims for bodily injury or property damage caused by a nuclear incident⁴. At the same time, that is to say, in the mid-1950s, Congress encouraged the insurance industry to develop a way to secure large amounts of insurance capital (or capacity) to insure what was then a fledgling technology. Insurers chose the “pooling” technique. Pooling provides a way to secure large amounts of capacity by spreading the risk of a small number of exposure units – that is, reactors and other nuclear-related risks – over a large number of insurance companies. The pooling concept has and continues to be successfully used to provide insurance for a number of commercial enterprises with a need for large amounts of insurance capacity, including the nuclear industry, commercial airlines, offshore drilling rigs and others.

All of this led to the creation in the US of the American Nuclear Insurers (ANI) and its predecessor organisations in 1956. ANI acts as a managing agent for its member insurance companies. We maintain strong reinsurance relationships with the other nuclear pools around the world, including those represented here today. Together, we can respond to the needs of the nuclear industry around the world with insurance capacity that is stable and secure. Put another way, we’ll be there both before and *after* the accident, as was the case following the Three Mile Island (TMI) accident in 1979.

The Price-Anderson Act – Major Provisions

We have had a good deal of experience in the US with nuclear liability claims, much of it related to TMI. Historically, state tort law principles have governed nuclear liability determinations. The Price-Anderson Act now provides for a federal overlay to the application of state tort law. Given its significance, let me outline the Act’s major provisions before describing our claims experience.

Financial Protection

To assure a source of funding to compensate accident victims, the law requires reactor operators to maintain primary financial protection equal to the

2. Defined in Section 11.k. of the Atomic Energy Act of 1954, as amended.

3. Defined in Section 11.w. of the Atomic Energy Act of 1954, as amended.

4. Defined in Section 11.q. of the Atomic Energy Act of 1954, as amended.

maximum amount of liability insurance available from private insurance sources⁵, or currently United States dollars (USD) 200 million. It also requires operators to participate in an industry-wide retrospective rating program for loss that exceeds the primary insurance limit⁶.

With the support of its reinsurers, ANI writes primary limits of USD 200 million on a guaranteed cost basis for all operating power reactor sites in the US. We also administer the Secondary Financial Protection (SFP) program. Under the SFP policy written by ANI, each insured is retrospectively assessable for loss that exceeds the primary insurance limit up to a maximum retrospective assessment of USD 88,1 million per reactor, per incident. In other words, the second layer of protection is drawn from reactor operators' own funds. Insurers have a contingent liability to cover potential defaults of up to USD 30 million for one incident or up to USD 60 million for more than one incident. With 108 reactors in the program, the total level of primary and secondary financial protection is just over USD 9,7 billion (USD 200 million in the primary layer + USD 88,1 million in the secondary layer X 108 reactor units participating).

Limitation on Aggregate Public Liability⁷

The Act limits the liability of reactor operators or others who might be liable for a nuclear accident to the combined total of primary and secondary financial protection, though Congress is committed to providing additional funds if financial protection is insufficient.⁸ Knowing the extent of one's liability provides economic stability and incentives that would not exist without a limit.

Legal Costs Within the Limit⁹

The expenses of investigating and defending claims or suits are part of and not in addition to the limit of liability. The inclusion of these costs within

5. The Atomic Energy Act of 1954, as amended, Section 170.b.

6. The Atomic Energy Act of 1954, as amended, Section 170.b.

7. The Atomic Energy Act of 1954, as amended, Section 170.e (1) (A).

8. The Atomic Energy Act of 1954, as amended, Section 170.e. (2).

9. The Atomic Energy Act of 1954, as amended, Section 170.e. (1) (A).

the limit enables insurers to offer their maximum capacity commitments without fear of exceeding those commitments.

Economic Channelling of Liability¹⁰

The Act channels the financial responsibility and insurance obligation for public liability claims to the nuclear plant operator. This helps assure that injured parties will be able to establish liability for a nuclear accident that will be backed by solid financial resources to respond to those liabilities.

Waiver of Defences¹¹

In the event of what is called an Extraordinary Nuclear Occurrence (ENO),¹² insurers and insured waive most standard legal defences available to them under state law.¹³ The effect of this provision is to create strict liability for a severe nuclear accident. Claimants in these circumstances need only show that the injury or damage sustained was caused by the release of nuclear material from the insured facility. Fault on the part of a particular defendant does not have to be established.

Federal Court Jurisdiction in Public Liability Actions¹⁴

The Act confers jurisdiction over public liability actions on the Federal District Court in which the accident occurs. This removes the confusion and uncertainties of applicable law which would otherwise result when multiple

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10. The Atomic Energy Act of 1954, as amended, Section 170.c.
 11. The Atomic Energy Act of 1954, as amended, Section 170.n. (1).
 12. Defined in Section 11.j. of the Atomic Energy Act of 1954, as amended. Without citing all the specifics, the term refers to a significant nuclear incident that results in severe offsite consequences.
 13. The legal defences waived in the policy include: (i) any issue or defence as to the conduct of the claimant or the fault of the insured, (ii) any issue or defence as to charitable or governmental immunity, and (iii) any issue or defence based on any statute of limitations if suit is instituted within three years from the date on which the claimant first knew, or reasonably could have known, of his bodily injury or property damage and the cause thereof.
 14. The Atomic Energy Act of 1954, as amended, Section 170.n. (2).

claims and lawsuits are filed in multiple courts. The provision also reduces legal costs and speeds the compensation process.

Precautionary Evacuations¹⁵

The system anticipates that insurers will provide immediate financial assistance to people who are forced to evacuate their homes because of a nuclear accident or because of imminent danger of such an event.

The Act has been extended three times – in 1965, 1975 and 1988. It is up for renewal again in 2002, and we fully expect another extension. The Act represents a carefully crafted balancing of the interests of the public as private citizens, as members of the body politic and as participants in and beneficiaries of private business enterprise. The soundness of the program lies in its simplicity and sense of balance in meeting a few clearly defined objectives. That is a long way of saying that it has stood the test of time. Let's examine the law's first big challenge.

The Accident at Three Mile Island

The accident at Three Mile Island occurred on 28 March 1979. Within twenty-four hours of the Pennsylvania Governor's advisory for pregnant women and pre-school age children to evacuate a five mile area around the site, we had people in the area making emergency assistance payments. Two days later, a fully functioning claims office staffed with some 30 people was open to the public in Harrisburg approximately 15 miles from the reactor site. The claims staff grew to over 50 people within the next two weeks. All of the claims staff came from member insurance companies from around the country. I spent about 10 days at the claims office shortly after it opened to lend whatever support I could.

As the office was being set up, we placed ads on the radio, television and in the press informing the public of our operations and the location of the claims office. Those people affected by the evacuation advisory were advanced funds for their immediate out-of pocket living expenses, that is to say, expenses for food, clothing, shelter, transportation and emergency medical care. The amounts advanced were per diem amounts based on what we knew about the cost of living in the area. Approximately USD 1,3 million in emergency

15. Defined in Section 11.gg. of the Atomic Energy Act of 1954, as amended.

assistance payments were made to some 3 100 families without requiring a release of any kind.

We were able to respond as quickly as we did because we had prepared for emergencies in advance. Emergency drills had been conducted periodically, and an emergency claim response manual that had been drafted in advance of the accident helped guide our response. Checks and other claim forms that had been pre-printed and stored for emergencies were immediately available to us. The insurance industry received high praise for its quick response at TMI. In responding as we did, we helped to alleviate some of the fear and dislocation of those affected by the accident.

That was the easy part. Shortly after the accident, several class action lawsuits were filed alleging everything from business interruption and lost wages to cancer and fear of cancer or other illness. In 1981, we settled claims for economic loss to businesses and individuals within 25 miles of the site for USD 20 million. As part of that same settlement, we paid another USD 5 million to establish a public health fund that would study the health impact, if any, on people living in the area. Then in 1985, we paid USD 14,25 million to settle consolidated claims for bodily injury and emotional distress involving some 280 people.

Based on everything we knew about the accident, it was clear that businesses and individuals did indeed suffer economic loss as a result of the accident. While there was no real contamination of offsite property, business revenues were interrupted and individuals did suffer wage losses as a result of an accident in which imminent danger of contamination was perceived.

It was also clear that no one was actually physically harmed as a direct result of the accident given the extremely low levels of radioactive releases from the site. Our agreement to settle the bodily injury cases was simply a business decision that reflected the uncertainty of liability for physical harm induced by emotional distress resulting from the accident. In retrospect, that decision was a mistake. Shortly after the settlement was announced, an additional 2 200 claims were filed against the site operator and others alleging radiation-induced bodily injury, emotional distress and other damages. Those claims were considered to be without merit and have been vigorously defended ever since. In June 1996, or more than 17 years after the accident,

The Federal District Court for the Middle District of Pennsylvania granted summary judgement in favour of the defendants. In the court's words:

“... The paucity of proof alleged in support of plaintiffs' case is manifest ... If the most eminent scientists in the world are unwilling to do more than speculate as to the causal link between radiation exposure and cancer induction at doses below 10 rems, no rational jury, confronted with identical evidence, could find it more likely than not that radiation induced a given neoplasm.”

Plaintiffs have appealed the decision to the Third Circuit Court of Appeals, but we expect Judge Rambo's decision to be upheld. If so, that should effectively end the TMI litigation.

Policy Coverage

Apart from the TMI litigation, you may also have an interest in our overall liability claims experience. Before I describe that experience, however, let me take a minute to outline the coverage afforded under our policy. The Facility Form policy is used by US reactor operators to satisfy their primary financial protection obligations as established by the Price-Anderson Act. Under its terms, insurers are obligated to pay on behalf of the insured all sums (up to the policy limit) that the insured becomes legally obligated to pay as “covered damages” because of “bodily injury” or “property damage,” or as “covered environmental cleanup costs” because of “environmental damage.” Coverage applies only to claims for bodily injury, property damage or environmental damage caused during the policy period by the “nuclear energy hazard,” if such claims are brought within ten years of policy cancellation or termination. The terms I've enclosed in quotation marks are specifically defined, and interested observers should refer to the policy for the precise definitions of policy terms.

In addition to the coverage provided for operations at the insured facility, the policy also affords coverage for liability that arises out of an “insured shipment” as defined. In effect, the insured is protected against public liability claims that are brought as a result of an incident involving specified types of nuclear material while in transit to or from the insured location.

A very limited coverage for “covered environmental cleanup costs” was added to the policy in 1990. It covers only those offsite environmental cleanup costs that are incurred directly as a result of an Extraordinary Nuclear Occurrence or a “transportation incident” as that latter term is defined in the

policy. Insurers are able to extend coverage for offsite environmental cleanup costs in these circumstances because the costs can be tied to clearly identifiable events. No coverage is provided for environmental cleanup costs that are unrelated to these events, unless such costs are found by a court to be tort damages because of offsite property damage.

In 1994, we added coverage for the additional costs incurred by a state or municipality in responding to a severe nuclear incident. The coverage provides for a direct reimbursement for the added costs incurred in providing emergency food, shelter, transportation or police services stemming from an evacuation of the public. The coverage applies only to those additional costs incurred by the state or municipality during the time the official evacuation order is in effect, plus an additional 30-day period immediately thereafter.

Now a word about radiation claims of workers. Although claims under state or federal workers compensation statutes are exempted by the Price-Anderson Act, radiation tort claims of workers are not. These are claims from workers alleging radiation-related bodily injury against someone other than the worker's employer. Examples would include a claim by a power plant employee against a contractor or a claim by a contractor against the power plant operator. These claims are covered by ANI under a separate policy referred to as the Master Worker Policy. The policy is subject to a single industry-wide aggregate limit of USD 200 million which can be reinstated by insurers. In that sense, it can be thought of as a kind of group insurance contract.

Claims Experience in the US – Including TMI

With that as background, I'll briefly describe our overall liability claims experience. From inception of the program in 1956, we've handled some 200 reported claims or incident notifications. From inception through 31 March 1999, we've paid a combined total of just over USD 151 million for both indemnity and legal defence costs. Incurred losses, that is to say, losses that have been paid and reserved for payment, total approximately USD 481 million. The difference between these two figures – or USD 330 million – is the amount reserved for indemnity and defence costs on outstanding claims.

The paid loss amount of USD 151 million includes approximately USD 70 million in payments related to Three Mile Island. Of the total amount paid, approximately USD 45,3 million (or 30%) were indemnity payments and USD 106 million (or 70%) were defence costs. Our claim philosophy is to aggressively defend claims that we believe are without merit. And, as is evident

from the numbers, while radiation claims can be costly to defend, a less committed approach to claims defence would, in our view, lead to severe financial consequences – at least in the US. Let me explain.

The nuclear liability policy written in the US for nuclear site operators is designed to respond to an insured's liability for damages because of bodily injury or offsite property damage caused by a large, sudden catastrophic accident, a smaller accident, or no accident at all. That bears repeating. In addition to providing coverage for catastrophic events, we are providing coverage for alleged offsite damages from normal, everyday plant operations.

All of our insured facilities release very small amounts of material within acceptable regulatory limits. But the public perception of what is "acceptable" and what constitutes "damage" is a moving target. Indeed, almost all of our claims allege injury or damage (or fear of future injury or damage) from little or no documented radiation exposure. And, with the exception of the accident at Three Mile Island, few of the claims from members of the offsite public are the result of a clearly identifiable event. Instead, our claims experience is more related to routine releases and the latent injury phenomenon now popular – at least in the US – in the toxic torts arena. The alleged damages usually involve somatic, psychosomatic or genetic effects from exposure to radiation at diminimus levels over years of employment at nuclear facilities or residency in nearby communities.

A significant number of our cases have involved tort claims of nuclear workers. While employees are normally barred from bringing third party actions against their employers, they can look elsewhere for recovery. Indeed, changing legal trends in the US have tended to make tort law a more appealing recourse for workers – that is to say, more appealing than the schedule of benefits provided under statutory workers compensation programs.

As stated earlier, radiation-related claims are costly to defend, and there is often no relationship between the amount of radiation alleged and the expense necessary to defend the claim. The importance of including legal defence costs within the system cannot be overstated. While the judicial process is expensive, it does expose claims that have no basis in fact.

In addition to defence costs, defendants (and their insurers) also need to be concerned about the imposition of interest on awards. All state jurisdictions impose post-judgement interest on awards. The interest runs on unpaid judgements, even though the defendant may be appealing the initial decision. Some states (I believe a minority) also impose pre-judgement interest penalties. These penalties are intended to get the parties to think seriously about

settling a case rather than pursuing it to judgement. The penalties are also designed to punish a defendant for raising frivolous defences instead of settling what the court views as a strong plaintiff's case. An unstated rationale may be the court's desire to clear its docket of cases.

The amount of any pre-judgement penalty or post-judgement interest on awards varies from state to state. Penalties and interest have not been an issue for us primarily because we've succeeded in defending the claims brought against our insureds – at least to this point.

Our success in defending radiation cases can be attributed to several factors, including:

- a pro-active and well-organised defence strategy;
- the ability to document radiation dose levels within permissible limits;
- a reliance on sound scientific principles;
- the lack of any scientific basis for the alleged injuries;
- the absence of any causative effect between radiation dose and the alleged injury.

I've stressed in this paper the need for a strong claims defence. I want to assure you, however, that insurers have no problem responding to and paying valid claims. Indeed, as with our response at Three Mile Island, we take very seriously our responsibility to compensate accident victims to the full extent of the insurance we provide. But radiation tort law is about science, not social policy.

Most cancers cannot be distinguished by causation, and radiation leaves no "signature" or marker, except for severe cases of radiation overexposure. Thus, except in the case of a catastrophic nuclear accident on the scale of Chernobyl or worse, it would be difficult to identify those individuals whose cancers or other illnesses are radiation-induced. If policy makers conclude that society need not be concerned about compensating only those whose injuries are truly radiation-related, then an administrative procedure rather than the legal system could be used to implement the compensation process, particularly after a catastrophic nuclear accident. That is a political decision that may well be the correct decision. An administrative process might be faster and compensate more people than would the tort system, but we

should have no illusions that such a system would not also compensate the wrong people.

Presidential Commission on Catastrophic Nuclear Accidents

In the US, the 1988 amendments to the Price-Anderson Act directed the President to establish a Commission for the purpose of developing a means to assure full compensation of victims of a catastrophic nuclear accident that exceeds the limitation on aggregate public liability,¹⁶ or currently just over USD 9.7 billion. The Presidential Commission issued its report in August 1990, in which it reached a number of conclusions and offered a number of recommendations.¹⁷ It is not my purpose here to outline the report in great detail. It is referenced in the footnotes and copies can be obtained. But a very brief overview might be of interest.

The Presidential Commission concluded that the goal of fully compensating victims of a major accident would be difficult to achieve by strictly applying standard tort law principles. It therefore recommended that claims be resolved through a melding of the judicial system with administrative features designed to speed resolution of cases and reduce costs. The Commission envisioned that its recommendations would be implemented only when claims from a nuclear accident were likely to exceed the primary layer of insurance (currently USD 200 million) and a multiplicity of claims were still being filed.

The proposed plan envisions a single Federal Court with jurisdiction over all claim matters. The Court would appoint Special Masters to assist in administering the plan and a Panel of Scientific Advisors to advise it on various technical issues. Claims would be prioritised on the basis of pecuniary loss, non-pecuniary loss and latent health effects. Financial loss would be compensated dollar for dollar. Death claims would be uniformly compensated at a predetermined amount. Compensation for pain and suffering would be on a scheduled basis. Punitive damages would not be recoverable. And those who claim increased risk of future illness and emotional distress would participate in a medical monitoring program or counselling, as appropriate.

16. The Atomic Energy Act of 1954, as amended, Section 170 I. (1).

17. Volume I contains 120 pages plus Appendices A through I. Volume II contains 394 pages plus Appendix L, and includes the record of 12 days of public meetings and written statements submitted.

Addressing the issue of latent health effects was acknowledged to be difficult because of the difficulty in proving causation and because of the multiple interacting causes of cancer in an individual. Radiation at low doses is, in fact, not an observed carcinogen in the epidemiological literature, and almost all radiation exposure to individuals is from natural background and medical applications. The overwhelming contributing cause of cancer is thought to be life style, a term that includes diet, use of tobacco and alcohol, sexual practices and so forth.

In any event, the state of our scientific knowledge has not progressed to the point of identifying the actual causes of cancer in an individual. If, in a group of 1 000 individuals exposed to radiation, it is estimated (based on statistical studies) that 300 will develop cancer during their lifetimes, and that of these cancers, 10 were “caused by” radiation, there is at present no way of segregating the 10 from the 290 cancers where radiation was not a contributing cause. The issue of identifying the cause is compounded further by the prevailing scientific view that most cancers have multiple causes that act in sequence, perhaps over an extended time, before a cell becomes cancerous. In the 10 cancers that were statistically associated with radiation, it is likely that radiation was only a contributing cause. If that is so, is it appropriate to assign 100% responsibility to radiation?

The report issued by the Presidential Commission described the difficulties of proving that radiation was, in fact, the cause of an individual claimant’s cancer. In order to mitigate the difficulty of proving causation of latent illness and, in the context of achieving the overriding objective of assuring full compensation of victims of a catastrophic nuclear accident, the Commission recommended that the “Probability of Causation” (PC) methodology be used as a “proxy” for establishing causation. Without getting into the technicalities, this methodology can be defined to mean the attribution of group risk to individual members of the group based on the relative degree of association between radiation exposure and disease induction.

The Commission recognized the severe shortcomings of the methodology,¹⁸ in particular, the fact that it does not take into account the

18. Several reports have examined the Probability of Causation methodology. The first and second reports listed below were commissioned by insurers in the US.

(1) *A Critical Review of the Probability of Causation Method*, March 1984. Louis A. Cox, Jr. and Joseph R. Fiksel (Arthur D. Little, Inc.)

multiple and often interacting causes of cancer. It concluded, however, that, despite its flaws, the PC method was the best tool then available for establishing a semblance of causation following a severe nuclear accident. While we, as insurers, have significant concerns about the PC method, the political pressure to compensate individuals, even the wrong individuals, may have to be accommodated.

The work done by the Presidential Commission in 1990 was well done – in fact, it was admirable. Our reservations are limited principally to the use of PC for identifying and paying individual claimants. The US Congress has not acted on the Commission’s report, but may revisit its recommendations as debate begins this year or next on the renewal of the Price-Anderson Act.

The report has value for anyone interested in the development of nuclear liability law. It breaks new ground in the reordering of rights and procedures intended to facilitate the compensation process. It is rare for government to act in advance of a problem that has actually blossomed. We therefore applaud these efforts and those of the international community, including this Symposium.

No great strides in technology have come without great challenges. One such challenge faced by the nuclear industry is the need for legal systems that assure prompt compensation for accident victims. In that respect, we can all take some pride in the role we have played in the development of a safe and environmentally friendly power source.

I am often reminded of a rather haunting passage from a book I read many years ago. The passage has nothing to do with the nuclear business, but is intimately related to the human emotion of fear and how, if left unchecked, fear can inhibit growth in an individual and in society. It is also related to the subject of risk and risk avoidance. To quote the author:

“... If you judge safety to be the paramount consideration in life, you should never, under any circumstances, go on long hikes

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- (2) *Evaluation of Uncertainties in Probability of Causation Estimates*, July 1985. Louis A. Cox, Jr. and Joseph R. Fiksel (Arthur D. Little, Inc.)
 - (3) *Assigned Share for Radiation as a Cause of Cancer*, 1984. A report commissioned by the National Academy of Sciences and Department of Health and Human Services.
 - (4) *Report of The National Institutes of Health Ad Hoc Working Group to Develop Radioepidemiological Tables*, 1985.

alone. Don't take short hikes alone either – or, for that matter, go anywhere alone. And avoid at all costs such foolhardy activities as driving, falling in love, or inhaling air that is almost certainly riddled with deadly germs. And never, of course, explore the guts of an idea that seems as if it might threaten one of your more cherished beliefs. In your wisdom, you will probably live to a ripe old age. But you may discover, just before you die, that you have been dead for a long, long time.”

Insurers are in the business of taking prudent risks. With liabilities clearly defined and quantifiable, we view our insurance role in the nuclear industry as both prudent and beneficial to society as a whole.

INSURANCE AGREEMENTS COVERING THE PAKS NPP

**POLICES D'ASSURANCE RELATIVES À LA CENTRALE
NUCLÉAIRE DE PAKS**

Katalin Déri

Juris Doctor, Hungária Insurance Co.
Hungary

Résumé

L'auteur commence sa communication en exposant les circonstances de la création d'un Pool national d'assurance nucléaire en octobre 1996, composé de onze compagnies d'assurance. Le pool fonctionne sur le mode de la co-assurance avec la *Hungarian Insurance Co.* comme chef de file. La centrale nucléaire de Paks est la première centrale équipée de réacteurs de technologie soviétique à avoir été couverte par une assurance. La police d'assurance couvre les dommages en RC pour des accidents survenant dans l'installation, les mêmes dommages en cours de transport et les dommages matériels causés à l'installation.

L'auteur décrit les modalités de la police RC, notamment la reconstitution automatique de la couverture après un accident, les risques exclus, les procédures à suivre en cas de sinistre et les recours. Un autre développement porte sur les conditions de l'assurance couvrant les activités de transport ainsi que l'assurance de dommages matériels.

L'auteur conclut sa présentation en notant qu'aucun sinistre n'a été déclaré depuis la souscription de l'assurance couvrant la Centrale de Paks.

In Hungary the liability of the operator is defined in the Hungarian Nuclear Act (Act 116 of 1996), which was approved by the Parliament at the end of 1996. According to this Act, the operator has to have a financial guarantee or insurance cover covering his legal liability.

To provide insurance cover for this kind of risk, the Hungarian Nuclear Insurance Pool was formed in the second half of 1996 with the expressed aim of covering the risks of nuclear installations on the territory of the Hungarian Republic. The Pool itself was established in October 1996. The co-operation agreement was signed by 11 Hungarian insurance companies representing the vast majority of the Hungarian non-life insurance capacity.

The Hungarian Nuclear Insurance Pool works as a form of coinsurance. The market leader company, the Hungarian Insurance Co. (member of the Allianz group) has been appointed to be the leading underwriter and the representative of the co-operating insurance companies. It is also this company that provides the back office work.

After thorough inspection of the experts of the international nuclear insurance pooling society, they decided that the Paks Nuclear Power Plant, which is the only nuclear power plant in Hungary, meets the standards and necessary safety requirements of the insurers. The Hungarian Nuclear Insurance Pool issued its first policy covering the liability of the operator stipulated in the Hungarian Nuclear Act.

The Paks Nuclear Power Plant is the first Russian-designed nuclear power plant having nuclear liability insurance cover.

Since starting the co-operation with Paks, three different type of insurance cover have been set up by the Pool. These are the following:

- Nuclear Third Party Liability Insurance;
- Liability Insurance for Nuclear Accidents Arising During Transportation of Nuclear Fuel; and
- Material Damage Insurance.

1. Nuclear Third Party Liability Insurance

This insurance has been in effect since August 1997 between the licensee of the nuclear facility, Paks and the Hungarian Nuclear Pool. The insurance provides coverage pursuant to the statutory obligation to pay damages

as defined in Act 116 of 1996 on Atomic Energy. According to Section 52, paragraph (1) of the Act, the absolute liability of the licensee of a nuclear power plant shall not exceed 100 million SDRs on each occasion of a nuclear accident arising in the facility. Nuclear damage in excess of the amount mentioned above shall be compensated by the State of Hungary up to a total compensation amount of 300 million SDRs in any one case.

According to the regulations, the licensee is liable for damages which result from a nuclear occurrence originating within the nuclear facility or as the result of ionising radiation from some other source of radiation. At the same time, the total sum insured is also defined in the policy for the whole period of the insurance coverage of the nuclear facility, regardless whether one or several consecutive insurance contracts have been concluded for the license. At the same time, for such a case, when a reduction of the sum insured by or above 20% occurs as a consequence of an insured event, the insurer has undertaken the one time automatic reinstatement of the sum insured.

The reimbursement of interest and costs awarded by a court of law in a suit for damages shall not be charged as indemnity but is covered separately with a separate amount in the contract.

Insurance coverage shall be extended only to such claims as were caused during the contract period and were reported to the insurer in writing within 10 years of the occurrence of the nuclear event [in accordance with Section 57 (2) of the Act]. At the same time, it must be mentioned, that according to Section 57, paragraph (1) of the Act, the “Injured parties may claim their right to compensation within a three-year limitation period ... commencing on the date when the injured party learned or could have learned about the occurrence of the damage and the identity of the licensee responsible therefor”.

The exclusions defined in the wording resemble those used in similar third party general liability contracts.

The most important exclusions are the following:

- Third-party liability claims which, by reason of a contract or special agreement, go beyond the statutory third-party liability of the policyholder; and
- Third-party liability claims which occurred while transporting (including storage) the radioactive material outside in respect of an incident the premises of the nuclear facility.

The contract also excludes losses or damages to the nuclear facility itself or to any property on its site which is used or intended to be used in connection with the facility.

Loss or damage suffered by employees, which occurred in connection with their employment by the nuclear facility is also excluded.

Just like in most liability insurance, fines and penalties payable by the licensee are also excluded.

Obligations and proceedings

- The lead insurer shall be notified immediately but not later than 3 days in writing of each occurrence of an event insured, which means the occurrence of loss or damage which could result in third-party liability claims against the policyholder.
- The lead insurer shall be considered authorised to make any declarations on behalf of the policyholder for the settlement of or defence against claims or in connection with a nuclear allocation procedure. In such a case the insurer is to reach an agreement with the insured.
- In the event of litigation on the subject of a liability claim, the policyholder shall leave the conduct of the case to the insurer. Defence costs are paid by the insurer in such case when the licensee is represented in court by the insurer, or when the insurer is taking part in the legal procedure.
- The policyholder shall not be entitled to recognise or settle a liability claim in whole or in part or by compromise without the prior consent of the insurer.
- In case of non-compliance with the above-mentioned obligations, the insurer shall be released from its obligation towards the policyholder to make indemnity payments.

Recourse

In accordance with the Civil code regulating insurance contracts, the insurer is entitled to recourse in cases of deliberate or grossly negligent actions by the insured, as defined in the insurance contract.

2. Liability Insurance for Nuclear Accidents Arising During Transportation of Nuclear Fuel

The second nuclear liability insurance for Paks became the “Liability Insurance for Nuclear Accidents Arising During Transportation of Nuclear Fuel”.

Quoting the Act on Atomic Energy once again, the regulation well-defines the subject of this insurance: “The absolute liability of the licensee of a nuclear power plant ... shall not exceed ... 5 million SDRs on the occasion ... in nuclear accidents arising during the transport or storage of nuclear fuel.” As a result Paks needed an additional insurance cover for this purpose.

This contract has been worked out to function as a “frame-contract”, meaning that it provides coverage not for one specific transport operation but rather for all transportation carried out during the policy period. However the number of transport operations to be carried out during this period must be stated prior to inception. The contract first came into effect in early 1998. It should be mentioned at this point that the scope of the cover is limited to the railway transportation of nuclear fuel within the state borders of the Republic of Hungary.

The insurance cover is extended only to claims caused during the contract period and reported to the insurer in writing within 10 years of the occurrence of the nuclear event.

Finally, it must be mentioned that the wording itself does not differ much from that of nuclear third party liability, moreover, the basics are the same.

3. Material Damage Insurance

Last but not least, it should be mentioned that the Material Damage Insurance Policy for Paks was concluded during the second half of 1998 and came into effect on 1 January 1999.

Taking into consideration all three insurances, no claims/losses have been reported to the insurer by Paks so far.

THE LEGAL BACKGROUND OF ATOMIC ENERGY IN HUNGARY

**LE CADRE JURIDIQUE RÉGISSANT L'ÉNERGIE ATOMIQUE
EN HONGRIE**

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Résumé

La première partie de cette communication est consacrée à la législation nucléaire d'origine en Hongrie, c'est-à-dire la Loi de 1980 sur l'énergie atomique. Cette Loi, garantissant la vocation exclusivement pacifique de l'utilisation de cette forme d'énergie dans ce pays, jetait les bases de son contrôle et de sa réglementation par l'État, par ailleurs propriétaire et exploitant exclusif des installations nucléaires. La Loi renvoyait également à l'État la responsabilité de réparer les dommages causés par un accident nucléaire, les demandes en réparation pouvant être adressées directement à la Compagnie d'assurance d'État.

L'auteur signale ensuite les changements intervenus du fait de l'adhésion par la Hongrie aux Conventions internationales sur la responsabilité civile nucléaire (Vienne et Protocole Commun), avant de passer à l'analyse de la nouvelle Loi de 1996 sur l'énergie atomique. L'auteur commente en particulier la façon dont les dispositions de la Convention de Vienne sont mises en œuvre par la présente Loi et les modalités de la garantie apportée par l'État. Il signale toutefois que le statut juridique de la Compagnie exploitant la Centrale de Paks a été changé et que la responsabilité civile est désormais couverte par voie d'assurance, le sujet de la communication précédente.

1. On the first Act on Atomic Energy in Hungary

The provisions in connection with the application of nuclear energy was elevated to the level of law by the Hungarian legislator, *i.e.* the Parliament in 1980.

The aim of the Act was, on the one hand, to declare that nuclear energy can be applied exclusively for peaceful purposes, and on the other hand, as this peaceful application involves some dangers, to confirm that the safe application of nuclear energy requires perfectly organised and executed operations.

The Act (and the governmental decrees and ministerial orders for its implementation) also contains comprehensive definitions, thus the activities which had to be regulated in connection with the application of nuclear energy were essentially defined.

The Act of Atomic Energy (I Act of 1980) – restricted to the aspect of this presentation – defined the owner/ownership relations from the point of view of responsibility (this means, of course, the holder/bearer of liability).

The legal settlement of ownership fundamentally affected the bearer of liability, and the amount or extent of liability he or she has to bear.

Based on the above legislation, the facilities involved in the application of nuclear energy (such as nuclear power plants, of course) were in collective ownership. Collective ownership was basically state ownership.

There was a separate chapter in the Act dealing with the rules concerning liability and compensation for damage, and it introduced the concept of special damage, the so-called compensation for nuclear damage.

The principle of compensation for nuclear damage is that the user of atomic energy is liable for all nuclear damage arising from incidents resulting in an abnormal exposure of humans to radiation or an abnormal release of radioactive materials or other abnormal events during the operation of a nuclear facility.

This regulation placed a great responsibility on the user of atomic energy (that is the operator of a nuclear facility) as in accordance with the Act, there was no exemption from responsibility; the Act also declared that any exclusions or restrictions of responsibility are invalid.

In our view, the elevation of the background responsibility of the state to the level of legislation meant a comprehensive regulation since the Act declared the following: compensation for nuclear damage is warranted by the state.

Because of the regulation of the Act, liability for nuclear damage is automatically passed on from the operator to the state; this was apparently due to the ownership relations mentioned above; we repeat again that nuclear facilities can be owned exclusively by the state.

As a consequence of the former social-economic relations, the state had to assign its representative who would be liable for nuclear damage (it is apparent that direct liability of the state could not be enforced on the state itself).

The executive order of the Act (which was a governmental decree) assigned an insurance company, the State Insurance Company, against which compensation awards could be enforced.

As for the legal procedure, the government declared exclusive measures, that is, it defined the only possible way of compensation by law.

It is perhaps worth mentioning that the Act has given the State Insurance Company the opportunity to enter claims against the person or institution which caused the damage. Thus, in such a way it becomes clear that full compensation of the victims can be attained by the warranty of the Hungarian State.

2. On International Agreements

The next phase in the Hungarian nuclear liability regulations arrived when, in 1989, an international agreement was acceded to and put into force by a governmental decree. This agreement was adopted in Vienna in May 1963 on the topic of civil liability for nuclear damage. To the participants and audience of the conference, the regulation system of the international agreement referred to is evidently well known. Therefore here we should refer to the fact that the Vienna Conference on Civil Liability for Nuclear Damage sets out the operator's liability, but as to the measure of compensation it prescribed a limit of liability. We also mention the Hungarian regulation of 1992, which incorporated the Joint Protocol on the application of the Vienna Convention and the Paris Convention into the Hungarian legislation.

3. On the new Act on Atomic Energy

The next phase of regulation started when, in December 1996, the Hungarian Parliament adopted the new Act on Atomic Energy (CXVI Act of 1996).

The adoption of the new Act was the result of a wide-ranging preparatory process and contains rather comprehensive regulations. But for the purposes of our present topic we will only deal with the chapter on liability for nuclear damage.

The Act introduced a new system in the field of liability, basically in connection with the person or institution liable for the damage caused, since it introduced the direct liability of the licensee of the nuclear facility as an independent form of responsibility.

However, the liability of the Hungarian State has been defined as a so-called background responsibility.

The Act also defined the limits of liability, naturally in accordance with the international agreements already cited; the limit of liability for the licensee of the nuclear facility per nuclear incident was defined to be 100 million SDRs (the Hungarian State will compensate for nuclear damage exceeding this sum, but the total sum cannot exceed 300 million SDRs).

The Act introduced a new system concerning the changed economical, social and ownership relations; it declared as obligatory that the licensee should provide insurance or other financial security to the extent of the formerly-mentioned sum of liability.

The Paks NPP has been transformed from the earlier formation of being a state company into a stock company, and according to its decision, with regard to the modified legislation in the field of liability, has selected its form of insurance.

Session IV – Séance IV : Discussions

Mme H. Conruyt-Angenent

Je remarque d'abord que ce domaine de la répartition des sommes est plus délicat et moins exploré que les sujets précédents. Toutes ces Conventions évitent d'aborder cette question particulière : il s'agit d'un choix très délibéré et non pas d'un oubli. Il appartient aux États membres de gérer cette distribution.

Mr. N. Pelzer

My comment is addressed to Mr. Reitsma. In the past, I have often taken the floor against the issue of priorities. Whenever we examined this subject during the Vienna negotiations, it was in connection with the fact that the compensation amount was insufficient: therefore, I think it would be preferable to increase liability amounts. I also have doubts as to whether the institution of priorities actually provides a benefit to the person injured. In most civilised states, people have health insurance and social security systems, so they can go to doctors or to hospital and later the health insurer will have a right of recourse against the operator. This right of recourse is solely of an economic nature and therefore should not receive priority treatment. Finally, in cases where there are thousands of claimants, I cannot imagine that a democratic government would survive if it had to postpone the claims of many citizens, say in the farming community, until the thirty-year period had expired.

Mr. P. Kayser

Un accident nucléaire grave se distingue par la situation suivante : les dommages aux personnes se manifestent principalement dans le pays d'origine de l'accident. Les dommages dans les autres pays seront surtout le coût pour les mesures préventives – il y aura relativement peu de dommages corporels. Ceci dit, je suis contre la solution des priorités. Sinon, les victimes des autres pays ne seront pas indemnisées. Au début de ce Symposium, nous avons dit que les plafonds de responsabilité sont seulement suffisants pour subvenir à des accidents de taille modeste – ils ne seraient pas suffisants pour un accident catastrophique. Il serait nécessaire que le gouvernement du pays de l'installation fournisse des fonds supplémentaires. En ce qui concerne la Convention complémentaire de Bruxelles et son éventuelle révision, il faudrait adopter ce principe. M. Warren a mis en évidence les problèmes de dédommagement des effets physiques qui se manifestent longtemps après l'accident. Je souhaite par

ailleurs adresser une question à Mme Vassilieva : le dédommagement en Russie est-il réservé aux résidents russes ou peut-il couvrir aussi les demandes des étrangers ?

Ms. E. Vassilieva

As a general principle, all norms are addressed to all physical persons citizens of the Russian Federation or of other countries without discrimination. Therefore, for foreign persons present in the Russian Federation, there is no discrimination. For Russian citizens there is no limitation in time to enter a claim; I suppose it would be reasonable to limit the liability of the state in time in respect of personal damage suffered by foreign citizens.

Prof. M. Hinteregger

In response to Mr. Reitsma's observation that the state should be responsible for claims in respect of physical complaints as a result of nuclear incidents in the past, I believe that this is fair in the case of nuclear power-generating states, as the state has made the crucial decision to allow the generation of nuclear power on its territory. The Swiss law therefore has a certain model character. However, it does seem to be unfair for non-nuclear-generating countries as there is no comparative responsibility for these states. They should not be required to guarantee compensation for victims of nuclear damage. Also, I am sure that these states will compensate these victims due to social reasons: this is a violation of the polluter pays principle. I am of the opinion that the only workable solution is to create a fund in respect of claims involving long latent injuries. This solution should be taken into account when revising the Paris Convention.

Mr. B. Reitsma

In practice, problems arise in respect of causation. We are referring to illnesses which will manifest themselves decades later. Victims will be compensated, but causality problems may preclude the health insurer from exercising his right of recourse against the nuclear operator/insurer.

Judge T. Melchior

Mr. Reitsma, you criticise the priority system, assuming that the main reason for such a system in relation to personal injury is that the damage may take a long time to manifest itself. This is true, but it is not the only reason for the priority system. Property damage at large (*i.e.* all the other heads of damage under the revised Vienna Convention to the exclusion of personal injury) is likely to exceed the personal injury caused. If funding is insufficient to cover the damage, without a priority system, only a minimum would be left to cover the personal injury if the compensation is distributed on a pro rata basis. You raised some questions in your paper as to whether the decontamination of a private house following a nuclear incident would have to wait for ten or more years until all personal injury cases are identified and settled. This is not the case as, under the Protocol to Amend the Vienna Convention, it is left to national law to determine the workings of the priority system. Thus for instance only a small percentage of the total funds available may be set aside for personal injury. That reserve portion of the funds available is needed for at most ten years. I would also like to make a remark concerning Dr. Pelzer's observations: in respect of national social security cover, it will be left to national law to determine whether social security would have a right of recourse against the operator or the nuclear insurer. As you know, in the Vienna Protocol, the priority rule has been made mandatory, although the details are largely left to national law. Another possibility which we are considering in the Paris group is that it would still be left to national law to decide whether a priority system should be established or not. Our negotiations in Vienna indicated that this might be a point where the revision protocols are not identical. This would not cause a major problem: it would be left to the law of the competent court to decide whether they wished to benefit from the priority system or not.

Mr. M. Paez

Personally, I think that it is difficult to predict the consequences of the delayed personal injury claims before an accident actually occurs. A law could be passed after the nuclear accident in conjunction with experts in order to regulate that type of damages. My question is, taking into account the special characteristics of a nuclear accident of at least medium size, do you think, Mr. Reitsma, that the state must take over responsibility as is often the case when banks or insurers, etc. are insolvent. This is the principle problem when such an accident occurs. In that case, wouldn't it be premature to legislate before having all the details?

Mr. B. Reitsma

In relation to the question of whether the state should assume responsibility for a nuclear accident with long-term effects, and whether the modalities for distribution of such compensation should be laid down in special legislation after the incident, I refer you to my paper which examines this issue. Some states have already made provision for the situation where the total amount of funds provided for by law are exhausted. I mentioned the Swiss nuclear liability act, which leaves it to Parliament to identify a solution after an accident. I tend to agree with your remark that this is an interesting suggestion. However, it is very difficult to lay down details without knowing the total extent of claims and the nature of those claims. I would agree with the Swiss approach which simply provides that Parliament can take such measures, without going into any detail on their content.

QUESTIONS TO / À : D. HARBRUCKER, J. QUATTROCCHI, K. DÉRI

Mr. G. Warren

I would like to thank our colleagues for having explained the realities of nuclear liability insurance. May I address one slight correction to Mr. Harbrucker: as far as I am aware, the British government is attempting to get out of the insurance business rather than getting further involved in it, and in the United Kingdom, the State does not provide claims settlement services – the insurers do, through the British Pool. Mr. Quattrocchi, do you have any idea of the average internal costs (*i.e.* excluding the very extensive legal costs) to the insurers in the Three Mile Island claims? I also have a question for Mr. Harbrucker: did you or the insurance industry in Germany handle the 300 000 Chernobyl claims that you referred to or was that done by government? If the state did deal with them, what were the administrative costs involved?

Mr. J. Quattrocchi

I don't have a precise figure in terms of internal claim costs, but the actual costs would be very modest. The real claim costs involved are in fact legal fees – in the particular case of Three Mile Island, before we reached summary judgements those costs were sometimes running as high as USD 500 000 a month. However, these are external fees. Internal fees be infinitesimal compared to the outside cost of attorneys.

Mr. D. Harbrucker

In reply to your question concerning Chernobyl claims, these were dealt with exclusively by the government and I do not have any information as to the costs involved. In respect of the cost of claims in general, DEM 500 as a rough calculation includes salary, pension, office space, overheads, etc. It is normal that if a certain service is provided to the government, that it be compensated.

Mme H. Conruyt-Engenent

M. Harbrucker, avez-vous envisagé les difficultés possibles d'une levée du secret médical vis-à-vis des assureurs, comme vous y avez fait allusion dans votre exposé ?

Mr. D. Harbrucker

This is based on the supposition that personal injuries will not be paid only by the social health system but also by the insurer. Dr. Pelzer commented that a person suffering physical injury would most likely go first to a doctor who would be reimbursed by the national social health service. However, in the case of private health insurance, I believe it would go directly to the liability insurer of the nuclear power plant. In order to compare one case to another, the lifting of medical confidentiality is necessary. It is in fact the victim who directly authorises this in relation with the doctor involved.

Session V – Séance V

**PROGRESS TO DATE AND CHALLENGES AHEAD:
WHAT'S HAPPENING AROUND THE WORLD?**

**BILAN ET PERSPECTIVES :
UN TOUR DU MONDE**

Chairperson / Président : Horst Schneider

Head of Division, Ministry for the Environment,
Nature Conservation and Nuclear Safety, Germany

FOCUS ON THE FUTURE OF NUCLEAR LIABILITY LAW

**LE POINT SUR L'AVENIR DU DROIT
DE LA RESPONSABILITÉ CIVILE NUCLÉAIRE**

Norbert Pelzer
Professor
University of Göttingen, Germany

Résumé

L'auteur constate en introduction de sa communication que le régime de responsabilité civile nucléaire fait l'objet de discussions sur le plan national et international depuis le milieu des années 50, période à laquelle ont été adoptées les premières législations nationales et ensuite les conventions internationales. À la question de savoir si au lendemain de l'exercice de révision de la Convention de Vienne et de l'adoption de la nouvelle Convention sur la réparation complémentaire il y a lieu de s'interroger sur l'avenir de ce régime spécial, l'auteur émet l'avis qu'un certain nombre d'améliorations doivent encore être apportées.

L'auteur passe en premier à l'examen des principes de base du régime : la responsabilité objective et exclusive de l'exploitant qui doit selon lui être conservée tout en étudiant une atténuation de ses conséquences ; la limitation dans le temps et dans son montant de cette responsabilité, avec la question de l'introduction de la responsabilité illimitée. Un autre principe étudié par l'auteur est celui de la concordance entre responsabilité et garantie financière et ses effets pratiques sur la couverture du risque.

L'auteur traite ensuite des problèmes qui ne lui paraissent pas encore suffisamment réglés : il s'agit en premier lieu du niveau trop limité d'adhésion au régime international et des perspectives que peut offrir à ce sujet la nouvelle Convention de 1997 et des montants de réparation en relation avec le concept de réciprocité.

L'auteur consacre un développement particulier à la démarche divergente illustrée par la nouvelle législation autrichienne avant de conclure son exposé sur la question du traitement des accidents nucléaires catastrophiques. Il souligne à ce sujet la relative inadéquation du système actuel de responsabilité nucléaire pour faire face aux conséquences d'un tel sinistre avant de rappeler et commenter les conclusions de la Commission présidentielle des États-Unis sur ce point. L'ensemble de ces points met en évidence le rôle primordial de l'État dans de telles circonstances.

1. Does the current situation require us to focus on the future?

Nuclear liability issues have been a subject of national and international discussion since the mid-fifties of this departing century. Today's leading principles of civil nuclear liability law were developed at that time. Already then, the first national legislation contained the elements and the legal structures which have generally been accepted as an adequate answer to the nuclear risk, and which still govern recent national and international nuclear legislation.

This applies especially to the concepts of strict liability, *id est* liability without fault, the concept of channelling liability onto the operator of a nuclear installation, the principle of limiting liability in amount and time, the principle of mandatory coverage of liability and the principle of congruence between liability and coverage. These main principles can already be found in early nuclear legislation as *e.g.* in Section 170 of the US Atomic Energy Act 1954, as amended in 1957 by the so-called Price-Anderson Act,¹ in the UK Nuclear Installations (Licensing and Insurance) Act 1959², in the Swiss *Bundesgesetz über die friedliche Verwendung der Atomenergie und den Strahlenschutz* of 23rd December 1959³ and in the German *Gesetz über die friedliche Verwendung der Kernenergie und den Schutz gegen ihre Gefahren (Atomgesetz)* of 23rd December 1959.⁴ There were slight differences, though. While the Swiss and the UK acts provide for legal channelling of liability, the German and the US acts concentrate liability onto the operator only economically. The US has preserved this concept until today; Germany changed to legal channelling in 1975, when she ratified the Paris Convention on Third Party Liability in the Field of Nuclear Energy.⁵

The described leading principles of civil nuclear liability law started and step by step performed their triumphant advance world-wide, when in 1968 the 1960 Paris Convention on Third Party Liability in the Field of Nuclear

1. Public Law 83-703, as amended by Public Law 85-256.

2. The Act is dated 9 July 1959 (7 & 8 Eliz. 2, ch. 46).

3. *Amtliche Sammlung* 1960, p. 541 (Articles 12-28).

4. *Bundesgesetzblatt* 1959 I, p. 814 (Sections 13-16, 25-39).

5. *Bundesgesetzblatt* 1975 II, p. 957.

Energy⁶ and in 1977 the nearly identical 1963 Vienna Convention on Civil Liability for Nuclear Damage⁷ entered into force. Both conventions make the main liability principles binding under public international law on their respective Contracting Parties. The Paris Convention today is adhered to by 14 states, and the Vienna Convention, by April 1999, had 32 Contracting Parties. As a consequence, 46 states accepted and implemented the concepts of these conventions. In addition, states not party to either of the liability conventions, including major nuclear states, also implemented those principles at national level. Among those states are Canada, Japan, Korea, Switzerland and – under certain circumstances – the US.⁸

The principles of nuclear liability, during their nearly fifty years' lifetime, have permanently been put to test, not only by legions of academics and other legal experts in uncountable articles and scholarly studies, but even more by governments. After the Chernobyl accident, States, under the aegis of the IAEA, started to revise the existing nuclear liability regime, taking especially into account the lessons taught by the Chernobyl accident. This exercise, which lasted 10 years and which was regularly attended by more than 50 states, resulted in 3 new instruments, namely the 1988 Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention,⁹ the 1997 Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage,¹⁰ and the 1997 Convention on Supplementary Compensation for Nuclear Damage.¹¹ The discussions during the ten-year negotiations and the outcome of the exercise clearly confirmed the validity of the existing international nuclear liability principles. The nuclear liability concepts not only survived the criticism of states opposing the use of nuclear energy, but were eventually strengthened by the new instruments which are

6. Dated 29th July 1960, revised 28th January 1964 and 16th November 1982 (UNTS vol. 956, p. 251 (without 1982 Protocol), consolidated text 1960, 1964, 1982 = *Bundesgesetzblatt* 1985 II, p. 963).

7. Dated 21st May 1963 (UNTS vol. 1063, p. 266 = IAEA INFCIRC/500).

8. See the overview of legislation of those countries in: NEA/OECD, *Nuclear Legislation. Analytical Study. Third Party Liability*, Paris, 1990; NEA/OECD, *Liability and Compensation for Nuclear Damage. An International Overview*, Paris, 1994.

9. Dated 21st September 1988 (IAEA INFCIRC /402).

10. Dated 12th September 1997 [IAEA INFCIRC /566 = 36 I.L.M. 1462 (1997)].

11. Dated 12th September 1997 [IAEA INFCIRC /567 = 36 I.L.M. 1473 (1997)].

based on them.¹² Today, it is uncontested that the yardstick for assessing the appropriateness of nuclear liability law is compliance with the internationally agreed liability principles, as contained in the liability conventions. Referring to the concepts of the 50s is still today *lege artis*.

So, why is there a need to focus on the future of nuclear liability law as my topic suggests? Is the future not perfectly covered by the present? Would speaking about future nuclear liability not imply that the current law needs to be improved? Shortly after a ten-year exercise on improving the system, my topic could indeed create confusion or even irritation, especially for those states that have only recently been attracted to join the conventions.

I am aware of these risks, but nevertheless I will use my academic freedom to share with you my deliberations, which perhaps for some of you will be deemed unnecessary or even provocative.

I will start with an examination of the main liability principles. Then I will look at aspects newly introduced, especially by the 1997 Convention on Supplementary Compensation and by the new Austrian Nuclear Liability Law, which entered into force on 1st January 1999.¹³ At the end I shall present some general deliberations on the extent and the limits of a civil nuclear liability regime.

12. Vanda Lamm, *The Protocol amending the 1963 Vienna Convention*, in: *Nuclear Law Bulletin* No. 61 (June 1998), pp. 7-24 (9-10) quite correctly stresses that the revision exercise of the Vienna Convention did not affect the basic concept of that convention. That means that not only the leading principles were retained, but that the States decided to uphold a civil liability regime rather than establish a system of State liability under public international law.

13. *Bundesgesetz über die zivilrechtliche Haftung für Schäden durch Radioaktivität (Atomhaftungsgesetz 1999 – AtomHG 1999)* of 10th November 1998 (*Österreichisches Bundesgesetzblatt I* No. 170/1998).

2. Nuclear liability principles revisited

2.1 *Strict liability*

I will certainly be on safe ground when stating that the principle of liability without fault or, briefly, strict liability,¹⁴ is the only concept which is adequate for the nuclear liability risk. This is generally accepted by all states, and there is no need for further explanation. Strict liability does not only apply to nuclear incidents, but is used in a broader context whenever potentially hazardous activities are involved. This concept, therefore, will be the basic element of nuclear liability now and in the future.

However, it is worthwhile having a closer look at the nuclear liability law of the USA. Of course, the US judges also apply a doctrine of strict liability to so-called “abnormally dangerous conditions and activities”. This doctrine has been developed on the basis of the British *Rylands vs. Fletcher* case of 1868 and includes liability for nuclear damage.¹⁵ The base of US nuclear liability law is case law, and it consequently depends on the competent judge whether he applies the doctrine of strict liability or not. There is no general statutory guarantee for its application to nuclear incidents. The Federal Atomic Energy Act 1954, as amended, only does away with this uncertainty to a limited extent and in certain cases. According to Section 170 (n), in cases of a so-called “extraordinary nuclear occurrence” (ENO), licensees and contractors are obliged to waive defences and judicial procedures which, *inter alia*, include any issue or defence as to conduct of the claimant or fault of persons indemnified. This waiver results in strict liability. It follows that the concept of strict liability only applies mandatorily if an ENO occurs. Whether that is the case will be finally and conclusively decided by the Nuclear Regulatory Commission or the Secretary of Energy, and there will be no power or jurisdiction of courts to

14. Article IV.1 of the Vienna Convention states that the liability of the operator shall be “absolute”. In the context of the Vienna Convention absolute liability is identical to strict liability. It should, however, be pointed out that normally the use of the term “absolute liability” indicates that there is no exoneration from liability at all, while “strict liability”, albeit liability without fault, allows for exonerations in certain cases like *force majeure*. Since the Vienna Convention exempts the operator from liability in cases of severe *force majeure* [Article IV.3] the term “absolute liability” is not quite correct.

15. L.R. 3 H.L. 330 (1868). See with special reference to the nuclear risk E. Blythe Stason, Samuel D. Estep, William J. Pierce, *Atoms and the law*, Ann Arbor 1959, pp. 635 *et seq.* More general: *Handbooks on the Law of Torts*, e.g. by Prosser or by Harper and James with rich references.

review such determination. An ENO will only be determined by those bodies – not by an independent court! – if there is substantial off-site damage [Section 11 (j) Atomic Energy Act].¹⁶ It follows that not every kind of nuclear incident will be recognised as an ENO. This has special relevance for incidents during transportation of nuclear material. One may doubt whether in these cases there will be strict liability.¹⁷

It is obvious that this rather complex legal situation is a factor of permanent uncertainty for those who are doing nuclear business within the jurisdiction of the US Atomic Energy Act.

It would be desirable, especially from the point of view of global harmonisation for the benefit of victims and persons liable, that the US adjust this legal system to the general strict liability approach followed by other states world-wide. But apparently for domestic reasons this is difficult for the US, and, acknowledging this situation, states participating in the Vienna exercise to revise the international nuclear liability regime agreed to the so-called grandfather clause in the 1997 Convention on Supplementary Compensation for Nuclear Damage,¹⁸ which allows the US to keep its special approach when accepting this Convention.¹⁹

2.2 Channelling of liability onto the operator

Concentrating nuclear liability exclusively onto the operator of a nuclear installation and legally or at least economically entirely exempting suppliers and other persons contributing to the damage from any third party liability is a notion which was “invented” especially for nuclear activities. The

16. The procedure and the criteria to be met in order to determine an ENO are established in §§140.81 – 140.85 NRC Regulations.

17. Also in the US, the ENO approach is apparently not entirely undisputed: in his contribution to the 1992 Helsinki Symposium, Fritz F. Heiman, *The U.S. liability protection system for nuclear power plants*, in: OECD-NEA/IAEA (ed.), *Nuclear Accidents – Liability and Guarantees*, Paris 1993, pp. 417-424 (419) stated: “NRC must make ENO finding ... Not clear where the line between ordinary and extraordinary nuclear occurrences will be drawn. Only one case so far: Three Mile Island was not ENO”.

18. Annex Article 2 para. 1 (a).

19. On the problems caused by the existing US law with regard to progress towards a harmonised global regime and especially to international transportation of nuclear material see below, Section 3.1.

reason behind this conception is, first of all, the protection of suppliers and only in the second place the simplification of litigation in favour of victims.²⁰ Channelling liability is unique in the legal world, and it is ambiguous. From a legal point of view, many valid reasons can be tabled against this concept. On the other hand, without channelling, no supplier would supply to a nuclear installation; there would be no backfitting to enhance safety; nobody would even deliver fuel and nobody would be prepared to work at a nuclear installation. This fact of life was recognised world-wide. Channelling enjoyed world-wide acceptance and thus suddenly changed into a legal element with obvious advantages for the victims, namely international or even universal harmonisation. As nuclear incidents may always have transboundary effects, victims need internationally harmonised liability laws to facilitate bringing their claims. Today, channelling the liability onto the operator is a major cornerstone of international harmonisation and is thus part of an adequate and just legal regime.

For that reason I strongly support this principle, and I prefer legal channelling to economic channelling, which is more complicated and more expensive.

Despite this clear statement, I do not feel entirely comfortable with channelling. Nobody can deny that the exemption of a certain group of possible tortfeasors from any liability is difficult to justify and may entail unjust results. This becomes evident if we take the following case: a nuclear incident occurs due to a defective supply. The supplier acted with gross negligence. Victims remain uncompensated because the means of the operator solely liable are exhausted. Nevertheless, the supplier is still “untouchable” for victims and may even keep his profit. This is obviously an unsatisfactory situation and there should be a remedy.

The Vienna and the Paris Conventions²¹ provide for a right of recourse of the operator against the supplier on the basis of a contract in writing. The right of recourse of the operator against the supplier is helpful for victims only if the operator is liable without limitation in amount. In this case, the operator, even after exhausting his financial means, is still liable, and victims may attach and transfer the recourse claim for further compensation of damage. This, however, does not apply if the liability of the operator is limited in amount,

20. See on this issue especially the study under the auspices of Harvard Law School and Atomic Industrial Forum, Inc., “*International problems of financial protection against nuclear risk*”, New York 1959, pp. 56 *et seq.*

21. Article X of the Vienna Convention; Article 6 (f) of the Paris Convention.

which is the option chosen by the majority of states. If the operator has compensated the victims up to his liability amount, he is no longer liable *vis-à-vis* the victims and the victims do not have any legal possibility of attaching the recourse claim. In those cases recourse actions are only in favour of the operator liable.

I think that we have here an issue which needs further reflection with regard to the future nuclear liability law. I certainly do not want to do away with legal channelling, but I am aiming at mitigating the consequences in certain cases. Nor do I want to touch upon the principle that final responsibility for the safety of a nuclear installation rests with the operator, with the consequence that he is the person exclusively liable for damage. However, I could imagine that in cases of damage uncompensated because the means of the operator are exhausted, a claim could be established against the supplier acting with negligence. This claim should be limited to the value of the supply, including possible profit. This is certainly a risk which can be borne and should be borne by suppliers, because it is a calculable risk.

There may be other ideas on this issue. I only want to initiate discussions on a problem which needs some attention.²²

2.3 *Limiting liability in time*

The limitation of claims in time is an instrument which is well known in all legal systems. The reason behind it is that the right to bring a claim against another person should not be perpetuated forever. After a certain period of time, there must be an end, in order to re-establish legal peace. Time limitations are therefore an element of justice. There are two ways of limiting in time: either by extinction, which extinguishes the claim automatically, or by prescription, which creates a right of a defendant to refuse claim settlement. The latter one is used more frequently, at least in European civil law systems.

The Vienna and the Paris Conventions provide for a reference extinction period of ten years, which may be prolonged by national legislation, provided coverage is available. There is also a possibility of establishing a

22. The author of this contribution has already addressed the problems involved in legal channelling in his article *On modernising the Paris Convention*, in: *Nuclear Law Bulletin* No. 12 (November 1973), pp. 46-59 (48-50).

period of two and three years respectively, in accordance with the so-called “discovery rule”.²³

The ten-year period is a consequence of the congruence principle established in the liability conventions and requiring congruence between liability and coverage.²⁴ The insurance industry says that insurance of the risk for periods longer than ten years would not be calculable. I think this issue should in the future be a matter of discussion between authorities, operators and the insurance industry. Taking into account that there is always a possibility of late damage to health, a period of ten years is obviously too short.

For this reason, the 1997 Protocol to Amend the Vienna Convention established a reference period of 30 years for personal injury, but left the ten-year period for all other damage.²⁵ This is certainly more appropriate, but requires state money if the insurance industry is not in a position to cover the period beyond ten years.

The split of periods between personal injury and all other damage certainly creates problems when it comes to compensating damage. As the period for personal injury is considerably longer than the period for other damage, money has to be set aside to make sure that there are still funds available to compensate late personal injury. This will hamper speedy compensation of other damage.

I should like to address a last point: some states from eastern Europe have introduced into their new nuclear liability legislation provisions which state that there shall be no limitation in time with regard to claims for compensation of damage to a person’s life or health.²⁶ I have already expressed my view that time limitations serve to re-establish legal peace among parties. In addition, it should be seen that, from a practical point of view, perpetual validity of a claim is not really a help for victims. The longer the time period between incident and damage, the lower the probability that the victim will be in a position to prove a causal link between the incident and injury. This will already

23. Article VI of the Vienna Convention; Article 8 of the Paris Convention.

24. Article VII of the Vienna Convention; Article 10 of the Paris Convention.

25. Article 8 of the Protocol to Amend the Vienna Convention.

26. See, *e.g.* Section 76 para. 1 of the Law of Ukraine on the Use of Nuclear Energy and Radiation Safety of 8th February 1995, as amended 1996 and 1997.

be very difficult after 30 years. Every year added to the 30-year period renders the right to compensation more useless.

2.4 *Limiting liability in amount*

Almost all nuclear legislation provide for a limitation of the operator's liability in amount. This also holds true for the Paris Convention [Article 7], while the Vienna Convention in its Article V states: "The liability of the operator may be limited by the Installation State to not less than [...]"; which indicates that liability without limitation is not only admissible under that convention, but also that unlimited liability will apply if states do not expressly limit it.

There are only few states with unlimited nuclear liability. Japan and Korea never limited the operator's liability in amount. In the eighties Switzerland and Germany changed their limited liability legislations and introduced unlimited liability of the operator of a nuclear installation.

The reason behind the limitation approach is clearly spelt out in the *Exposé des Motifs* of the Paris Convention.²⁷ Paragraph 43 of the *Exposé des Motifs* reads: "In the absence of a limitation of liability, the risks could in the worst possible circumstances involve financial liabilities greater than any hitherto encountered and it would be very difficult for operators to find the necessary financial security to meet the risks. [...]". This means that limitation aims at promoting and protecting the nuclear industry. It is a concept which, originally, is certainly not "victim-oriented".

Some people also take the view that limiting liability in amount is a necessary counterbalance to the severe strict liability of the operator. It is true that both elements are sometimes linked in legislation. But such linkage is surely no dogmatic or systematic corollary of strict liability. In continental European legal systems, limitations of liability including strict liability were originally entirely unknown and only at the beginning of this century (1909 in Germany) in connection with car accidents, limitations were introduced into the law for the first time. The Anglo-American doctrine, *Rylands vs. Fletcher*, does not require limitations of liability in amount either, and this also holds true for strict liability approaches in the French law, in accordance with court rulings in

27. The *Exposé des Motifs* is, *inter alia*, reproduced in: OECD/NEA (ed.), *Paris Convention on Third Party Liability in the Field of Nuclear Energy / Brussels Convention Supplementary to the Paris Convention*, Paris 1989, pp. 30 *et seq.*

connection with Article 1384 of the *Code Civil*. Consequently, from a legal point of view, strict liability does not require the limitation of that liability.²⁸

The problem of limitation in amount stems from the fact that whatever figure legislators choose, it will be an arbitrary figure. This was clearly stated by the US Supreme Court in its decision of 26th June 1978:²⁹ “[...] candor requires acknowledgement that whatever ceiling figure is selected will, of necessity, be arbitrary in the sense that any choice of a figure based on unponderables like those at issue here can always be so characterised.” The US Court, however, accepted this arbitrary limitation in the Price Anderson Act, because there is a provision in the Price Anderson Act [Section 170 (e)(2)] which says that: “in the event of a nuclear incident involving damages in excess of the amount of aggregate public liability [...] the Congress will thoroughly review the particular incident [...] and will [...] take whatever action is determined to be necessary to provide full and prompt compensation [...]”. It follows that the limitation of liability in amount from a legal or a constitutional point of view is problematic *per se*. It is also an exception to liability regulations in most other areas.

As a consequence of the congruence between liability and coverage as required under Article 10 of the Paris Convention and Article VII of the Vienna Convention respectively, liability amounts in national legislation are limited to the amount which is insurable. On the one hand, this approach is certainly reasonable. On the other hand, it makes fixing liability amounts dependent on what the insurance market offers. Legislators, however, have to assess the risk involved and have to fix the liability amounts in proportion to the actual risk of an activity.

It is suggested that the discussion on limiting liability or not limiting liability of the operator of a nuclear installation should be continued. From the point of view of victims, the most important thing is that an adequate amount of coverage is available. Of course, unlimited liability cannot be covered in an unlimited way, because there are no unlimited assets in the world. The amount made available, however, should be as high as reasonably achievable. The same holds for fixing limited liability approaches. So at the end it may be a question of political or legal taste whether one limits liability to an amount which is fully

28. See for further references Norbert Pelzer, *Begrenzte und unbegrenzte Haftung im deutschen Atomrecht, Baden-Baden*, 1982, pp. 33 *et seq.*

29. Duke Power Company vs. Carolina Environmental Study Group, Inc., *et alia*, Docket No. 77-262 (CCH Nuclear Regulation Reporter – Transfer Binder June 1964-September 1981, No. 20 085, p. 16508).

covered by financial security or whether one provides for unlimited liability with limited coverage.

Unlimited liability, however, has the attraction that there is no need to adjust the amount to inflation from time to time. Discussions on nuclear liability amounts are never well accepted by a critical general public. Compared to that approach, adjusting only the amount of coverage is the more elegant procedure which attracts less public attention. Moreover, introducing unlimited liability would do away with the argument that nuclear operators enjoy preferential treatment compared to persons liable for damage in other fields. The fact that in cases of unlimited liability there will necessarily be a gap between the actual coverage (plus additional assets of the operator, if any) and liability does not provide a valid reason against introducing the concept. In all other areas with unlimited liability there may also be a peak of liability which is not covered by any assets, and this is accepted as a fact of social life. The same rules should therefore apply to the nuclear field.

2.5 *Mandatory coverage and congruence between liability and coverage*

Among the leading principles of nuclear liability law is the principle that the operator liable for nuclear damage is obliged to have and to maintain an insurance or other financial security to cover that liability. The purpose of this principle is meant to protect both the victim, who will know that there are funds available to pay his claim, and the operator liable, who will not be confronted with ruinous claims which may take away his assets immediately. Mandatory financial coverage is therefore a necessary element of nuclear liability law.

An additional and supplementing element is the principle of congruence between liability and coverage. This concept is clearly addressed in Article 10 of the Paris Convention, which reads:

- “a) To 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 and of such type and terms as the competent public authority shall specify.”

This wording clearly means that the liability amount established in accordance with Article 7 of the Convention and the financial security shall concur. The competent public authority may specify the type and terms of the financial coverage.

The approach of the Vienna Convention in this regard is slightly different. The respective Article VII of the Vienna Convention reads as follows:

- “1. The 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. [...]”

Article 9 of the Protocol to Amend the Vienna Convention leaves this part of Article VII untouched. It follows from the differing wording of the Paris Convention and the Vienna Convention respectively that the Vienna Convention’s *stricto sensu* does not require congruence between liability and coverage. The Vienna text leaves discretion for the Installation State to specify not only the type and the terms of the coverage, but also the amount. It follows that, under the Vienna Convention, the Installation State may fix an amount of financial security which does not entirely cover the amount of liability established by that state. This is consistent with the approach of the Vienna Convention to liability amounts. As has already been pointed out in Section 2.4 of this paper, the Vienna Convention in its Article V does not provide for a general limitation of liability, but starts from unlimited liability which may be limited by the Installation State. If, however, the state decides to introduce unlimited liability, the principle of congruence between coverage and unlimited liability would aim at the impossible, because there is no unlimited financial security available. From this point of view, the Vienna Convention provides more flexibility than the Paris Convention.

At first glance the principle of congruence seems to be a most reasonable approach, and it should be added that most states, including Vienna States, introduced this principle at national level. But there are drawbacks as well. In connection with the elaboration of this paper with regard to limiting liability in amount and in time, it has already been pointed out that the congruence principle makes fixing prescription or extinction periods and fixing liability amounts dependent on the availability of coverage on the insurance market or elsewhere. This is certainly not a correct approach, because liability law has to cope with the nuclear risk, which is the only yardstick for fixing amounts and periods.

The Protocol to Amend the Vienna Convention varies the general solution on coverage in the original text of the Vienna Convention by introducing special language with regard to coverage in cases of unlimited liability. In this case, the Installation State may establish a limit of financial security of the operator liable which shall not be lower than 300 million Special

Drawing Rights (SDRs).³⁰ This is a step in the right direction with a view to modernising the convention.

Actually, the concept of congruence between liability and coverage is adverse to flexible solutions. This applies firstly to the option of introducing unlimited liability. Under the Paris Convention, the congruence principle was one of the main legal obstacles for Germany to introduce unlimited liability and to convince the other Contracting Parties that this concept would be in line with the Convention.

The concept of congruence also blocks flexibility with regard to installations and activities which create a lower risk than, *e.g.* nuclear power plants. Why should operators of low-risk installations pay the same costs for financial security as operators of high-risk installations? As long as the congruence principle does not allow financial security amounts to be fixed lower than the reference liability amount, the only way to solve this question is to decrease the liability amount. This option is offered in Article 7 (b)(ii) of the Paris Convention if the nature of the nuclear installation or the nuclear substances involved and the likely consequences of an incident originating therefrom warrant a lower liability amount, provided this amount is not lower than 5 million SDRs. The Vienna Convention does not have any corresponding provision, because the normal minimum limit of liability is already fixed at 5 million gold dollars [Article V]. The Protocol to Amend the Vienna Convention, however, introduced this approach in its Article 9, No. 2. The great majority of Contracting Parties to the Paris Convention used this option and provide for lower liability amounts for low-risk installations and activities.

As already pointed out in Section 2.4, playing with liability amounts for different types of installations or activities is not an approach which is very much liked by the general public and raises critical questions. Leaving the general reference liability amount untouched and instead of changing those figures, establishing coverage amounts which are adequate for the respective risk is the better approach.

If the risk is assessed correctly, this is not to the disadvantage of either the possible victims or the operator liable. Low-risk activities only create low damage. If, however, there is excess damage, then legislation could introduce a state tier to step in.

30. Article 9 of the Protocol.

In the future of nuclear liability law the concept of congruence between the liability amount and financial coverage should be reassessed.

3. Liability problems still to be solved

The result of my reassessment of the leading nuclear liability principles is in agreement with the international confirmation of those principles as expressed by the states when adopting the 1997 Protocol to Amend the Vienna Convention. Those principles are still most adequate to cope with the nuclear risk and hence should also be the basic elements of the future nuclear liability law. In some cases I suggested reflecting on possible improvements of the principles. My suggestions, however, do not touch upon the substance in general, but are in most cases more or less of a cosmetic nature.

Irrespective of this positive statement, we are not living in a nuclear paradise. There are still problems to be solved and lacunae to be done away with which have not yet been sufficiently addressed.

3.1 *Global harmonisation of nuclear liability law*

It has frequently been stated that victims, because of the potential transboundary detrimental effects of radiation, need international harmonisation of nuclear liability law in order to facilitate the bringing of claims and the enforcement of judgements. This is exactly the goal towards which the Vienna Convention and the Paris Convention aim. An international instrument to support this objective is the 1988 Joint Protocol, which provides for a link between the two conventions. Unfortunately, not all of the Contracting Parties to either the Vienna or the Paris Convention adhered to the Protocol.³¹ This applies especially to major western European nuclear states. There is insufficient harmonisation of nuclear liability laws among the 46 Contracting Parties to both Conventions.

There is a second category of states which stay away from international harmonisation, namely nuclear states with national nuclear liability laws that are not Contracting Parties to either of the conventions. Among those states are major nuclear states like the USA, Canada, China, India, Pakistan, Japan, Korea, South Africa. Even if we recognise that a number of those states have national liability legislation, more or less in line with the conventions,

31. Currently there are 20 Contracting Parties to the Protocol, 6 of them Paris states, 14 of them Vienna states.

there is no formal link to the conventions which would facilitate for example the enforcement of judgements. Among those states that have not yet adhered to a liability convention is the Russian Federation, which, however, signed the Vienna Convention but apparently needs some time to ratify that instrument.

It is a political task rather than a legal one to convince the states not yet Party to accept either the Vienna or the Paris Convention and the Joint Protocol. An important role in this connection is played by the USA. The USA is the leading nuclear power and her adherence to one of the conventions would be a signal which would certainly be understood by other States still reluctant to join the international nuclear liability conventions. Without any doubt, the US has a strong domestic nuclear liability regime, which, at least in cases of an ENO, follows the same principles as the nuclear liability conventions. Nevertheless, incidents where Contracting Parties to one of the conventions and the USA are involved, either as the victim state or the incident state, are governed by the general principles of private international law. Those who are familiar with this special field of law know very well that this creates a lot of legal and practical problems, including the costly forum-shopping. In particular, the transportation of nuclear material to and from the US is seriously hampered by this legal situation.³² At the negotiations of the 1997 nuclear liability instruments in Vienna, the US said that they are unable to accede to either the Vienna or the Paris Convention, but they would be prepared to adopt the new 1997 Convention on Supplementary Compensation for Nuclear Damage. Surely this Convention, like the Joint Protocol, could also serve as a link between the existing Vienna and Paris Conventions and respective national legislation thus promoting universal harmonisation.³³ On the other hand, the Convention on Supplementary Compensation is not yet in force and up to now there is only one ratification of this instrument.³⁴ It follows that it will probably be a very long time before this new instrument could replace or supplement the Joint Protocol. From that point of view, the US will probably continue to stay away from the

32. There are additional problems: since the US nuclear liability law does not provide for legal channelling, carriers in particular are concerned about the possibility of being involved in lawsuits and about the question of whether they are adequately covered by insurance, indemnity agreements or other financial security.

33. This aspect is especially stressed by Ben McRae in his article “*The Compensation Convention: Path to a Global Regime for Dealing with Legal Liability and Compensation for Nuclear Damage*”, in: *Nuclear Law Bulletin* No. 61 (June 1998), pp. 25-38.

34. Romania ratified the Convention on 2 March 1999.

community of Convention States.³⁵ In my view, this is a situation unfavourable for speedy progress towards global harmonisation of nuclear liability laws.

Finally, there is a third category of states which are not yet part of the convention family, namely the majority of non-nuclear states. It has been quite correctly pointed out that one could ask why states with no nuclear activities should adhere to an international nuclear liability convention, and why indeed enact national implementing legislation. On the other hand, it should be seen that non-nuclear states are possibly victim states. Adhering to the conventions would without any doubt improve the position of their respective domestic victims. Their rights with regard to compensation would be equal to those enjoyed by residents of nuclear installation states party to the conventions.

Here, again, the 1997 Convention on Supplementary Compensation for Nuclear Damage comes into play. This Convention, at least during the negotiations, attracted especially non-nuclear states. It is true that this Convention seems to grant advantages for those states, which the other nuclear liability conventions do not provide: there is no need to enact full nuclear legislation, because, according to the chapeau of the annex of the Supplementary Compensation Convention, Contracting Parties which have no nuclear installations on their territory are only required to have that legislation which is necessary to enable the Parties to meet their obligations under the convention; Article XI, dealing with the allocation of funds, provides for preferential treatment for damage suffered outside the Installation State; and finally, there might be an advantage with regard to the jurisdiction provision in Article XIII. On the other hand, here applies again what has been said before: the entry into force of this Convention among a substantial number of especially nuclear states is entirely open, and it is these states in particular who would provide the funds under the Convention. Hence, this Convention does not provide a solution for the near future. Even if the adherence to either the Vienna or the Paris Convention and the Joint Protocol seems to be less attractive to non-nuclear states, those states should recall the saying that a bird in the hand is better than two in the bush. By the way, it might very well be doubtful whether there really are two birds in the bush if one takes into account the extreme complexity of the Convention on Supplementary Compensation, which will certainly cause national Parliaments to ask questions about its workability. Even if one accepts this complex instrument as a step to an improved system, what Vedran Šoljan stated is entirely correct: “[...] the true improvement depends

35. Moreover, even if the Supplementary Compensation Convention comes into operation among a considerable number of states, due to the “grandfather clause” in favour of US law (see above, Section 2.1), the concerns of carriers and others with regard to channelling (see footnote 32) will continue to exist.

primarily on the perception of the major nuclear countries on the attractiveness of the offered instruments”.³⁶ How hopeful are the prospects of major nuclear states adhering to the instrument in due course?

3.2 *Compensation amounts*

When the general public looks at nuclear liability law, interest is focused on the amounts available for compensation. And indeed, this amount is crucial for victims as well as for the person liable. Having in mind the potentially extreme magnitude of damage caused by a nuclear incident, one would expect to find in the existing nuclear conventions and national legislation a size of compensation amount which is not only adequate for the potential risk, but is also internationally harmonised. But this is not the case. The liability amounts made available on the basis of national legislation, even if those legislation implement the international liability conventions, vary from country to country. There are extremely low liability amounts and there are also high and very high amounts. The highest amount currently made available is the amount under the US legislation; it is more than USD 9 billion. States with unlimited liability have limited coverage, which in Germany currently amounts to DEM 1 billion (soon 5 billion), plus 125 million SDRs under the Brussels Convention Supplementary to the Paris Convention,³⁷ plus assets of the operator, if any. There is no international harmonisation and that follows from the fact that the liability conventions only provide for minimum amounts, which may be increased or not. A harmonising effect is achieved within the 11 states party to the Brussels Supplementary Convention, which, according to the provisions of the convention, provide 300 million SDRs per incident. However, within the community of the Brussels states, too, there are peaks of higher compensation, namely in Germany, the Netherlands and Sweden.

Those who participated in negotiations to establish liability conventions know that the issue of liability or compensation amounts is always

36. Vedran Šoljan, *Modernization of the international regime of civil liability for nuclear damage*, in: *Zeitschrift für ausländisches öffentliches Recht und Völkerrecht* (Heidelberg Journal of International Law) 58 (1998), pp. 733-761 (761).

37. Dated 31st January 1963, revised 28th January 1964 and 16th November 1982 (*Bundesgesetzblatt* 1985 II p. 963). On the German law see Sections 13, 34 Atomic Energy Act (see footnote 4), as amended (*Bundesgesetzblatt* 1985 I, p. 1565; 1998 I p. 694) in connection with Section 9 Ordinance on Financial Security of 25th January 1977 as amended (*Bundesgesetzblatt* 1977 I, p. 220; 1990 I, p. 2106).

a topic which triggers controversial discussions. That is understandable, because money is directly involved. In general, most states are extremely reluctant to increase existing compensation amounts. That is especially the case if state money is required to supplement the operator's money. Very often, reference is made to the economic situation of the respective country which does not allow an increase in compensation amounts. Here, the negative influence of the congruence principle also has an effect, when people say, "We cannot increase our liability, because there is no insurance available." Sometimes Governments simply fear that increasing the amounts would have an unfavourable effect on public acceptance, because it would signal that in nuclear activities enormous risks are involved. There is no need to appraise the positions of states here. It is simply a part of political life that states offer differing amounts of compensation for nuclear damage.

This, however, creates a problem of another kind. The Vienna and Paris Conventions require application without any discrimination based upon nationality, domicile or residence.³⁸ Victims suffering damage from an installation situated in a state with high compensation amounts are certainly better off than those who suffer damage from a state with low liability amounts. There is no adequate balance between the high compensation state and the low compensation state. This fact could entail that states refrain from increasing their compensation amounts, in order to avoid the obligation to share this money with a neighbouring state that, on its part, provides less money.

A solution to this problem could be to introduce the concept of reciprocity into the international nuclear liability conventions. Reciprocity should apply with regard to compensation amounts which are higher than a reference amount agreed by the Contracting Parties. Article 15 para. 2 of the Protocol to Amend the Vienna Convention is a first step in that direction.

I propose to reflect further on this issue. I should like to add that Germany, in Section 31 of her Atomic Energy Act, already has a system of reciprocity, which is applied in cases of damage occurring outside Germany. The exchange of reciprocal benefits is entirely in line with the character of international treaties, where it is a general rule that one can only require what one is prepared to give: *do, ut des*.

38. Article XIII of the Vienna Convention; Article 14 of the Paris Convention.

3.3 *The new Austrian approach*

As of 1st January 1999, in Austria, a new nuclear liability regime is in force,³⁹ which caused an uproar in interested nuclear circles, especially in the supplying industry. Indeed, this new Austrian Act contains elements which have been banned, so-to-speak, from nuclear liability legislation from the very beginning. The Act, in its second section “Liability for Nuclear Installations and Nuclear Material”, establishes a severe strict liability without limitation in amount and does away in particular with the principle of channelling liability onto the operator. This entails, in accordance with Section 16 of the Act, that other provisions to compensate damage, *e.g.* on the grounds of general tort law, remain untouched. There is strict liability without limitation in amount for operators of nuclear installations, for carriers of nuclear material, unless the carrier can prove that he did not know or could not have known the character of the material transported, and a modified strict liability for holders of radionuclides [Sections 3, 4, 9]. Section 12 of the Act contains a presumption of the causal link if the damaged person can show that there is a strong probability that he was exposed to ionising radiation originating from a nuclear installation, from nuclear material or from radioisotopes. This presumption can only be rebutted if the defendant shows that there is a strong probability that the damage was not caused by ionising radiation. Moreover, Section 13 establishes a duty to supply information. If the circumstances suggest that damage has been caused by ionising radiation, the damaged person is entitled to demand from every operator of a nuclear installation, carrier of nuclear material or holder of radionuclides all information regarding the circumstances relevant for the purpose of evaluating the cause and the extent of the damage.

It is true that this Austrian legislation is contrary to the principles of liability developed and internationally agreed in the last decades. Austria is not party to either the Vienna or the Paris Convention, although she was one of the original signatories of the Paris Convention, which she never ratified. Consequently, there are no obligations under international treaty law to comply with the principles of the conventions, and neither are there respective obligations under international customary law. Also consequently, it has to be clearly stated that Austria has the sovereign right to pass whatever nuclear liability legislation she deems appropriate. Actually, to a certain extent Austria is simply normalising the nuclear liability legislation and adjusting it to general tort law. With regard to the presumption of causality and the claim for full

39. See footnote 13. See also Monika Hinteregger, *The new Austrian Act on Third Party Liability for Nuclear Damage*, in: *Nuclear Law Bulletin* No. 62 (December 1998), pp. 27-34.

information, there are examples in other countries with regard to general environmental liability laws. If we, therefore, look at the new Austrian legislation from this angle, there is no reason to condemn Austria for this legislation.

Austria is a State which does not use nuclear energy for electricity-generating purposes. In Austria, the use of nuclear energy for that purpose is expressly forbidden.⁴⁰ It is also well known that public opinion and also state policy in Austria is strongly against the use of nuclear energy, and this includes in particular the use of nuclear energy in neighbouring states.

If one looks at the new law from this specific angle, one could conclude that the extreme deviation from the internationally agreed principles of nuclear liability law is not only meant to protect Austrian victims, but may also be used as a tool to fight nuclear energy abroad. This idea is supported by Section 23, paragraph 1 of the Act, which declares that non-contractual claims for compensation shall be governed by Austrian law at the request of the person having suffered damage in Austria. Since there is no channelling, respective judgements may be executed against property of the foreign operator liable or of the supply industry situated in Austria. In addition, it is also possible to try and enforce Austrian judgements in other countries.

However, paragraph 2 of Section 23 to a certain extent mitigates this situation: if the damage is suffered abroad and if Austrian law applies, compensation is only due if and to the extent that the law of the damaged person provides for it. This provision therefore excludes claims which under the law of the victim are statute-barred; this rule covers, *e.g.* claims against suppliers to whom, according to the law of the victim, legal channelling applies.⁴¹ Moreover, claims against suppliers require in any case that a respective action against the operator liable cannot be entertained [Section 16, paragraph 2].

40. *Bundesgesetz vom 15. Dezember 1978 über das Verbot zur Nutzung der Kernspaltung für die Energieversorgung in Österreich (Österreichisches Bundesgesetzblatt No. 676/1978).*

41. Monika Hinteregger, *op. cit.* (footnote 39), pp. 33-34 points out that the main target of this provision, apart from the wish to provide incentives for other States to grant benefits similar to those provided for in Austrian law, is to protect Austrian suppliers, "as they are amongst the very few suppliers in the world who, in the future, will not be protected by legal channelling". So the provision aims to prevent hoisting Austrian suppliers with Austria's own petard.

It has to be admitted that these provisions are meant to protect suppliers. It has furthermore to be admitted that states having no nuclear industry and no special legislation may also use their general civil law to obtain enforceable judgements against foreign operators and suppliers. Nevertheless the Austrian law provides for more. Its rules seem to be especially designed to bring and enforce claims against operators and the nuclear industry, not only at domestic level, but also abroad if possible. In this connection the right to comprehensive information against operators, carriers and holders of radionuclides under Section 13 plays a dangerous role. Actually, this right may be intentionally used to involve the nuclear industry in costly and time-consuming procedures which may hamper nuclear operations, even if the claims for information are eventually dismissed. The general anti-nuclear sentiment in Austria may encourage the use of the tools provided by the new Act.

As a consequence, nuclear suppliers will perhaps be reluctant to continue safety-oriented back-fitting exercises in nuclear states neighbouring Austria. This consequence was clearly recognised by the drafters of the Austrian Act and is addressed in its *Exposé des Motifs*.⁴² The drafters came to the conclusion that the new Austrian Act would probably have no effect on suppliers, because already today there are states without legal channelling, which has not prevented suppliers from continuing supplying to nuclear installations.

This may be so. But a thorough examination of the possible consequences of the new Austrian legislation should take into account quite another deliberation. It is certainly true that the Austrian legislation is apt to be used to hamper the operation of nuclear power plants and the development of the nuclear industry in countries beyond Austria. States which have decided to use nuclear energy as a source of energy do that on well established legal grounds. The peaceful use of nuclear energy is without any doubt an activity admitted under public international law. This is, *inter alia*, expressly stated in Article IV of the 1968 Treaty on the Non-Proliferation of Nuclear Weapons, which has been adopted by 187 states, including Austria.⁴³ Paragraph 1 of this Article confirms the “inalienable right of all the Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes”, and, moreover, in its paragraph 2 obliges Parties “to facilitate, and have the right to

42. See *Regierungsvorlage zum Bundesgesetz über zivilrechtliche Haftung für Schäden durch Radioaktivität (Atomhaftungsgesetz 1999 – AtomHG 1999)*, No. 2 of the *Erläuterungen, Allgemeiner Teil (No. 1357 der Beilagen zu den Stenographischen Protokollen des Nationalrates XX.GP)*.

43. UNTS vol. 729, p. 161.

participate in, the fullest possible exchange of equipment, materials and scientific and technological information”. Although states are free to decide against the use of nuclear energy, they have, nevertheless, to respect the rights of other states to use it. This may lead to a legal conflict if the instrument of the Austrian Act is used unreasonably to interfere with nuclear activities in other countries.

The right to use nuclear energy peacefully is even strengthened by the EURATOM Treaty,⁴⁴ to which Austria is a Contracting Party. According to Article 2 of the EURATOM Treaty, this instrument is clearly meant to promote and foster the peaceful use of nuclear energy. This general objective is implemented by various chapters of the Treaty. Certainly the EURATOM Treaty does not contain an obligation to use nuclear energy, but Member States of that treaty are also free to decide against the use of nuclear energy.⁴⁵ However, it is open to question whether it would be in line with the obligations under the EURATOM Treaty to use national legal means simply and perhaps excessively with a view to hampering the peaceful use of nuclear energy in other Contracting Parties to the EURATOM Treaty. Special reference has to be made to Article 192 of the Treaty, which obliges Member states to take all appropriate measures to ensure fulfilment of the Treaty obligations and which in its paragraph 2 states: “They shall abstain from any measures which could jeopardise the attainment of the objectives of the Treaty.”

It cannot be excluded that other anti-nuclear states will follow the Austrian example. This would split or even destroy the level of harmonisation reached in the field of nuclear liability law and create a situation which is a disadvantage not only to the nuclear industry, but perhaps even more to victims. Such a development should be prevented, if possible. This can perhaps be reached if nuclear liability law is made more attractive, especially for non-nuclear states. It would therefore be prudent to react to the Austrian approach by further enhancing the existing liability law with a view to making it more favourable for victims. This would firstly mean increasing the compensation amounts considerably, and secondly mitigating the consequences of legal channelling as proposed for example in Section 2.2 of this paper. It would also mean doing away with territorial limitations of the scope of application of

44. UNTS vol. 298, p. 167 (1957 version without later amendments).

45. See Norbert Pelzer, *Das Umweltrecht der Europäischen Atomgemeinschaft*, in: Hans-Werner Rengeling (ed.), *Handbuch zum europäischen und deutschen Umweltrecht*, Köln etc. 1998, pp. 359-419 (414-415) with further references.

nuclear liability laws and any other possible discrimination *vis-à-vis* victims in states not Party to either of the liability conventions.⁴⁶

4. Catastrophic nuclear accidents

One may summarise the results of my paper by stating that there is a sound and satisfactory international system on civil nuclear liability law in place. Enhancement of the existing regime is only desirable or required with regard to certain aspects of that regime. Nevertheless, my perhaps provocative thesis is: the existing nuclear liability law is not apt to cope with a catastrophic nuclear accident of Chernobyl magnitude. This statement does not point at a weakness of the existing regime, which perhaps could be done away with. The statement is simply a consequence of the fact that civil liability law is not designed for major catastrophes. Civil liability law is designed to deal with damages which can normally be compensated by the means of the tortfeasor. Damage and compensation are calculable in advance, and if there is excess damage, the state may intervene, in order to mitigate hardships. Actually, civil liability law is designed to settle damages below the threshold of a major catastrophe, and there is a need for adequate provisions in this limited field, because minor incidents are perhaps more likely to occur than a catastrophic one. Only if we clearly acknowledge this limit of civil liability law can we accept the existing regime as appropriate.

Even more: there is reason to be proud of the outcome of the ten-year exercise in Vienna. Especially the increase of the minimum liability amount to 300 million SDRs in the Protocol to Amend the Vienna Convention is progress. It is also progress that states adopted an international instrument on supplementary funding, which, provided all nuclear states adhere to it, will provide for an additional 300-350 million SDRs, even if this instrument is not perfect. However, the question of how to deal with the consequences of a catastrophic nuclear incident has not yet been answered.

46. A step in that direction is Article 3 of the Protocol to Amend the Vienna Convention, which inserts a new Article I A stating that the Convention shall apply to nuclear damage wherever suffered. However, paragraph 2 of the new Article allows Contracting Parties to exclude certain damage from the application of the Convention. That discretion of states considerably minimises the benefits granted by paragraph 1 of the article. On the question of territorial restrictions of nuclear liability law and compliance with public international law see *supra* Norbert Pelzer, *op. cit.* (footnote 22), pp. 52-54.

Of course, I am not able to give an answer either. But perhaps it is helpful to describe the possible scenario of a catastrophic accident in some more detail. There may be within rather a short period of time hundreds of thousands, or even millions, of victims and moreover of people who claim to have suffered damage. Dealing with those people is not only a major administrative and most costly issue, but has also explosive political relevance. Evacuations have to be organised, there may be breakdowns of supply and of the transportation system. There may be widespread panic. In a situation like that, a quiet assessment and perhaps settlement of claims is out of the question. Some people will require immediate compensation to avoid immediate bankruptcy. Others need quick medical treatment without questions about who will pay for it. What Roman Herzog, then Vice-President of the German Federal Constitutional Court and later President of the Federal Republic of Germany, said at the 1984 Munich Symposium on Nuclear Third Party Liability and Insurance is perfectly true, and his words are worth being quoted at some length:

“If we visualise the very worst possible scenario in the operation of a nuclear power plant, then accidents comparable with the greatest disasters in the history of mankind are no doubt conceivable. [...] Nonetheless, it came as a surprise to me to find that the legal comparisons offered in illustration of this issue are taken exclusively from the field of liability under civil law – in particular that of absolute liability. [...] However, the extreme case which I now wish to invoke in my argument refers to completely different magnitudes. And I trust you will decry when I argue that such an extreme case is only really comparable with disasters such as a gigantic flood; mass unemployment caused by the collapse of entire branches of the economy; diseases of modern civilisation; or perhaps even the Second World War. You will no doubt retort that none of these disasters are governed by liability provisions applicable by analogy to the problem under discussion.”⁴⁷

47. Roman Herzog, Keynote address, in: OECD/IAEA (ed.), *Nuclear Third Party Liability and Insurance – Status and Prospects* (Munich Symposium 1984), Paris 1985, pp. 13-21 (16).

Herr Herzog continued as follows:

“Let us just imagine for a moment that something which we all deem impossible and which each of us in his own way does his utmost to prevent actually happens – a disaster causing damage which exceeds the present maximum level of 1 billion DM by 1 000 or even 2 000%. Can anyone really believe that in such a contingency somebody would invoke Section 31 of the Atomic Law or even read it? The *Bundestag* (Parliament) would convene and call for the largest possible “unconventional and unbureaucratic” indemnification for all the damage suffered. The same would take place in the government, and not even the Minister of Finance would protest; he would simply nod his head in sympathy. Just think: this is the very same State which does not refuse its help – and quite rightly so in my opinion – when a hailstorm or a flood occurs.”⁴⁸

Herzog’s keynote address is still worthwhile reading today and it became even more relevant after the Chernobyl accident.

Scenarios of the kind described by Roman Herzog were never the subject of discussions at international negotiations on nuclear liability law. Some governments only refer to them if they wish to underline their anti-nuclear position. Those governments that are in favour of using nuclear energy as well as operators of nuclear installations, the nuclear insurance industry and nuclear suppliers are silent, because they continue their work on the assumption that no catastrophic incident will happen, and they do not wish to scare the general public by organising precautionary measures against a horror scenario, the occurrence of which is extremely remote.⁴⁹

According to my knowledge, only one government has dealt in greater detail with the problems of compensating damage after a catastrophic nuclear accident. Based on a mandate given by Section 170 (1) of the Atomic Energy Act, as amended by the 1988 Amendment,⁵⁰ the US President established a

48. Roman Herzog, *op. cit.* (footnote 47), p. 21.

49. The Chernobyl accident was a consequence of the political and “legal” system of the Soviet Union, rather than of technical deficiencies which, of course, also contributed to the incident. The 1979 Three Mile Island accident in the US proved that even severe occurrences can be controlled in such a way that off-site damage is prevented if the operation of the reactor is embedded in a sound safety culture.

50. Public Law 100-408.

commission “to study means of fully compensating victims of a catastrophic nuclear incident that exceeds the amount of aggregate public liability under Subsection (e) (1)”. The commission presented the result of its work in August 1990 to the US Congress.⁵¹ The commission performed a remarkable piece of work and came to six conclusions and four recommendations.⁵² Since, apparently, there is no general access to the report, the conclusions and recommendations will be quoted here in full.⁵³

“I. Conclusions

Conclusion No. 1 The Commission believes that Congress’ commitment to “full compensation” under the Price-Anderson Act means that the overarching goal of any plan recommended by the Commission should be compensating for the losses caused by a nuclear accident or a precautionary evacuation. The Commission has concluded that the constraints of a plan that seeks to achieve this goal by applying common law principles of tort in traditional methods of litigation would result in the outright denial of recovery to many deserving claimants and would make recovery for others a difficult and protracted process. The Commission has, therefore, chosen to recommend a plan that is a departure from conventionally litigated actions and that modifies the standards of recovery under a pure tort scheme. Under the Commission’s recommended plan, the goal of full compensation is achieved by providing greater relief to a greater number of people, more easily, more quickly, and more consistently than would otherwise be the case.

Conclusion No. 2 Criteria should be established for activating a system to be put in effect for a catastrophic nuclear accident, and, once it is triggered, the system should apply to all claims relating to that accident. The point for triggering the system should be established before an accident.

51. Report to the Congress from the Presidential Commission on Catastrophic Nuclear Accidents, August 1990, 2 Volumes. Unfortunately, this report has never been distributed to the general public, and today seems to be out of print.

52. See on the report in general: Jerome Saltzman, *Conclusions of the Presidential Commission on Catastrophic Nuclear Accidents*, in: OECD-NEA / IAEA (ed.), *Nuclear Accidents – Liabilities and Guarantees* (Helsinki Symposium 1992), Paris 1993 pp. 265-277.

53. Report, *op. cit.* (footnote 51), pp. 3-11.

Conclusion No. 3 A system should be designed such that, in the event of a major nuclear accident, Price-Anderson funds would be used to resolve and pay claims fairly, promptly, and efficiently.

Conclusion No. 4 A system to compensate losses in the event of a major nuclear accident should be placed within a judicial framework but should utilize the efficiency and cost-containing features of administrative processes, including provision for the use of scientific and medical expertise.

Conclusion No. 5 On the basis of present knowledge, cancers that could be radiogenic cannot be distinguished from those that occur spontaneously or are due to exposures to other carcinogens. A related problem is reconstructing the dose actually received long after the event. These problems should not bar recovery for latent illnesses.

Conclusion No. 6 In order to effectuate the recommendations of the Commission, statutory implementation is desirable to ensure that the best possible system for fair compensation is in place in the event of a major nuclear accident.

II. Recommendations

Recommendation No. 1 The Commission recommends that the appropriate “trigger” for application of its proposed system should be when the court finds there is a reasonable likelihood of claims exceeding the first level of insurance and there is a multiplicity of claimants. The provisions presently in the Price-Anderson Act with respect to a determination of an extraordinary nuclear occurrence should be amended in accordance with this recommendation or whatever “trigger” is ultimately enacted.

Recommendation No. 2 The Commission recommends that claims be resolved through a judicial process containing administrative features designed to speed the resolution of cases.

Recommendation No. 3 The Commission recommends compensation for those losses caused by a nuclear accident or a precautionary evacuation on the following basis:

- A. Pecuniary losses caused by a nuclear accident or evacuation should be compensated dollar-by-dollar.

- B. Claims for nonpecuniary losses should be compensated as follows: [...] ⁵⁴

Recommendation No. 4 The Commission recommends that pecuniary and nonpecuniary claims arising from latent health effects be compensated.”

This paper aims at focusing on the future of nuclear liability. It takes a strong view that there is an urgent need to deal in greater detail with the question of catastrophic accidents. In doing so, the results of the US Commission should be adequately considered and taken into account.

Although the American proposals are limited to measures for compensation at national level, emphasis should also be given to ways and means to establish and promote international co-operation in this field. Roman Herzog, in his 1984 Munich keynote address, convincingly pointed out that the state has a genuine duty to compensate its citizens and residents. In principle this also holds true for damage caused in neighbouring states. Of course, it is the accident state that is responsible in the first instance for the incident, and consequently is liable for damage. On the other hand, in the family of civilised nations, accidents of a catastrophic magnitude should also trigger assistance and help from other states. In the field of preventive measures, the 1986 Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency⁵⁵ and its implementing bilaterals confirm that there is international responsibility. In the field of compensation for damage, the Brussels Supplementary Convention and the Convention on Supplementary Compensation for Nuclear Damage are first steps in the same direction. Perhaps the time is ripe to consider additional elements, with a view to supplementing the existing international nuclear liability regime for compensating damage below the threshold of a catastrophe by starting to think about how to deal with compensating catastrophic nuclear damage.

To me it is quite obvious what will happen in the case of a major catastrophe with transboundary detrimental effects. States will speedily embark on compensating their respective domestic victims out of public funds, with a view to avoiding major political turbulence. Only as a second step will they remember existing legal procedures and will certainly require recourse from the operator and the accident state. Here, however, we arrive at the field of state liability under public international law and here we need a legal framework, because, as we all know, international custom in this field, although well

54. The lengthy details of this enumeration are left out here.

55. IAEA INFCIRC/336.

established in theory and in a number of cases,⁵⁶ nevertheless is not a reliable base for recourse actions against the accident state. Here we also recognise the need for international solidarity: such a framework should contain elements which, if necessary, aim at mitigating the financial and economic consequences for the accident state.

56. There is plenty of literature available on the issue of state responsibility and state liability for dangerous activities causing transboundary damage. Leading cases, *inter alia*, are: Trail Smelter Arbitration [3 RIAA 1905 (1941)], Corfu Channel Case [ICJ Reports 1949, 4, 244], Lac Lannou Arbitration (12 RIAA 281 (1957)).

**THE MODERNISATION OF THE INTERNATIONAL NUCLEAR
THIRD PARTY LIABILITY REGIME – DOES EXCLUSIVE
LIABILITY STILL MAKE SENSE?**

**LA MODERNISATION DU RÉGIME INTERNATIONAL
DE LA RESPONSABILITÉ CIVILE NUCLÉAIRE – LA QUESTION
DE LA RESPONSABILITÉ EXCLUSIVE**

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Résumé

L'auteur remarque au début de sa communication que le seul fait de s'interroger sur la justification du concept de la responsabilité exclusive de l'exploitant nucléaire, suppose qu'il existe certaines tendances à la supprimer. Il se propose d'expliquer les raisons pour lesquelles il convient au contraire de la conserver.

Après avoir rappelé que la canalisation de la responsabilité constitue depuis l'origine un élément central du régime de responsabilité applicable aux activités nucléaires et qu'il contribue à l'équilibre des intérêts entre victimes et industrie nucléaire, l'auteur analyse en détail les tenants et aboutissants de ce concept et son utilité pour un contrôle effectif du risque nucléaire. Il souligne ensuite sa relation avec la notion de responsabilité objective et la fonction de prévention du risque.

L'auteur traite ensuite de la contribution du régime de responsabilité nucléaire à l'objectif de contrôle de la qualité de la sûreté des installations nucléaires, en traçant un parallèle avec la législation de l'Union européenne sur la responsabilité du fait des produits.

L'auteur explique l'intérêt du système de responsabilité objective et exclusive pour faciliter l'accès des victimes à la réparation du dommage, notamment en matière de preuve, avant de souligner l'importance pour l'industrie nucléaire d'être assujettie à des règles prévisibles et à des engagements financiers calculables. Il insiste enfin sur la nécessité de pratiques juridiques uniformes et conclut que l'abolition éventuelle de la responsabilité exclusive ne manquerait pas de remettre en cause les conditions du contrôle exercé par l'État sur les activités nucléaires.

General

The subject given to me is formulated as a question. It indicates that there are pressures to change the existing norms which stipulate exclusive liability for the operator of a nuclear installation. The need for reform can be judged against a careful analysis of the usefulness. To accomplish this task, however, the legal material must be made workable for a study of this kind. A basis for judgement is required.

In order to create a perspective for the presentation, it might be useful to recall the general aims and purposes of the existing system for exclusive liability in the international nuclear liability regime. As is well-known, the compensation system is based on two conventions (The Paris Convention on Third Party Liability in the Field of Nuclear Energy of 1960 and the Vienna Convention on Civil Liability for Nuclear Damage of 1963). The norms in these Conventions define the level at which the compensation system for nuclear accidents is based.

The international co-operation which resulted in the conventions was inspired by the aim to construct a system which awards a fair and sufficient compensation for the victims of a nuclear accident. Secondly, the aim was to promote the peaceful use of nuclear energy. The purpose was also to harmonise regulations concerning nuclear energy. The preparatory works for these conventions demand a general goal to balance the interests of the potential victims of a nuclear accident and the interest of society to promote the peaceful use of nuclear energy. National legislation on nuclear third party liability is based on these conventions.

There are four basic principles which guide the normative framework of these conventions. The liability of the operator of a nuclear installation is not based on fault but is strictly based on its nature. Secondly, the liability is restricted to a certain sum per accident. Thirdly, the liability of the operator ought to be covered by insurance or state guarantee. Fourthly, the liability is channelled exclusively to the operator of a nuclear plant, meaning that there are no other persons to be held liable for a possible nuclear accident.

These conventions and the national legislation based on them form an established legal ground for the production and utilisation of nuclear energy for peaceful purposes. The regulation forms a consistent system where every one of the said principles supports and requires the validity of the other principles. There is said to exist an internal logic between the components of this system, thereby preventing isolated treatment of the various parts of the system.

Possible changes in some parts of this system require that the effect on other parts of the system be carefully taken into consideration. Besides, the existing system has shaped the expectations and behavioural choices in the production of nuclear energy. All interested parties have become accustomed to the situation.

Any new orientation on third party liability for nuclear damages should be within the context of existing regulations in the field. Exceptions from established international principles in the area of nuclear liability should be openly discussed and their consequences carefully studied.

The channelling of liability

According to the basic principles defined in the Paris Convention, all liability for a nuclear accident should be channelled to one responsible person. Any claims for compensation are to be made against the operator of the nuclear installation. This means an exclusion of the liability of any other persons, such as suppliers of services, materials or equipment to the nuclear installation. The operator is to be held liable for a nuclear accident if its cause can be attributed to planning, construction, modification, maintenance or repair of the nuclear installation as well as normal operations.

This system has practical consequences which serve the needs of all interested parties. It is a simple and clear liability regime from the point of view of potential victims of an accident. The identity of the operator is usually well known and the choice of competent jurisdiction accordingly easy to make. An action brought against a single defendant is manageable in a much less complicated manner as compared with the alternative of having several defendants involved in the same litigation. The system saves trouble and money by being simple for the victims.

It has also been advantageous for the suppliers of services and material to the nuclear installation. This is an area which, in principle, could partly overlap with other compensation systems, *i.e.* the system of product liability could to some extent be applied. However, as a rule, the national acts based on these conventions give priority to the nuclear liability regime. It is in the interest of the suppliers that the compensation system does not create the risk of unpredictable and harsh claims. This is also a precondition for the insurability of their own liability. The supplier need not necessarily even know who the end-user of his product is. He can have no control over the use of his product.

The exclusive liability of the operator thereby protects the interests of channelling the liability to a person who is in the best position to control a nuclear risk. Paradoxically, one might say, it also serves the needs of the operators of nuclear installations. They can control the quality of their suppliers' products on a contractual basis. This has proved to be an efficient incentive for the suppliers to maintain the required high safety standards in their deliveries. On the other hand, the nuclear industry has gained advantage from this situation, since the costs of the products and services supplied have been correspondingly lower. Each and every supplier does not have to safeguard himself against a potential nuclear liability by taking out independent insurance cover. This fact is reflected in the price of nuclear energy.

Strict liability

Nuclear third-party liability is generally based on strict liability. Strict liability is a form of compensation which is used in situations where the activity in question is known to be dangerous, regardless of the rate of actual accidents. The degree of danger is measured according to the seriousness of the casualties, should an accident happen. Strict liability differs from liability based on negligence which is the main principle of the general law on torts. Strict liability is not connected to a judgement concerning the blameworthiness of the acts that result in damages. Liability is strict in activities which are considered to be useful for society.

The production of nuclear energy belongs to this same category which means that, in this sense, *i.e.* from the point of view of tort law, it should be taken as a useful activity as such. Inasmuch as the liability for nuclear damages is based on strict liability in the future, this conclusion casts one perspective on the compensation system. It is a form of liability which presupposes that nuclear energy is produced also in the future.

Prevention of risk

Tort systems in every western jurisdiction are based on a presupposition that the existence of a tort system has preventive functions. An important function of tort law is its supposed effect on the way certain crucial actions are conducted. Tort sanctions are designed to prevent accidents. The threat of tort liability is a fact which the potential tortfeasor takes into consideration when planning his or her actions.

This preventive function is considerably near the field of strict liability. One of the major reasons for the use of strict liability is the supposed effect this liability has on the rate of expected accidents. Strict liability forces manufacturers to spend more on research and development in an attempt to discover defects in production. Strict liability is used in situations where the activity in question is tolerated on the condition that it is conducted with the best possible care in order to prevent accidents.

This feature is apparent in the way the liability of the production of nuclear energy has functioned in reality. The existing system for compensation, where the liability is channelled to the operator, has encouraged programmes aimed at updating the safety of reactors in various central and eastern European countries. The suppliers of modern safety technology would certainly consider seriously the risks involved with any such programme if they were faced with a third party liability for a possible nuclear accident in the plant. The effect of the possible elimination of exclusive liability could in the long run be detrimental to the major goals of the international nuclear liability system.

Co-ordinated safety control

A nuclear installation is a construction comprising technology from various independent suppliers. The safety of production requires that these independent components are combined in such a way as to make the coordinated functioning of the installation possible. Exclusive liability for a single person means that there is someone in whose interest it is to coordinate the different components so that they operate as an entity. Eliminating this kind of liability could lead to a risk whereby each individual supplier is counting on the responsibility of someone else.

The potential extension of the range of persons to be held liable could also be approached from the point of view of those safety standards which the operator should make use of. This aspect has also something to do with the preventive effect of the tort system. The operator does not have sufficient incentive to invest on safety in situations where he can count on the liability of other parties. If there are many potential parties who all think in a similar way, there is no person who is in charge of the installation as a whole.

Another important aspect concerning the general purposes of the conventions is linked to the need to prevent *safety-dumping* in the production of nuclear energy. At present, the accepted standards for security and safety in the production of nuclear energy are based on internationally binding obligations. National safety regulations are designed in accordance with internationally

accepted standards. The implementation of these international standards is largely established by the fact that the nuclear operators have an incentive to ensure that the safety requirements are fulfilled in their units due to the exclusive liability that they have.

Product liability in the EU can be taken as an example of a similar need to ensure that the safety level provided by national product liability acts should be the same in all EU countries. Product liability was not meant to be a cause for trade and industry to make decisions on where to locate their production units. The same argument is also valid in the context of the production of nuclear energy. In as much as this is an acceptable goal, the details of proposed reforms should be scrutinised bearing in mind the possible differences in the tort systems of the various countries of the convention. The possible abolition of exclusive liability is, in this respect, a major step in the opposite direction compared to the development in other aspects of tort law.

Access to compensation

In this context, there is another aspect in strict liability which could be kept in mind. Strict liability does not require any singular act as the cause for damage. Instead, strict liability is connected to an activity. This feature is very favourable to the victims because in litigation they are released from the burden of having to point out the individual act which caused their damage.

In this respect, a reform which would abolish the exclusive liability for the operator represents a step backwards from the point of view of the victims access to compensation. A model that would involve several possible tortfeasors can, in practical terms, be difficult for the victims. The burden of proof concerning the causality of the damages is much harder to establish compared to the established principles of nuclear liability.

In the existing system, it is enough for the victim to show a link between his or her damages and the production or distribution of nuclear energy. Should the number of potential defendants be expanded, the victims are in a much more difficult position in this respect. The victim must be more accurate with his burden of proof. He or she must, on the one hand, establish a causal link between the damage-causing act and the injury and, on the other hand, between the injury and a responsible defendant. How can we expect ordinary people to accomplish this? This is a movement which is not in line with the general objective of providing an unproblematic compensation for the victim.

These problems are similar to the difficulties the consumer experiences in establishing the burden of proof in product liability. The main incentives for the reform of product liability were the difficulties consumers experienced in proving negligence against manufacturers of dangerous products and of proving a causal link between the alleged negligence and the plaintiff's injuries. The advantages of product liability lie in the fact that the plaintiff need not prove fault in order to get compensation. Product liability is classified according to similar principles in all European countries. The elimination of exclusive liability for the operator would, in this respect, be a step in another direction compared to general trends in other parts of the legal system.

Calculability of the liability regime

If it is accepted that the production of nuclear energy is something which society needs, it becomes inevitable to inspect the conditions which make it possible to produce nuclear energy. The compensation system with exclusive liability holds a key position in this respect. It crucially affects the costs of production. It is crucial for both the potential victims of nuclear damages as well as for those who finance the system (nuclear industry and states, prices of electricity, nuclear liability as a competitive measure) that the system is calculable. The costs of maintaining the liability system should be calculable irrespective of the way the funds for compensation are collected. A system, which is not calculable, whereby the costs and burdens for the its maintenance are not statistically manageable, is detrimental for all, not only for the potential victims, but also for the nuclear industry, their customers and those states which finance the system. A legal regime for nuclear liability which does not fulfil this requirement is in the long run impossible to manage.

Uniform legal practices?

One important example of the need for more detailed information is linked to the general aim to harmonise compensation systems in this area. The global nature of the risks in this area ensures that the question of harmonisation is always on the agenda. Is the law, in practice, so internationally uniform as the wordings of many notions, principles and rules would imply? It is still highly possible that the actual coverage of the compensation system can vary depending on the jurisdiction in question. This difficulty also exists under the subject of this presentation. The elimination of exclusive liability would make it possible for the victim to choose where the litigation takes place. The extension of liability to cover also suppliers of services and other relevant persons can in this way increase the possibilities for incoherent compensation practices. In this

respect, the elimination of exclusive liability can also increase the possibilities for forum-shopping.

State supervision

The need for reform should also be judged against its consequences to the regulatory and licensing processes for the production of nuclear energy. The state has the option to forbid an activity which is considered to be too dangerous. The public power controls and consults nuclear installations in questions concerning the safety of the operation. The experience from this control demands cooperation between state authorities and the nuclear industry. Both parties are familiar with their respective standpoints.

The abolition of exclusive liability would evidently result in the reform of this control system too. The scope of this state control should be expanded according to the guidelines of the compensation system. This is a topic which also needs to be aired in discussions on the subject. Is the established system for the supervision of nuclear production suitable to control all those activities which the extended liability is intended to cover?

The Paris Convention, the Vienna Convention and the Joint Protocol relating to the Application of the Vienna Convention and the Paris Convention are the basis of nuclear civil laws adopted by the countries in western Europe and more recently in central and eastern Europe. Over the last few years, the IAEA and the OECD/NEA have been working to further strengthen the international nuclear liability regime. That work has resulted in a Protocol to Amend the Vienna Convention and the Convention on Supplementary Compensation for Nuclear Damage adopted in September 1997. These two instruments should substantially enhance the global framework for compensation well beyond that foreseen by existing conventions. The exclusive liability of the nuclear operator is an essential part of the international nuclear liability regime. Without this, the current effort of strengthening the regime cannot be developed for the benefit of victims of a possible nuclear accident.

**LA QUESTION DE LA RESPONSABILITÉ EXCLUSIVE –
LA RÉPONSE DE L'AUTRICHE**

**THE QUESTION OF EXCLUSIVE LIABILITY –
AUSTRIA'S RESPONSE**

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Abstract

This presentation examines the Austrian approach to the international nuclear third party liability regime, particularly in light of the recent adoption of comprehensive national legislation reviewing the principles which underlie that regime.

The author outlines the historical circumstances leading to the turning point in Austrian nuclear policy on 5 November 1978, when the Austrian electorate rejected the nuclear power option by a very slim majority. He notes that the 1964 Law on Nuclear Third Party Liability was adopted at a time when the legislator's prevailing objective was to promote nuclear energy, and that its outmoded concepts were subject to criticism in the 1990s. The author, having set out the reasons behind the adoption of the new legislation in 1999, presents its main features, including in particular those which run counter to certain well-established principles set out in the Paris, Brussels and Vienna Conventions. These include the principle of the exclusive liability of the operator and the jurisdiction of the courts of the State in which the nuclear incident occurs. He explains that Austria wished to retract those privileges previously granted to constructors and suppliers, due to their complete exemption from liability in respect of goods delivered and services rendered.

The author concludes by highlighting Austria's intention to closely follow and participate in negotiations and developments in the international nuclear third party liability regime, with a view to substantially increasing liability amounts available. He notes that Austria's participation in the Protocol to Amend the Vienna Convention or the Convention on Supplementary Compensation depends on their eventual entry into force and ratification by nuclear states, while confirming that Austria would be prepared to reconsider its non-participation in the Paris and Brussels regime if substantial developments were made during the revision of these Conventions.

Note : La présente contribution reflète l'opinion personnelle de l'auteur et ne peut être interprétée comme l'opinion du Ministère fédéral des Affaires Étrangères ou de toute autre autorité autrichienne.

1. Historique

Le 5 novembre 1978 est la date charnière de l'histoire de la politique nucléaire autrichienne jusqu'à nos jours ; elle se situe 5 mois avant l'accident nucléaire de Three Mile Island¹ et 7 ans et demi avant la catastrophe de Tchernobyl². Ce 5 novembre eu lieu le premier référendum de l'histoire autrichienne depuis la seconde guerre mondiale; il porta sur un projet de loi concernant l'utilisation de l'énergie nucléaire en Autriche à des fins pacifiques, sous-titré « *Mise en service de la centrale nucléaire de Zwentendorf* ». En effet, cette centrale située au bord du Danube à environ 30 km à l'ouest de Vienne devait produire 10 % de l'électricité autrichienne (700 MW). Les débuts de sa construction remontaient à 1972 et elle était sur le point de devenir opérationnelle lorsqu'intervint le référendum de 1978. Trois années auparavant, en 1975, elle avait été incorporée dans le plan gouvernemental qui prévoyait, dans l'espace de dix années, la mise en service de trois centrales nucléaires avec une production totale 3 000 MW.

Le résultat du référendum du 5 novembre ne fut pas sans étonner même les plus pessimistes des opposants à l'énergie nucléaire : avec 50,5 % des voix contre 49,5 % – soit une majorité de 20 000 voix seulement – le peuple autrichien rejeta l'option nucléaire civile. Néanmoins, ce résultat avait été précédé de plusieurs manifestations antinucléaires, et même d'une grève de la faim de la part d'un groupe qui se nomma « Les mères contre les centrales nucléaires » venant du Vorarlberg, c'est-à-dire de la province autrichienne la plus éloignée de la centrale de Zwentendorf, mais voisine de l'Allemagne et de la Suisse.

La conséquence juridique immédiate de ce référendum fut l'adoption d'une courte loi intitulée « Loi fédérale du 15 décembre 1978 sur l'interdiction de l'utilisation de la fission nucléaire en Autriche pour la fourniture en énergie »³.

1. 28 mars 1979.

2. 26 avril 1986.

3. Journal des Lois fédérales (BGBl.) n° 676/1978 ; traduction officieuse.

Le texte de cette loi qui demeure en vigueur est le suivant :⁴

- « Le Conseil fédéral⁵ a décidé :
 - Article 1 Il est interdit d'ériger en Autriche des installations pour la production d'énergie électrique à des fins d'approvisionnement en énergie par voie de fission nucléaire. Dans la mesure où de telles installations existent déjà, il est interdit de les mettre en service.
 - Article 2 le Gouvernement fédéral est chargé de l'exécution de cette loi fédérale ».

Une décision du Conseil des Ministres ainsi qu'une initiative populaire (*Volksbegehren*) de décembre 1997 soutenue par 248 787 Autrichiennes et Autrichiens⁶ visant, entre autre, à élever cette loi au rang de loi constitutionnelle n'a pas aboutie jusqu'à présent. La raison en est avant tout que l'initiative populaire avait également pour but d'interdire le transport de matériaux nucléaires aussi bien civils que militaires à travers le territoire autrichien par une disposition constitutionnelle, ce qui avait été perçu comme portant préjudice à une éventuelle accession de l'Autriche à l'OTAN⁷.

Néanmoins, ce n'est qu'en 1995 que l'Assemblée Nationale⁸ commença à critiquer les dispositions de la loi autrichienne sur la responsabilité nucléaire qui datait du 29 avril 1964⁹ et dont le but exprès avait été la promotion de l'industrie nucléaire. Cette loi avait été rédigée dans l'optique de la Convention de Paris sur la responsabilité civile dans le domaine de l'énergie nucléaire du 29 juillet 1960¹⁰ que l'Autriche avait signé le 6 octobre 1960. Toutefois, l'Autriche ne ratifia pas cette Convention par la suite, ni d'ailleurs la

4. Traduction officieuse.

5. Appelé par la suite « Assemblée Nationale ».

6. 4,34 % de l'électorat autrichien.

7. Une initiative des Verts à l'Assemblée Nationale du mois de décembre 1998 va dans le même sens.

8. « Nationalrat », littéralement « Conseil national ».

9. Journal des Lois fédérales (BGBl.) n° 117/1964, modifié par BGBl. I n° 140/1997.

10. Appelée par la suite brièvement « Convention de Paris ».

Convention de Vienne du 21 mai 1963¹¹. Dans une résolution de 1995¹², la Chambre des Députés demanda au gouvernement autrichien de ne lui soumettre la Convention de Paris qu'après qu'elle aie subi des améliorations telles que l'augmentation en montant de la responsabilité pour des dommages transfrontaliers ou l'abolition de la responsabilité exclusive de l'exploitant.

Par la suite furent élaborés plusieurs projets comme celui de Mme Gimpel-Hinteregger, Professeur à l'Institut de Droit Civil à l'Université de Graz, que celle-ci avait rédigé sur demande des sociaux-démocrates au Parlement et qui influença substantiellement le projet de loi du Ministère de la Justice qui fut finalement présenté au Parlement autrichien.

2. La Loi de 1999 sur la responsabilité nucléaire

Finalement, le 7 octobre 1998¹³, l'Assemblée Nationale du Parlement autrichien approuva à l'unanimité la Loi Fédérale sur la responsabilité civile pour les dommages causés par la radioactivité (Loi de 1999 sur la responsabilité atomique). Le 22 octobre 1998, la deuxième Chambre du Parlement autrichien, la Chambre des *Länder*.¹⁴ décida de ne pas faire objection à cette Loi, si bien qu'elle put entrer en vigueur comme prévu le 1er janvier 1999, remplaçant de ce fait la Loi sur la responsabilité nucléaire du 29 avril 1964¹⁵. Cette nouvelle Loi régit aussi bien la responsabilité des exploitants de centrales nucléaires (articles 3, 5, 6 et 8) que celle du transporteur de substances nucléaires (articles 4, 5, 7 et 8) et du détenteur de radionucléides (articles 9 et 10).

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11. Convention de Vienne sur la responsabilité civile pour les dommages nucléaires.
 12. Résolution du 9 février 1995, 89BlgNR XIX GP, rappelée par la résolution du 10 juillet 1997, 74 BlgNR XX. GP.
 13. En même temps que la Loi de 1999, l'Assemblée Nationale adopta une résolution sur la participation à l'élaboration de solutions internationales dans le domaine de la responsabilité nucléaire et sur la création d'un système d'instruments juridiques adéquats pour les dommages nucléaires, cf. « 3. Perspectives » ci-après.
 14. C'est-à-dire des Provinces fédérées.
 15. BGBl. n° 117/1964, modifié par BGBl. I n° 140/1997.

Les éléments les plus importants de la nouvelle Loi sont les suivants :

- renforcement de la responsabilité civile par rapport à l'ancienne Loi de 1964 ;
- renforcement de l'obligation de l'exploitant et du transporteur de couvrir cette responsabilité par une assurance ou une garantie financière ;
- abolition de la limitation de cette responsabilité en montant ;
- abandon du principe de la responsabilité exclusive de l'exploitant ;
- responsabilité du transporteur de substances nucléaires ;
- abandon de l'exonération pour cause de conflits armés nationaux ou internationaux ainsi que dans les cas d'insurrection (toutefois pas d'obligation de l'exploitant ou du transporteur de couvrir ce risque par une garantie financière) ;
- introduction d'une responsabilité pour les dommages causés à l'environnement ainsi que pour les mesures préventives visant à parer à une menace immédiate provenant d'une installation ou substance nucléaire ou de rayons ionisants émanant d'un radionucléide ;
- introduction d'une juridiction autrichienne et application du droit autrichien pour les dommages provenant d'installations nucléaires situées à l'étranger ;
- allègement de la charge de la preuve en faveur de la personne lésée et enfin,
- amélioration de son droit d'information.

Contrairement à l'ancienne Loi de 1964, la Loi de 1999 sur la responsabilité atomique fut conçue à l'encontre des principes établis aussi bien par les Conventions de Paris et de Bruxelles¹⁶ que par la Convention de Vienne

16. Convention du 31 janvier 1963 complémentaire à la Convention de Paris du 29 juillet 1960 amendée par le Protocole additionnel du 28 janvier 1964 et par le Protocole du 16 novembre 1982.

régissant sur le plan international la responsabilité civile dans le domaine de l'énergie nucléaire. Ceci est vrai surtout pour l'abandon de la responsabilité exclusive de l'exploitant ainsi que pour l'introduction d'une juridiction nationale pour des dommages nucléaires dont l'origine se trouve en dehors du territoire autrichien.

Comme il a déjà été mentionné, le but de l'ancienne loi de 1964 avait été de privilégier l'industrie nucléaire à l'instar des régimes de responsabilité nucléaires internationaux par des limitations et des allègements de responsabilité. Notamment, en vue de la responsabilité exclusive de l'exploitant, les constructeurs ainsi que les fournisseurs de centrales nucléaires n'ont pratiquement pas à se poser de questions concernant leur responsabilité vis-à-vis de tiers pour les produits livrés à la centrale ou les services rendus à l'exploitant. Ces privilèges vont au détriment :

- de parties tierces comme le sont les personnes lésées qui ne peuvent demander des dédommagements à d'autres personnes que l'exploitant, ou
- du fisc, s'il indemnise les victimes¹⁷.

C'est la raison pour laquelle la Loi de 1999 n'a pas retenu l'idée d'un dédommagement de la part des pouvoirs publics, d'autant plus qu'en Autriche, les dommages subis par des biens matériels peuvent être indemnisés, du moins en partie, sur la base de la *Loi sur la protection contre les rayons ionisants*¹⁸, comme cela fut fait après l'accident de Tchernobyl, et qu'une entrave à la santé peut l'être par les assurances sociales. Le cas des personnes ayant fourni des biens à un exploitant ou lui ayant rendu des services est réglé expressément par l'article 16 de la Loi de 1999 : ils demeurent responsables en vertu des lois générales régissant la responsabilité comme, en particulier, le Code Civil autrichien¹⁹ qui connaît une responsabilité pour actes fautifs. Toutefois, la responsabilité première de l'exploitant n'est pas mise en question par cette

17. Voir l'exposé des motifs pour la Loi de 1999 sur la responsabilité atomique, « 1357 der Beilagen zu den Stenographischen Protokollen des Nationalrates XX. GP ».

18. §38a Bundesgesetz vom 11. Juni 1969 über Maßnahmen zum Schutz des Lebens oder der Gesundheit von Menschen einschließlich ihrer Nachkommenschaft vor Schäden durch ionisierende Strahlen (*Strahlenschutzgesetz*), BGBl. n° 227/1969, modifié dernièrement par BGBl. n° 657/1996.

19. *Allgemeines Bürgerliches Gesetzbuch*.

disposition, ce qui correspond à l'obligation formulée dans l'article 9 de la *Convention sur la sûreté nucléaire*²⁰ qui est entrée en vigueur le 24 octobre 1996²¹.

Aux yeux du public autrichien et de ses autorités, le fait de privilégier l'industrie nucléaire n'est plus de mise à l'époque de « l'après Tchernobyl », surtout pour un pays qui a renoncé à l'énergie nucléaire. Lors d'une enquête organisée par le Parlement autrichien le 1er avril 1998 au sujet du projet de *Loi sur la responsabilité civile pour les dommages causés par la radioactivité*, le Ministre fédéral de la Justice déclara que le rôle d'un régime de responsabilité n'est ni de privilégier ni d'handicaper les divers acteurs de la vie économique. C'est pourquoi les régimes de responsabilité introduits soit par les Conventions de Paris et de Bruxelles, soit par la Convention de Vienne sont considérés en Autriche comme partiels en vue des avantages qu'ils confèrent aux exploitants de centrales nucléaires et à l'industrie nucléaire en général. Notamment, les sommes mises à disposition pour les cas d'indemnisations sont considérées comme tout à fait insuffisantes pour les cas d'accidents nucléaires majeurs. Néanmoins, l'exposé des motifs de la *Loi de 1999 sur la responsabilité atomique* reconnaît que la responsabilité exclusive de l'exploitant peut être avantageuse là où existe un fonds d'indemnisation suffisant comme cela est le cas aux États-Unis²².

3. Perspectives

C'est dans cet ordre d'idée que fut introduit dans cette Loi de 1999 l'obligation du Gouvernement fédéral « de faire rapport à l'Assemblée Nationale au plus tard le 31 décembre 2001 et ensuite tous les trois ans, sur l'évolution des instruments internationaux en matière de responsabilité des

20. Cf. Agence internationale de l'énergie atomique (AIEA), Doc. INFCIRC/449 du 5 juillet 1994; cf. également BGBl. III n° 39/1998.

21. Les divers régimes de responsabilité civile dans le domaine de l'énergie nucléaire ont fait l'objet de questions et de réponses de la part de plusieurs pays, dont l'Autriche, dans le cadre de la première réunion d'examen des Parties contractantes de cette Convention (Vienne, 12 au 23 avril 1999), notamment dans le contexte de son Article 9.

22. Exposé des motifs pour la Loi de 1999 sur la responsabilité atomique, « *1357 der Beilagen zu den Stenographischen Protokollen des Nationalrates XX.* » GP, pages 12 à 15 ; voir aussi Zeileissen, *Völkerrechtliche Systeme der Haftung für nukleare Schäden*, in: *Umweltbundesamt [Hrsg.], Atomare Risiken – Wirtschaftliche und rechtliche Aspekte [1997]* 68.

dommages nucléaires et, en particulier, sur l'importance des montants d'indemnisation disponibles au plan international »²³.

En outre, en même temps que la Loi de 1999, c'est-à-dire le 7 octobre 1998, l'Assemblée Nationale adopta une résolution sur la participation à l'élaboration de solutions internationales dans le domaine de la responsabilité nucléaire et sur la création d'un système d'instruments juridiques adéquats pour les dommages nucléaires²⁴ dont le texte est le suivant²⁵ :

« Le Gouvernement fédéral est prié de continuer de participer activement à des négociations internationales dans le but d'améliorer le système de la responsabilité nucléaire sur la base du principe de la solidarité internationale. Dans ce contexte, les possibilités existantes dans le cadre de l'Union Européenne sont à mettre en œuvre. Dans le rapport prévu par la Loi (l'article 30 de la Loi de 1999 sur la responsabilité atomique) le Gouvernement fédéral est prié de se pencher sur la question d'indemnisations adéquates²⁶ dans le cadre de la solution proposant la création d'un fonds afin de rendre possible l'examen d'une participation de l'Autriche à des règlements internationaux. »

23. §30.

24. 1415 *der Beilagen zu den Stenographischen Protokollen des Nationalrates XX. GP, Anlage 2.*

25. Traduction officieuse.

26. Les indemnisations prévues par les Conventions de Paris et de Vienne furent qualifiées par le Comité de L'Environnement de la Chambre des Députés de très insuffisantes par rapport aux dommages potentiels qui peuvent émaner de l'industrie nucléaire.

Cette résolution ainsi que l'article 30 de la Loi de 1999 furent adoptés en ayant à l'esprit la *Convention sur la réparation complémentaire des dommages nucléaires* qui avait été adoptée à Vienne en septembre 1997 et qui connaît un régime d'indemnité spécial pour les dommages nucléaires transfrontaliers, sans pour autant renoncer à la responsabilité exclusive de l'exploitant²⁷. Après l'adoption de cet instrument, la position officielle de l'Autriche à son sujet avait été le suivant :

« Avant de se pencher sur la question d'une éventuelle signature ou ratification

- du Protocole d'Amendement de la Convention de Vienne du 21 mai 1963 sur la responsabilité civile pour les dommages nucléaires et,
- de la Convention sur la réparation complémentaire des dommages nucléaires,

l'Autriche envisage d'attendre environ trois ou quatre ans afin d'observer

- si ces instruments entrent en vigueur et,
- quels États européens disposant d'un potentiel nucléaire civil y adhèrent.

Par la suite, l'Autriche décidera en fonction des avantages et inconvénients qui se présenteront. »

27. Cf. Soljan, *Modernization of the International Regime of Civil Liability for Nuclear Damage*, in *Zeitschrift für ausländisches öffentliches Recht und Völkerrecht*, 58/3, 1998.

Or, vu la résolution de la Chambre des Députés du 9 février 1995²⁸ et de l'exposé des motifs de la Loi de 1999 sur la responsabilité atomique²⁹, il ne peut être exclu qu'une révision des Conventions de Paris et de Bruxelles allant dans le sens :

- soit d'une augmentation substantielle en montant de la transfrontaliers et de l'abolition de la responsabilité exclusive de l'exploitant ;
- soit du *Price-Anderson Act* en vigueur aux États-Unis, lequel n'a pas abandonné le principe de responsabilité exclusive

puisse également inciter les autorités politiques autrichiennes à abandonner leur opposition à une participation aux régimes internationaux en matière de responsabilité nucléaire.

28. Cf. la note de bas de page n° 12, ci-dessus.

29. Cf. la note de bas de page n° 22, ci-dessus.

**THE 1968 BRUSSELS CONVENTION AND LIABILITY FOR
NUCLEAR DAMAGE**

**LA CONVENTION DE BRUXELLES DE 1968 ET LA
RESPONSABILITÉ CIVILE EN MATIÈRE DE DOMMAGES
NUCLÉAIRES**

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Résumé

Les auteurs examinent dans la présente communication les dispositions relatives aux tribunaux compétents et au droit applicable en cas d'accident nucléaire, qui figurent respectivement dans les Conventions de Paris et de Vienne et dans la Convention de Bruxelles de 1968 relative à la compétence juridictionnelle et à l'exécution des jugements dans le domaine civil et commercial. Ils se proposent d'étudier en particulier les avantages et inconvénients de l'application de la Convention de 1968 du point de vue des États non-nucléaires qui seraient affectés par des dommages causés par un accident nucléaire dans un autre État (Partie aux Conventions de Paris ou de Vienne).

La première partie de l'exposé est un rappel des dispositions sur la compétence juridictionnelle, le droit applicable et l'exécution des jugements de la Convention de Paris, suivi de l'analyse des dispositions équivalentes de la Convention de Vienne, compte tenu de la révision de 1997 de cette Convention, et de la nouvelle Convention sur la réparation complémentaire. Il est également fait mention du Protocole Commun de 1988.

Les auteurs passent ensuite à l'étude du régime de la Convention de Bruxelles de 1968. Le premier point abordé est celui de l'applicabilité de cette Convention dans le cas d'un accident nucléaire, à la lumière notamment de la jurisprudence de la Cour Européenne de Justice. Le second est la nature de la relation entre la Convention de Paris et la Convention de Bruxelles de 1968 et la question de savoir si le régime spécial des conventions nucléaires fait obstacle à l'application de la dernière Convention. En partant de l'hypothèse que la Convention de Bruxelles de 1988 s'applique, et s'aidant d'un exemple hypothétique, les auteurs s'appuyant toujours sur la jurisprudence de la CEJ examinent ensuite les règles de compétence juridictionnelle applicables en cas d'accident nucléaire, le droit applicable et l'exécution des jugements.

La dernière partie de l'exposé est consacrée à l'examen d'une affaire concrète qui est actuellement devant les tribunaux de la République d'Irlande et qui illustre les questions juridiques étudiées dans cette communication.

Note : The text of this article was published in French in *Bulletin de droit nucléaire* n° 64, décembre 1999.

1. Introduction

The legal regime governing civil liability for transboundary nuclear damage is expressly addressed by two instruments adopted in the 1960s: the 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy (hereinafter referred to as “the Paris Convention”)¹ and the 1963 Vienna Convention on Civil Liability for Nuclear Damage (hereinafter referred to as “the Vienna Convention”).² These establish particular rules governing the

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1. The Paris Convention was negotiated and concluded on 29 June 1960 under the auspices of the OECD Nuclear Energy Agency (NEA) with the aim of providing adequate protection to the public from possible damage caused by activities in the field of nuclear energy. The drafters of the Convention wanted also to ensure that the burden of liability would not inhibit the growth of the nuclear industry. It entered into force on 1 April 1968 and was revised by an Additional Protocol of 28 January 1964 to bring it closer to the Vienna Convention and by a Protocol of 16 November 1982 to bring the Convention up-to-date, particularly by replacing the unit of account for compensation with the Special Drawing Rights (SDRs) of the International Monetary Fund (approximately USD 1). The following States are party to the Convention: Belgium, Denmark, Finland, France, Germany, Greece, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Turkey and the United Kingdom. The text of the Paris Convention, as amended by the 1964 and 1982 Protocols, can be found in the OECD/NEA brochure entitled *Paris Convention on Third Party Liability in the Field of Nuclear Energy – Brussels Convention Supplementary to the Paris Convention*, Paris, 1989, and in P. SANDS, R. TARASOFSKY and M. WEISS, (Eds), *Documents in International Environmental Law*, vol. IIB, (1994), pp. 1385-1401. For a general analysis of this Convention see P.W. BIRNIE and A.E. BOYLE, *International Law and the Environment*, (1992), pp. 371-386; P. SANDS, *Principles of International Environmental Law I. Frameworks, standards and implementation*, (1995), pp. 653-657.
 2. The Vienna Convention was negotiated under the auspices of the International Atomic Energy Agency (IAEA) and was concluded on 21 May 1963. It entered into force on 12 November 1977. The Convention also includes an Optional Protocol providing a dispute settlement mechanism, which has not yet entered into force. As of 13 April 1999, the 32 Contracting Parties to the Vienna Convention are: Argentina, Armenia, Belarus, Bolivia, Bosnia and Herzegovina, Brazil, Bulgaria, Cameroon, Chile, Croatia, Cuba, Czech Republic, Egypt, Estonia, Hungary, Latvia, Lebanon, Lithuania, Mexico, Niger, Peru, Philippines, Poland, Republic of Moldova, Romania, Slovakia, Slovenia, the former Yugoslav Republic of Macedonia, Trinidad and Tobago, Ukraine, Uruguay, Yugoslavia (Serbia and Montenegro). The text of the Convention can be found in IAEA INFCIRC/500 of 20 March

jurisdiction of national courts and other matters, including channelling of liability to nuclear operators, definitions of nuclear damage, the applicable standard of care, and limitations on liability. Another instrument – the 1968 Brussels Convention on Jurisdiction and the Enforcement of Judgements in Civil and Commercial Matters (hereinafter referred to as “the Brussels Convention”)³ – which is not often mentioned in the nuclear context will nevertheless also be applicable in certain cases. It is premised upon different rules as to forum and applicable law, and presents an alternate vision of the appropriate arrangements governing civil liability for nuclear damage. In this paper we consider the relative merits and demerits of the Brussels Convention from the perspective of non-nuclear states which might suffer damage as a result of a nuclear accident in another state. We conclude that in the context of the applicability of the Brussels Convention the dedicated nuclear liability conventions present few attractions to non-nuclear states in Europe.

We focus in particular on issues relating to jurisdiction and applicable law, and do so by reference to a hypothetical accident in the United Kingdom which has transboundary effects in Ireland. We are principally concerned with two questions: which courts have jurisdiction over private claims for the

1996 and in P. SANDS, R. TARASOFKY and M. WEISS, (Eds), *Documents in International Environmental Law*, vol. IIB, (1994), pp. 1413-1429.

3. The Brussels Convention entered into force on 1 February 1973 for the six original Member States of the European Community (Belgium, France, Germany, Italy, Luxembourg and the Netherlands). The new Member States of the Community had the obligation to join the Convention, which was amended in 1978 for the accession of Denmark, Ireland and the United Kingdom, in 1982 for the accession of Greece and finally in 1989 for the accession of Spain and Portugal. The three most recent Member States, Austria, Finland and Sweden will have to accede the Convention and therefore further negotiations will be needed. The text of the amended version of the Convention can be found in the *OJEC* C 189 of 20 July 1990, pp. 1-20. The Report on the 1968 original version of the Convention (*Jenard Report*) is reproduced in *OJEC* C 59 of 5 March 1979, pp. 1-70. The Report on the 1978 Accession Convention (*Schlosser Report*) is reproduced in *OJEC* C 59 of 5 March 1979, pp. 71-151. The bibliography on this Convention is broad. For a general view see, *inter alia*, P. GOTHOT and D. HOLLEAUX, *La Convention de Bruxelles du 27 septembre 1968*, (1985); P. KAYE, *Civil Jurisdiction and Enforcement of Foreign Judgements*, (1987); J. KROPHOLLER, *Europäisches Zivilprozessrecht. Kommentar zum EuGVÜ*, 3rd ed., (1991); H. GAUDEMET-TALLON, *Les Conventions de Bruxelles et de Lugano*, (1993); A.L. CALVO CARAVACA, (Ed.), *Comentario al Convenio de Bruselas relativo a la competencia judicial y a la ejecucion de resoluciones judiciales en materia civil y mercantil*, (1994).

damage caused in these various countries,⁴ and which law will the competent courts apply? These questions may be posed in the broader context of an overarching question, namely whether non-nuclear states (and those within their jurisdiction) have any incentive to abandon the approach of the Brussels Convention and subscribe to the regimes established by the Paris and Vienna conventions. Our conclusion is that non-nuclear states are unlikely to gain much from participating in the Paris and Vienna regime, and their citizens may well be better off relying on the 1968 Brussels Convention where it is applicable.

In this paper we begin by summarising the approach of the Paris and Vienna Conventions (Sections 2 and 3). We will then analyse the jurisdictional rules applicable to accidents and damage occurring in States which are not party to one of the two dedicated international nuclear regimes, concentrating our attention on the rules applicable in the European context, rules which, we will argue, can be found in the 1968 Brussels Convention (Section 4). Finally, we will look at the solutions given to some of the issues analysed in this article, issues addressed by the Irish courts in an ongoing case (Section 5).

2. The 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy

2.1 *The provisions on jurisdiction*

Where a nuclear accident has occurred in a country which is a Party to the 1960 Paris Convention (the United Kingdom) and damage has been caused in a country which is also a Party to that Convention (for example France), then its provisions will apply. The courts of these States will apply the 1960 Convention as enacted in their legal system. Substantive and procedural matters not directly governed by the Convention will be determined by national legislation, as provided by Article 14 of the Convention.⁵ Article 13 of the Paris Convention addresses jurisdiction, providing that:

“Except as otherwise provided in this Article, jurisdiction over actions under Articles 3, 4, 6(a) and 6(e) shall lie only with the

4. This study will only deal with questions raised by private claims and not with the problem of inter-State actions.

5. W.D. KRAUSE-ABLASS, “Apportioning Liability for Transborder Damages”, in P. CAMERON, L. HANCHER and W. KÜHN, (Eds), *Nuclear Energy Law After Chernobyl*, (1988), p. 125.

courts of the Contracting Party in whose territory the nuclear incident occurred.”

This provision establishes a principle of exclusive jurisdiction: only the courts of the State where the incident occurred will have jurisdiction over actions brought for damage caused by a nuclear accident which occurred in such territory. In 1990 the Steering Committee⁶ responsible for the Convention recommended that the Contracting Parties should “provide for a single court to be competent to rule on compensation under the Paris Convention for nuclear damage arising from any one nuclear incident; the criteria for this determination shall be decided by national legislation”.⁷ This recommendation has not yet been given conventional effect. Of course the rule in Article 13 only applies to actions brought under the Paris Convention and within its territorial scope.⁸ By Article 2 the geographical scope of the Convention is limited to accidents which occur in the territory of the Contracting Parties and within which damage is also suffered.⁹ The territory includes the territorial sea of a State Party. It has also

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6. The Steering Committee is the organ responsible for carrying out the tasks of the Nuclear Energy Agency (Article 2 of the Statute of the OECD/NEA). According to Articles 8(b)(i) & 10(b) of the Statute of the OECD/NEA, to which the 1990 recommendation refers, the Steering Committee shall “submit to the participating countries recommendations or common rules to serve as a basis for harmonizing national laws and regulations” and it may “give its advice, in particular, in the form of recommendations, to participating countries on any question within its competence.” For more detailed information on the functions and structure of the Steering Committee see the Statute of the OECD/NEA reproduced in the OECD/NEA brochure entitled *Statute of the OECD Nuclear Energy Agency*, Paris, 1995, and in M.M. ELBARADEI, E.I. NWOGUGU and J.M. RAMES, (Eds), *The International Law of Nuclear Energy: Basic Documents*, (1993), pp. 21-30.
 7. Recommendation of 3 October 1990 reproduced in the OECD/NEA brochure entitled *Paris Convention: Decisions, Recommendations, Interpretations*, p. 15, Paris, 1990, and in ELBARADEI, NWOGUGU and RAMES, (Eds), *op. cit. supra*, note 6, p. 1366.
 8. OECD SECRETARIAT, “The Field of Application of the Nuclear Conventions”, (1970) *Nuclear Law Bulletin* No. 5, p. 22; N. PELZER, “On Modernising the Paris Convention. Reasons for Revising the Paris Convention and Objectives”, (1973) *Nuclear Law Bulletin* No. 12, p. 52; L. DE LA FAYETTE, “Towards a New Regime of State Responsibility for Nuclear Activities”, (1992) *Nuclear Law Bulletin* No. 50, p. 11.
 9. According to PELZER, *op. cit. supra* note 8, p. 52, “The Convention thereby enshrines in concrete form the strict principle of territoriality”. On the territorial scope of the Convention see also Article 23.

been recognised that the Convention is applicable to incidents which occur and to damage suffered on the high seas, provided that the operator who is liable is subject to the regime of the Convention.¹⁰ The Parties may extend the territorial scope of the Convention by national legislation. Moreover, there are some exceptions to this rule, in particular in the case of carriage of nuclear substances (Article 4).¹¹ Even in such cases, or those in which it is not possible to establish with certainty the place where the incident occurred, the Convention determines that the courts which will have jurisdiction are those of the State where the nuclear installation of the operator who is liable is situated.¹²

In case of conflicts of jurisdiction, where jurisdiction could lie with the courts of more than one Contracting State, “if the incident occurred partly outside the territory of any Contracting Party and partly in the territory of a single Contracting Party, jurisdiction shall lie with the courts of the Contracting Party.”¹³ Finally, in any other case, a Contracting Party concerned can request the European Nuclear Energy Tribunal to determine which court is most closely related to the case in question.¹⁴ The Convention also provides that the states

10. This interpretation has been adopted by the OECD Steering Committee for Nuclear Energy in its Recommendation of 25 April 1968: “The Paris Convention is applicable to nuclear incidents occurring on the high seas or suffered on the high seas”. The text of this Recommendation is reproduced in the OECD/NEA brochure entitled *Paris Convention: Decisions, Recommendations, Interpretations*, p. 13, Paris, 1990, and in ELBARADEI, NWOGUGU and RAMES, (Eds), *op. cit. supra* note 6, p. 1360.

11. See also Article 6(e).

12. Article 13(b) provides that: “Where a nuclear incident occurs outside the territory of the Contracting Parties, or where the place of the nuclear incident cannot be determined with certainty, jurisdiction over such actions shall lie with the courts of the Contracting Party in whose territory the nuclear installation of the operator liable is situated”.

13. Article 13(c)(i).

14. This Tribunal is the judicial body of the OECD Nuclear Energy Agency and was established by the Convention of 20 December 1957 on the Establishment of a Security Control in the Field of Nuclear Energy. According to Article 17 of the Paris Convention the Tribunal is also competent, upon the request of a Contracting Party and in the absence of a friendly settlement, to hear any dispute between two or more Contracting Parties on the interpretation and application of the Convention.

against which an action is brought cannot invoke jurisdictional immunities, except in respect of measures of execution.¹⁵

2.2 *The law applicable: the system of the Paris Convention*

The Paris Convention also provides the substantive rules to be applied to claims arising out of incidents and damages occurring in its State Parties. By Article 6(a) the person liable for damage caused by a nuclear incident will be the operator of the nuclear installation at which the incident occurred. This rule “channels” liability exclusively onto the operator. This has two important consequences: first, the operator is liable only under the rules of the Convention and therefore no other grounds of liability can be relied upon; second, no other person – such as the supplier of parts – will be liable for the nuclear damage.¹⁶

By Article 3(a) the operator is liable for: “i) damage to or loss of life of any person; and ii) damage to or loss of any property [...], upon proof that such damage or loss was caused by a nuclear accident [...]”. The Convention expressly excludes the liability of the operator for on-site damage,¹⁷ and provides no further guidance as to the concept of “nuclear damage”. It is generally acknowledged that general environmental damage is not included within this concept,¹⁸ but because of the silence of the Convention on this,

15. Article 13(e).

16. However, national legislation can provide a direct right of action against the insurer or other financial guarantor according to Article 6(a) of the Convention. According to Article 6(f) the operator has a right of recourse against an individual, but only if the incident was intentionally caused and in cases expressly provided by contract. Suppliers to nuclear power plants are also generally exempt from liability. On these problems see N. PELZER, “Concepts of Nuclear Liability Revisited: A Post-Chernobyl Assessment of the Paris and Vienna Convention”, in CAMERON, HANCHER and KÜHN (EDS), *op. cit. supra* note 5, p. 101 *et seq.*; W. KÜHN, “Liability of Suppliers to Nuclear Power Plants in Western Europe”, in CAMERON, HANCHER and KÜHN (EDS), *op. cit. supra* note 5, p. 115 *et seq.*; OECD SECRETARIAT, “Potential Liability of Contractors Working on Nuclear Safety Improvement Projects in Central and Eastern Europe”, (1994) *Nuclear Law Bulletin* No. 53, p. 36 *et seq.*

17. PELZER, *op. cit. supra* note 8, p. 50.

18. PELZER, *op. cit. supra* note 16, p. 111; DE LA FAYETTE, *op. cit. supra* note 8, p. 12; SANDS, TARASOFSKY and WEISS, (Eds), *op. cit. supra* note 2, p. 1385.

several other problems arise.¹⁹ Certain questions also arise in connection with the standard of proof as to the causal link between the damage and the incident: according to the Convention the liability of the operator is absolute once this element of causality is established, but there are various difficulties of proof (what methods can be used to ascertain liability, what is the threshold of the damage, etc.).²⁰ The Convention recognises these limits and provides that national law “shall apply to all matters both substantive and procedural not specifically governed by this Convention”.²¹ This *renvoi* to the national legislation of the Contracting Parties involves the risk of the Convention being applied differently in the Contracting States. In an attempt to avoid such problems, Article 14 specifies that national law “shall be applied without any discrimination based upon nationality, domicile, or residence”.

There are several limitations placed on the operator’s liability. There is a time limit on the bringing of actions for compensation, namely ten years from the date of the nuclear accident. It is possible for national legislation to provide for a longer period, but only if there is financial cover (insurance or other guarantees) for such a longer time.²² This limitation has been strongly criticised, particularly because frequently many of the effects of nuclear damage do not become apparent until after ten years.²³ A second limitation is in the amount of compensation available: by Article 7 the maximum liability of the

19. J.M. LOPEZ OLACIREGUI, “Civil Liability and Nuclear Law”, (1970) *Nuclear Law Bulletin* No. 5, p. 27; OECD SECRETARIAT, “The Accident at Chernobyl. Economic Damage and its Compensation in Western Europe”, (1987) *Nuclear Law Bulletin* No. 39, p. 58 *et seq.*; C. HOLTZ, “The Concept of Property Damage and Related Issues in Liability Law. Possible Implications for the Paris Convention on Third Party Liability in the Field of Nuclear Energy”, (1987) *Nuclear Law Bulletin* N 40, p. 87 *et seq.*; DE LA FAYETTE, *op. cit. supra* note 8, p. 12 *et seq.*

20. HÉBERT, “Observations sur l’établissement du lien de causalité entre “le fait ou la succession de faits de même origine” et les “dommages” nécessaire à la mise en oeuvre de la Convention de Paris sur la responsabilité civile dans le domaine de l’énergie nucléaire”, *Proceedings of the 1984 Munich Symposium on Nuclear Third Party Liability and Insurance*, published by OECD, (1985), p. 241 *et seq.*; B. MOSER, “Proof of Damage from Ionizing Radiation”, (1986) *Nuclear Law Bulletin* No. 38, p. 70 *et seq.*; P. STAHLBERG, “Causation and the Problem of Evidence in Cases of Nuclear Damage”, (1994) *Nuclear Law Bulletin* No. 53, p. 22 *et seq.*

21. Article 14(b). In the same sense see also Article 11.

22. Article 8.

23. MOSER, *op. cit. supra* note 20, p. 74 *et seq.*

operator for a single accident cannot exceed 15 million SDRs,²⁴ although the Contracting Parties can establish by legislation a greater or lesser amount of compensation,²⁵ subject to an overall minimum of 5 million SDRs.²⁶ The operator is also required to have and maintain insurance or other financial security in order to guarantee that the compensation will be paid (Article 10).²⁷ It is self-evident that the amount of compensation available under the Paris Convention will be insufficient in the case of a major accident. Accordingly the Paris Convention has been supplemented by the Brussels Supplementary Convention, which provides for additional compensation from public funds in the event that compensation under the Paris Convention is insufficient.²⁸

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24. Special Drawing Rights as defined by the International Monetary Fund.
 25. The OECD Steering Committee recommended that the Contracting Parties should set the maximum liability of the operator at not less than 150 million SDRs.
 26. It is interesting to note that Article 7(b)(i) of the Convention allows national legislation to establish a greater amount of compensation “taking into account the possibilities of the operator of obtaining the insurance or other financial security [...]”. In this respect, when Germany recognised unlimited liability, there were doubts as to the compatibility of this regime with the Convention. On this point see PELZER, *op. cit. supra* n. 16, p. 108 *et seq.*
 27. J.K. PFAFFELHUBER and B. KUCKUCK, “Standard Rules for Liability and Cover for Nuclear Installations”, (1980) *Nuclear Law Bulletin* No. 25, p. 70 *et seq.*; W. BREINING, “Reform of Liability in Nuclear Law. Unlimited Liability does not Automatically Create Unlimited Cover”, (1980) *Nuclear Law Bulletin* No. 25, p. 76 *et seq.*; J. DEPRIMOZ, “International Cooperation in Providing Insurance Cover for Nuclear Damage to Third Parties and for Damage to Nuclear Installations”, (1983) *Nuclear Law Bulletin* No. 32, p. 33 *et seq.*; J. MARRONE, “Nuclear Liability Insurance. The Price-Anderson Reparations System and the Claims Experience of the Nuclear Industry”, (1984) *Nuclear Law Bulletin* No. 33, p. 45 *et seq.*; see also the *Proceedings of the 1984 Munich Symposium on Nuclear Third Party Liability and Insurance*, *op. cit. supra* note 20.
 28. The Paris and the Brussels Supplementary Conventions together provide for a maximum level of compensation of 300 million SDRs. This compensation is to be provided according to a three-tier structure: 1) compensation of at least 5 million SDRs which each party is required to establish by law, which has to be provided from insurance or other financial guarantee; 2) compensation of up to 175 million SDRs to be provided from public funds of the Party in whose territory the nuclear installation is located; 3) compensation of up to 300 million SDRs from public funds jointly contributed by all the Parties to the Convention. The 1963 Brussels Supplementary Convention came into force on 4 December 1974 and was revised by two Protocols in 1964 and in 1982. The second Protocol increased the amount of compensation available.

Finally, the liability of the operator is excluded in the case of a nuclear incident which is caused directly by an act of armed conflict, hostilities, civil war, insurrection or, unless the contrary is established by national legislation, a grave natural disaster of an exceptional character (Article 9).²⁹

2.3 *Enforcement*

A decision of a court which is competent under the Paris Convention, excluding *interim* judgements, will be enforceable in the territory of another Contracting Party once it has become enforceable under the law of the court that rendered it.³⁰ The Convention specifies that the merits of the case cannot be subject to review, but does not lay down any further requirements which will remain a matter for national legislation.

3. **The 1963 Vienna Convention on Civil Liability for Nuclear Damage**

3.1 *The system of the Vienna Convention*

An alternative set of rules concerning civil liability for nuclear damage is to be found in the 1963 Vienna Convention on Civil Liability for Nuclear Damage, adopted under the auspices of the IAEA. Its provisions are generally similar to those of the 1960 Paris Convention. The most significant difference between the two regimes is the different geographical application: the Vienna Convention has potentially a worldwide application (and has no provision on territorial scope of application), whereas accession to the Paris Convention is generally only open to Members or Associate countries of the OECD (see Article 21).

The State Parties must necessarily be Party to the Paris Convention. The Contracting States are: Belgium, Denmark, Finland, France, Germany, Italy, Netherlands, Norway, Spain, Sweden and United Kingdom. The text of the Convention is reproduced in the OECD/NEA brochure entitled *Paris Convention on Third Party Liability in the Field of Nuclear Energy – Brussels Convention Supplementary to the Paris Convention*, Paris, 1989, and in SANDS, TARASOFSKY and WEISS, (Eds), *op. cit. supra* note 2, pp. 1401-1412.

29. PELZER, *op. cit. supra* note 16, p. 102 *et seq.*

30. Article 13(d).

On almost all other rules the Vienna and Paris conventions differ only in minor detail.³¹ The Vienna Convention provides for the exclusive jurisdiction of the courts of the State where the incident occurred (Article XI); it channels liability to the operator of the nuclear installation (Article II); provides for the absolute liability of the operator (Article IV); imposes a time limit for actions for compensation of 10 years from the date of the nuclear accident (Article VI); requires the operator of a nuclear installation to maintain insurance or other financial security to cover liability (Article VII); and provides for its provisions to be applied without discrimination based on nationality, domicile or residence (Article XIII). Differences between the two conventions are limited. This definition of “nuclear damage” is essentially similar to that of the Paris Convention. Article XII of the Vienna Convention provides for recognition of judgements given by the courts competent under Article XI. One minor difference: while the Paris Convention expressly excludes interim judgements from the application of its provisions on enforcement [Article 13(d)], the Vienna Convention is silent on this point and therefore it seems to be possible that such judgements might be included in its field of application. The amount of liability is established at a lower level than the Paris Convention (USD 5 million), but there is no provision for a maximum limit (Article V). Finally, the Vienna Convention has an Optional Protocol on compulsory settlement of disputes between the Contracting Parties relating to its interpretation or application.³²

The Vienna Convention has been recently amended by a Protocol adopted on 12 September 1997, which is not yet in force.³³ The Protocol will modify several provisions of the 1963 Vienna Convention (for example the time limit for actions for compensation with respect to loss of life and personal injury

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31. The Vienna Convention has been often analysed jointly with the Paris Convention by the authors cited *supra* in Section 2, to whom it is possible to refer for a more detailed analysis.
 32. The Optional Protocol has not entered into force.
 33. Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage adopted on 12 September 1997. As of 29 July 1999, there were 14 Signatories (Argentina, Belarus, Czech Republic, Hungary, Indonesia, Italy, Lebanon, Lithuania, Morocco, Peru, Philippines, Poland, Romania, Ukraine) and 2 Contracting Parties (Morocco and Romania) to the Protocol. Pursuant to Article 21.1, the Protocol “shall enter into force three months after the date of deposit of the fifth instrument of ratification, acceptance or approval”. The text of the Protocol can be found, inter alia, on the site of the IAEA www.iaea.org/worldatom. On the Protocol see V. LAMM, “The Protocol Amending the 1963 Vienna Convention”, in (1998) *Nuclear Law Bulletin* No. 61, p. 7 ss.

will be increased to thirty years from the date of the nuclear incident). For present purposes it is appropriate to draw attention to modifications relating to jurisdiction and enforcement of judgements. Article 12 of the Protocol will amend Article XI of the 1963 Vienna Convention by adding a new paragraph 1bis, dealing with incidents occurring in the exclusive economic zone of Contracting Parties.³⁴ The Protocol will also require Contracting Parties “to ensure that only one of its courts shall have jurisdiction in relation to any one nuclear incident.”³⁵ Article 13 of the Protocol will introduce a new Article XI A to the Vienna Convention, requiring the Contracting Parties whose courts have jurisdiction to ensure that in relation to actions for compensation of nuclear damage:

- “a) any State may bring an action on behalf of persons who have suffered nuclear damage, who are nationals of that State or have their domicile or residence in its territory, and who have consented thereto; and
- b) any person may bring an action to enforce rights under this Convention acquired by subrogation or assignment.”

The Protocol will also replace the existing version of Article XII of the Vienna Convention which provides rules on recognition and enforcement of judgements, without significantly modifying its content.³⁶

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- 34. Article XI.1 bis will provide: “Where a nuclear incident occurs within the area of the exclusive economic zone of a Contracting Party or, if such zone has not been established, in an area not exceeding the limits of an exclusive economic zone, were one to be established, jurisdiction over actions concerning nuclear damage from that nuclear incident shall, for the purposes of this Convention, lie only with the courts of that Party. The preceding sentence shall apply if that Contracting Party has notified the Depositary of such area prior to the nuclear incident. Nothing in this paragraph shall be interpreted as permitting the exercise of jurisdiction in a manner which is contrary to the international law of the sea, including the United Nations Convention on the Law of the Sea.” See A. GIOIA, “Maritime Zones and the New Provisions on Jurisdiction in the 1997 Vienna Protocol and in the 1997 Convention on Supplementary Compensation”, in (1999) *Nuclear Law Bulletin* No. 63, p. 25 ss.
 - 35. Article XI.4 of the Vienna Convention as modified by Article 12 of the Protocol.
 - 36. The new text of Article XII specifies that recognition shall be given to “a judgement that is no longer subject to ordinary forms of review entered by a court of a Contracting Party having jurisdiction”, whilst the previous version

The regime of the Vienna Convention will be integrated by the Convention on Supplementary Compensation for Nuclear Damage, also adopted on 12 September 1997.³⁷ All States may adhere to the Supplementary Convention regardless of whether they are parties to any existing nuclear liability regime.³⁸ The Supplementary Convention applies to nuclear damage for which an operator of a nuclear installation situated in a Contracting Party is liable under either the Vienna or the Paris Conventions or under national law. This new instrument aims at supplementing the system of compensation provided by the national legislation implementing either the Vienna or the Paris Convention or by national legislation which complies with the requirements laid down in an Annex to the Convention itself.³⁹ The Supplementary Convention requires that compensation for nuclear damage shall be ensured by the Installation State for an amount of 300 million SDRs (or a greater amount it may have specified to the Depositary) and beyond such amount provides that the Contracting Parties shall make available public funds⁴⁰ (to be provided

of Article XII referred only to “a final judgement”, without specifying when a judgement had to be considered final. The exceptions to the obligation of recognition of judgements remain the same.

37. Convention on Supplementary Compensation for Nuclear Damage, adopted on 12 September 1997. As of 29 July 1999, there were 13 Signatories (Argentina, Australia, Czech Republic, Indonesia, Italy, Lebanon, Lithuania, Morocco, Peru, Philippines, Romania, Ukraine, United States) and 2 Contracting Parties (Morocco and Romania) to the Convention. The Convention, pursuant to Article XX.1, “shall come into force on the ninetieth day following the date on which at least 5 States with a minimum of 400 000 units of installed nuclear capacity have deposited an instrument referred to in Article XVIII”. The text of the Convention can be found on the web site of the IAEA www.iaea.org/worldatom. On the Supplementary Convention see B. McRAE, “The Compensation Convention: Path to a Global Regime for Dealing with Legal Liability and Compensation for Nuclear Damage”, in (1998) *Nuclear Law Bulletin* No. 61, p. 25 ss.
38. Article XVIII.1 specifies that “This Convention shall be subject to ratification, acceptance or approval by the signatory States. An instrument of ratification, acceptance or approval shall be accepted only from a State which is a Party to either the Vienna Convention or the Paris Convention, or a State which declares that its national law complies with the provisions of the Annex to this Convention, provided that, in the case of a State having on its territory a nuclear installation as defined in the Convention on Nuclear Safety of 17 June 1994, it is a Contracting State to that Convention.”
39. Article II.
40. Article III.

through contributions by State Parties on the basis of installed nuclear capacity and UN rate assessment).⁴¹

Article XIII of the Supplementary Convention provides the rules on jurisdiction and specifies that: “Except as otherwise provided in this article, jurisdiction over actions concerning nuclear damage from a nuclear incident shall lie only with the courts of the Contracting Party within which the nuclear incident occurs.”⁴² Jurisdiction for incidents occurring within the exclusive economic zone of a Contracting State shall lie with the courts of such a Party, if such area has been notified to the Depositary prior to the nuclear incident.⁴³ Where the incident does not occur within the territory of any Contracting Party or where the place of a nuclear incident cannot be precisely determined, jurisdiction shall lie with the courts of the Installation State.⁴⁴ In case of concurring jurisdiction of the courts of more than one Contracting Party, an agreement shall determine which Contracting Party’s courts shall have jurisdiction.

Articles XIII.5 and XIII.6 specifies the requirement for the recognition and enforcement of judgements: a judgement given by a court of a Contracting Party having jurisdiction and no longer subject to ordinary forms of review shall be recognised unless it was obtained by fraud, or the party against which the judgement was given had not a fair opportunity to present his case, or the judgement is contrary to public policy of the recognising State or is not in accord with fundamental standard of justice. Once the judgement has been recognised, it shall be enforced according with the formalities required by the law of the Contracting Party where enforcement is sought. Such judgement will be enforceable as if it were a judgement of a court of such enforcing Party.

41. Article IV.

42. Article XIII.1.

43. Article XIII.2.

44. Article XIII.3.

Finally, according to Article XIV of the Supplementary Convention:

- “1. Either the Vienna Convention or the Paris Convention or the Annex to this Convention, as appropriate, shall apply to a nuclear incident to the exclusion of the others.
2. Subject to the provisions of this Convention, the Vienna Convention or the Paris Convention, as appropriate, the applicable law shall be the law of the competent court.”

3.2 *The relationship between the 1960 Paris Convention and the 1963 Vienna Convention: the 1988 Joint Protocol*

The Paris and Vienna Conventions are linked by a 1988 Joint Protocol.⁴⁵ In case of an accident in a State Party to one of the two Conventions, the Joint Protocol provides for the extension of the application of that Convention to which the State where the incident occurred is a party to the damage suffered in the States Parties of the other Convention. The Protocol also provides that the application of one of the two Conventions shall exclude the application of the other.⁴⁶ For example, a nuclear accident in the Netherlands (a party to the Paris Convention and the 1988 Joint Protocol) causing damage in Hungary (a party to the Vienna Convention and the 1988 Joint Protocol) will be regulated by the provisions of the Paris Convention. In such a case the Dutch courts will have exclusive jurisdiction to hear the actions for compensation of the damage suffered in Hungary.

45. The Joint Protocol, concluded on 21 September 1988, links the Paris and the Vienna Conventions, with the aim of avoiding conflicts of application. It entered into force on 27 April 1992. The Contracting Parties are: Bulgaria, Cameroon, Chile, Croatia, Czech Republic, Denmark, Egypt, Estonia, Finland, Hungary, Italy, Lithuania, Netherlands, Norway, Poland, Romania, Slovak Republic, Slovenia and Sweden. The text of the Joint Protocol can be found in *Nuclear Law Bulletin* No. 42, pp. 61 and in SANDS, TARASOFSKY and WEISS, (Eds), *op. cit. supra* note 2, p. 1430-1434. For a detailed analysis of the Joint Protocol see BUSEKIST, “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”, (1989) *Nuclear Law Bulletin* No. 43, p. 10 *et seq.*

46. Article III.

4. The 1968 Brussels Convention on Jurisdiction and the Enforcement of Judgements in Civil and Commercial Matters

4.1 *The applicability of the Brussels Convention: the concept of “civil and commercial matters” and its interpretation in the case-law of the ECJ*

We have analysed so far the jurisdictional rules applicable to accidents and damages occurring in states which are party to one of the two dedicated international nuclear regimes. In the European context, what rules will be applicable for damage occurring in a state which is not a party to either convention? Our hypothetical case considers an accident occurring in a Member State of the European Union (for example the United Kingdom), with consequences in another Member State which is not a party to Paris or Vienna (for example Ireland).

In such a case an initial question might be: which court will have jurisdiction to receive claims for compensation? With respect to Ireland jurisdiction will be determined by more general common rules on the conflict of laws. Since the United Kingdom and Ireland are parties it is, in principle and subject to the points addressed below, the 1968 Brussels Convention on Jurisdiction and the Enforcement of Judgements in Civil and Commercial Matters (“the Brussels Convention”) which will govern, since it provides rules to determine the international jurisdiction of the courts of its Contracting States in its field of application.⁴⁷ Does the field of application of the Brussels Convention include actions for compensation for transboundary nuclear damage?

An initial objection which may be raised against the application of the Brussels Convention is that the concept of “civil and commercial matters” – to which matters alone the Convention applies – may not include cases involving public authorities or regulated by public law.⁴⁸ Without exception states exercise strong regulatory control in the field of nuclear energy, and very often public authorities will themselves run the nuclear installations. In the United Kingdom some nuclear installations are in private ownership, others are

47. Preamble of the Brussels Convention.

48. The distinction between private and public law is well known in civil law systems, although there are several differences in the various countries on the precise meaning of the two concepts. For an analysis of this topic see the Schlosser Report cit. *supra* note 3, p. 82 *et seq.*

publicly owned. The former are subject to stringent regulation, the latter directly run by entities in which the state has a controlling or even exclusive interest.

Can claims relating to a nuclear accident from either types of plant be characterised as a claim in relation to the “civil and commercial matters” to which Article 1 of the Convention directs its exclusive application?⁴⁹ The Convention does not define these words.⁵⁰ Early commentators tried to identify more precisely the meaning of this concept, *inter alia* focusing their attention on the possibility of applying it in cases involving public law.⁵¹ The ECJ, which is the ultimate arbiter of the Convention’s interpretation,⁵² has dealt with this issue

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49. Article 1, paragraph 2 expressly excludes the application of the Convention in matters relating to: “1. the status or legal capacity of natural persons, rights in property arising out of a matrimonial relationship, wills and succession; 2. bankruptcy, proceedings relating to the winding-up of insolvent companies or other legal persons, judicial arrangements, compositions and analogous proceedings; 3. social security; 4. Arbitration.”
50. According to the Jenard Report the draftsmen of the Convention decided not to give a detailed definition of this notion following the example of other conventions on similar matters. In the Jenard Report, however, it is stressed that the Convention should be interpreted extensively and all matters relating to civil and commercial matters should be included in its field of application, excluding only those expressly indicated by the Convention itself. Jenard Report cit. *supra* note 3, p. 9 *et seq.* The Schlosser Report does not give further helpful indicators for the interpretation of this concept.
51. G. DROZ, *Compétence judiciaire et effets des jugements dans le Marché commun*, (1972); M. WESER, *Convention communautaire sur la compétence judiciaire et l’exécution des décisions*, (1975).
52. The competence of the Court is based on the “Protocol on the interpretation by the Court of Justice of the Convention of 27 September 1968 on jurisdiction and the enforcement of judgements in civil and commercial matters” done on 3 June 1971. The Protocol entered into force on 1 September 1975 for the six founding Member States of the Community and was subsequently modified in 1978, 1982 and 1989 to allow the accession of Denmark, Ireland and the United Kingdom, Greece, Spain and Portugal. The text of the Protocol, as amended by the accession Conventions, is reproduced in *OJEC C 189* of 28 July 1990, pp. 25-30. For an analysis of this Protocol see MOK, “The interpretation by the European Court of Justice of special Conventions concluded between the Member States”, (1971) *C.M.L.R.*, p. 486 *et seq.*; ARNOLD, “Das Protokoll über die Auslegung des EWG-Gerichtsstand-und Vollstreckungsübereinkommens durch den Gerichtshof in Luxemburg”, (1972) *NJW*, p. 977 *et seq.*; CATHALA, “L’interprétation des conventions conclues entre États membres de la CEE en matière de droit privé”, (1972) *Recueil D.S.*, p. 31 *et seq.*; F. POCAR, *La Convenzione di*

in three cases. In *LTU v Eurocontrol*⁵³ the plaintiff was seeking the enforcement in West Germany of a judgement given against Eurocontrol, an international organisation, by the Belgian courts. On a reference from the German court the ECJ stated that: “Although certain judgements given in actions between a public authority and a person governed by private law may fall within the area of application of the Convention, this is not so where the public authority **acts in the exercise of its powers**” (emphasis added). In this case the Brussels Convention did not apply because Eurocontrol was exercising its public powers. In *Netherlands v Ruffer*⁵⁴ the dispute concerned a claim for redress brought by the Netherlands against a “water-man”, the owner of a German river motor vessel, which collided with a Dutch motor vessel and sank in the Bight of Watum. The state had the wreck removed and sought to recover the costs from the owner of the boat. The ECJ reaffirmed the principle that the Brussels Convention does not apply in actions between a public authority and a private person when a public authority is acting in the exercise of its public powers.⁵⁵ The Court ruled that “such a case is an action for the recovery of the costs involved in the removal of a wreck in a public waterway, administered by the State responsible in performance of an international obligation and on the basis of provisions of national law which, in the administration of that waterway, confer on it the status of public authority in regard to private persons”. Moreover, in the present case “the agent responsible for policing public waterways does so in the exercise of public authority”.⁵⁶ In *Sonntag v Waidmann*⁵⁷ the European Court had to decide whether the Convention was applicable to an action for civil damages brought before a criminal court. It expressed no doubt in giving a positive answer, since Article 1 of the

Bruxelles sulla giurisdizione e l'esecuzione delle sentenze, (1989), p. 33 *et seq.*

53. Case 29/76, 14 October 1976, *LTU v Eurocontrol*, (1976) *ECR*, p. 1541 *et seq.* On this decision see GEIMER, (1977) *NJW*, p. 489; LINKE, (1977) *RIW*, p. 40; G. DROZ, (1977) *Rev. critique*, p. 772; MARI, “Ambito di applicazione della Convenzione di Bruxelles del 27 settembre 1968 e problemi di qualificazione della nozione di materia civile e commerciale”, (1977) *Dir. com. scambi int.*, p. 271 *et seq.*
54. Case 814/79, 16 December 1980, *Netherlands v Ruffer*, (1980) *ECR*, p. 3807 *et seq.* On this decision see SCHLOSSER, (1981) *IPRax*, p. 169; BISCHOFF, (1982) *Clunet*, p. 463.
55. *Idem*, para. 8.
56. *Idem*, paras. 9-16.
57. Case C-172/91, 21 April 1993, *Sonntag v Waidmann*, (I-1993) *ECR*, p. 1963 *et seq.*

Convention clearly affirms that it applies to actions in civil and commercial matters “whatever the nature of the court or tribunal”.⁵⁸ A second problem to be addressed concerned the possibility of including within the notion of “civil and commercial matters” an action for damages against a school teacher, considered according to his legal system to be a public official. The Court recalled its jurisprudence concerning the need to interpret the Convention “independently” and confirmed the view expressed in its previous case-law: “It follows from the judgements in the *LTU* and *Riiffer* cases, cited above, that such an action falls outside the scope of the Convention only where the author of the damage against whom it is brought must be regarded as a public authority which acted in the exercise of public powers.” In this case the publicly appointed teacher was not so acting, and the Convention was deemed to apply.

In light of these cases it might be argued that since a state exercises significant or complete control over the operation of nuclear power plants the Brussels Convention would not apply. In our view this argument is not particularly persuasive. The ECJ has excluded the application of the Brussels Convention when there is an action between a public authority and a private person, adding that a further condition for the exclusion is that the public authority is acting in the exercise of its public powers. In our hypothetical situation, the operator of the nuclear plant (whether a private company subject to stringent state control or a state-owned company) could hardly qualify as engaging in the exercise of a public power: the production of energy is essentially a commercial matter. As the European Court indicated in the case *Sonntag v Waidmann*, “a civil servant does not always exercise public powers”; furthermore, in that case the Court underlined that “a teacher in a State school assumes the same functions *vis-à-vis* his pupils ... as those assumed by a teacher in a private school.” and decided in favour of the application of the Convention, to avoid a possible unreasonable discrimination between similar situations.⁵⁹ In our view the more likely conclusion is that claims relating to nuclear accidents would be governed by the Brussels Convention.

4.2 *The relationship between the Paris Convention and the Brussels Convention*

Before examining the jurisdictional provisions of the Brussels Convention which are relevant to the hypothetical case, it is appropriate to consider the relationship between the Brussels and Paris Conventions. This

58. *Idem*, paras. 15 and 16.

59. *Idem*, paras. 17-29.

matter is addressed by Article 57 of the Brussels Convention, providing that it does not affect the application of other Conventions to which the Contracting Parties may also be parties in particular matters.⁶⁰ In the Jenard Report this provision is interpreted as giving precedence to the rules of specific Conventions. Such Conventions containing rules on jurisdiction and enforcement are to be applied regardless of the provisions of the Brussels Convention. This classic solution was adopted in recognition of the fact that specific Conventions are concluded to take account of the particularity of the situations that they regulate and are more appropriate to deal with the questions of jurisdiction that might arise in these contexts. Amongst the Conventions prevailing over the provisions of the Brussels Convention, the Jenard Report expressly refers to the Paris Convention.⁶¹

Article 57 nevertheless left several problems unanswered, which were the focus of discussion during the negotiations concerning accession to the Brussels Convention by Denmark, Ireland and the United Kingdom in 1978. In particular, questions arose concerning the situation where a specialised Convention dealt only partially with matters also governed by the Brussels Convention.⁶² To clarify the meaning of Article 57 a provision on its authentic interpretation was added,⁶³ although doubts about its application persist.⁶⁴ The

60. Article 57(1) of the Brussels Convention provides: "This Convention shall not affect any conventions to which Contracting States are or will be parties and which, in relation to particular matters, govern jurisdiction or the recognition or enforcement of judgements".

61. Jenard Report cit. *supra* note 3, pp. 59-61.

62. Schlosser Report cit. *supra* note 3, pp. 139-142.

63. Article 57(2) provides: "With a view to its uniform interpretation, paragraph 1 shall be applied in the following manner: a) this Convention shall not prevent a court of a Contracting State which is a party to a convention on a particular matter from assuming jurisdiction in accordance with that Convention, even where the defendant is domiciled in another Contracting State which is not party to that Convention. The court hearing the action shall, in any event, apply Article 20 of this Convention; b) judgements given in a Contracting State by a court in the exercise of jurisdiction provided for in a convention on a particular matter shall be recognised and enforced in the other Contracting State in accordance with this Convention."

"Where a convention on a particular matter to which both the state of origin and the state addressed are parties lays down conditions for the recognition or enforcement of judgements those conditions shall apply. In any event, the provisions of this Convention which concern the procedure for recognition and enforcement of judgements may be applied."

ECJ has addressed the relationship between the Brussels Convention and other international instruments in two cases. In *Netherlands v Rüffer* the Court did not deal with the interpretation of Article 57 because (as noted above) it found that the Brussels Convention was not applicable to the specific case in question.⁶⁵ Advocate General Warner did, however, touch briefly upon Article 57, affirming that the application of the Brussels Convention was precluded only when the special Convention governing questions of jurisdiction was intended to be exclusive of the application of any other possible rules on the subject.⁶⁶ In *Tatry v Rataj*⁶⁷ the Court was asked by the English Court of Appeal to rule whether the provisions of a special Convention prevailed over the provisions of the Brussels Convention. Advocate General Tesouro recognised that in principle special Conventions prevailed over the Brussels Convention, adding however that this did not mean that the application of all the provisions of the Brussels Convention was excluded: in his opinion, Article 57 had to be read as “a co-ordinating provision, designed to allow the respective provisions to be applied in combination.” The Advocate General underlined that in the case of conflict with the rules of the Brussels Convention, precedence had to be given to the jurisdictional rules of special Conventions. But the same Article 57 required the courts of the Contracting States, in any event, to apply Article 20 of the Brussels Convention, in order to guarantee the rights of the defendant.⁶⁸ In the opinion of the Advocate General, therefore, “there can be no doubt that the relationship between the various Conventions is to be interpreted, by virtue of this Article [57], as involving the reciprocal incorporation of their respective provisions. As a result, it is entirely legitimate to have recourse to the provisions of the general Convention [*i.e.* the Brussels Convention] in order to fill any

64. According to the Schlosser Report it is obvious that the rules of jurisdiction contained in a specific Convention prevail over the rules of the Brussels Convention. But can, for example, the provisions of the Brussels Convention on execution be applied to judgements given according to rules of jurisdiction contained in other specific Conventions? Should a judgement given in accordance with a special Convention also be recognised and executed in accordance with the Brussels Convention in States which are not party to the special Convention? Schlosser Report cit. *supra* note 3, p. 140.

65. *Netherlands v Rüffer* cit. *supra* note 54.

66. *Idem*, pp. 3836-3837.

67. Case C-406/92, 6 December 1994, *Tatry v Rataj*, (I-1994) ECR, p. 5439 *et seq.*

68. The guarantee of the rights of the defendant is in fact a fundamental requirement of the Brussels Convention for the recognition and enforcement of the judgements given in another contracting State and the need to respect it has been stressed in various occasions by the ECJ.

lacunae in those of the special Convention.”⁶⁹ The Court agreed with these views, affirming that:

“Article 57 [...] means that, where a Contracting State is also a contracting party to another Convention on a specific matter containing rules on jurisdiction, that specialised Convention precludes the application of the provisions of the Brussels Convention only in relation to questions governed by the specialised Convention and not in those to which it does not apply.”⁷⁰

This meant that in the absence of provisions on *lis pendens* in the special Convention, the rules of the Brussels Convention could be applied.⁷¹

From this brief survey there can be little doubt that, to the extent that the subject matter of a claim is governed by the Paris Convention, its provisions on the exclusive jurisdiction of the courts of the state where the nuclear incident occurred will prevail over those of the Brussels Convention. The courts of the Contracting States might, nevertheless, apply the provisions of Article 20 of the Brussels Convention to ensure respect for the rights of the defendant. Further, in all matters not covered by the Paris Convention – for example claims relating to pure environmental damage – it may be possible to invoke the provisions of the Brussels Convention. Thus, the provisions of the Brussels Convention on *lis pendens* would regulate aspects of the enforcement of judgements not addressed by the Paris Convention.⁷²

4.3 *The jurisdictional rules applicable in the case of a nuclear accident: the general forum of jurisdiction (Article 2) and the special forum of jurisdiction [Article 5(3)] as interpreted by the ECJ*

Assuming that the Brussels Convention was applicable, we turn now to consider the question of which courts would be competent to hear actions for compensation for the damage caused in our hypothetical case (a nuclear

69. *Tatry v Rataj* cit. *supra* note 67, pp. 5446-5449.

70. *Idem*, para. 28.

71. *Idem*, pp. 5462-5482.

72: For example the Paris Convention does not provide which internal court will be competent for the enforcement of the judgements. The application for enforcement therefore will be submitted to the internal court indicated by Article 32 of the Brussels Convention.

accident in the United Kingdom causing damage in Ireland). As noted above, the Brussels Convention establishes rules on the international jurisdiction of the courts of the Contracting States and on the recognition and enforcement of judgements in civil and commercial matters.⁷³ In general the Brussels Convention establishes jurisdiction based on the defendant's domicile when the defendant is domiciled in a Contracting State, following the traditional rule *actor sequitur forum rei*.⁷⁴ The Convention does not define the concept of domicile and refers to the national law of the court seized for the identification of this concept.⁷⁵ National law will also determine which internal court will be competent *ratione materiae* and *ratione loci*.

The Brussels Convention provides for other possible fora of jurisdiction: there are provisions for special jurisdiction in certain specified matters, including tort and quasi-tort.⁷⁶ In our hypothetical case a person who suffered damage in Ireland could first of all sue in the courts of the state where the person liable for such damage is domiciled⁷⁷ (presumably the United Kingdom). The plaintiff could also avail him – or herself of the forum indicated by Article 5(3) of the Brussels Convention. This provides that:

5. “A person domiciled in a Contracting State may, in another Contracting State, be sued:

[...]

3. in matters relating to tort, delict or quasi-delict, in the courts for the place where the harmful event occurred;”⁷⁸

73. Preamble. Article 1 also specifies the matters to which the Convention does not apply.

74. Article 4 of the Brussels Convention provides that if the defendant is not domiciled in a Contracting State, the law of each Contracting State is then applicable, with the exception of the rules of exclusive jurisdiction laid down by the Brussels Convention itself.

75. Article 52.

76. Articles 5 and 6.

77. All substantive questions will be decided by the competent court according to the applicable law, determined by the rules on conflict of laws of the same court.

78. According to the Jenard Report this rule was adopted to ensure consistency with practice in the law of most of the Contracting States, *op. cit. supra* note 3, p. 26.

The interpretation of this provision raises two issues: first, the meaning of the concept “tort, delict or quasi-delict”, and second, the jurisdictional criterion of the “place where the harmful event occurred” should be defined.

The ECJ has interpreted “tort, delict or quasi-delict” in two cases. In *Kalfelis v Schröder* the Court, in a dispute regarding future transactions which resulted in a total loss for the plaintiff, was asked to decide whether the concept of “matters relating to tort, delict or quasi-delict” in Article 5(3) was to be interpreted according to the *lex causae* (the law applicable in the individual case) or if it had to be interpreted as having a Community meaning.⁷⁹ The Court ruled that the concept “must be regarded as an independent concept covering all actions which seek to establish the liability of a defendant and which are not related to a “contract” within the meaning of Article 5(1).”⁸⁰ The Court confirmed its view in *Reichert v Dresdner Bank*.⁸¹ For present purposes there seems to be little doubt that an action in respect of damage caused by a nuclear accident would fall within Article 5(3), since it seeks to establish the liability of the defendant and that is not based on a contract.

It is then necessary to ascertain which court would have jurisdiction over such claims. Article 5(3) provides for the jurisdiction of “the courts for the place where the harmful event occurred.” The drafters of the Brussels Convention did not explain whether these words were to be interpreted as meaning the place where the event giving rise to the damage occurred or, alternatively, the place where the damage occurred, or both. The words were broad enough to accommodate the approach of the Contracting States.⁸²

The words have been clarified by the ECJ in the landmark decision in *Handelswerkerij G.J. Bier BV v Mines de Potasse d’Alsace*.⁸³ The Court decided that Article 5(3) had to be interpreted in the context of the scheme of

79. Case 189/87, 27 September 1988, *Kalfelis v Schröder*, (1988) *ECR*, p. 5565 *et seq.*, at 5566-5569.

80. *Idem*, para. 18.

81. Case C-261/90, 26 March 1992, *Reichert v Dresdner Bank*, (I-1992) *ECR*, p. 2149 *et seq.*

82. Jenard Report cit. *supra* note 3, p. 26.

83. Case 21/76, 30 November 1976, *Handelswerkerij G.J. Bier v Mines d’Alsace de Potasse*, [1976] *ECR*, p. 1735 *et seq.* On this decision see LINKE, (1977) *RIW*, p.356; BOUREL, (1977) *Rev. critique*, p. 563; HUET, (1977) *Clunet*, p. 728; DROZ (1977) *D.S.*, p. 613.

the Brussels Convention: the special criteria of jurisdiction derogating from the general forum were introduced “having regard to the existence, in certain clearly defined situations, of a particularly close connecting factor between a dispute and the court which may be called upon to hear it, with a view to the efficacious conduct of the proceedings”.⁸⁴ The Court recognised that the meaning of the criterion adopted in Article 5(3) was unclear, especially in cases where the act giving rise to damage and the damage itself were situated in different Contracting States, as in the case of atmospheric or water pollution beyond the border of a State.⁸⁵ In the opinion of the Court, the words “place where the harmful event occurred” were open to two possible interpretations, namely the place where the damage occurred or the place where the event causing the damage occurred. According to the Court, both criteria, depending on the case, could be a significant connecting factor from the point of view of jurisdiction and could also be helpful from the point of view of the evidence and of the conduct of the proceedings. In the opinion of the Court, it was therefore reasonable to interpret Article 5(3) as giving the plaintiff the option to start proceedings “either at the place where the damage occurred or the place of the event giving rise to it”.⁸⁶

To justify its decision the Court invoked several arguments. First, the provisions of Article 5(3) covered a wide diversity of kinds of liability, making it inappropriate to limit its application to one criterion only. Second, if the only jurisdiction available was in the courts of the place where the event giving rise to the damage occurred, this would have coincided in many cases with the domicile of the defendant, making the provisions of Article 5(3) meaningless; on the other hand, choosing only the place where the damage occurred would have meant excluding a helpful connecting factor with the jurisdiction of courts particularly close to the cause of the damage. Third, the choice of offering an option between the two connecting factors was accepted in several Contracting States. In conclusion:

“[...] the result is that the defendant may be sued, at the option of the plaintiff, either in the courts for the place where the damage occurred or in the courts for the place of the event which gives rise to and is at the origin of that damage”.⁸⁷

84. *Idem*, paras. 8-11.

85. *Idem*, para. 13.

86. *Idem*, paras. 14-19.

87. *Idem*, paras. 20-23 and 25.

This approach has been confirmed by the Court in a recent decision, *Shevill and Others v Presse Alliance SA*.⁸⁸ However, the Court has modified its approach in relation to “indirect victims”. In *Dumez v Hessische Landesbank*,⁸⁹ the Court (disagreeing with the conclusion of the Advocate General)⁹⁰ decided that:

“by virtue of a previous judgement of the Court (*Mines de Potasse d’Alsace*), the expression ‘place where the harmful event occurred’ contained in Article 5(3) of the Convention may refer to the place where the damage occurred, the latter concept can be understood only as indicating the place where the event giving rise to the damage, and entailing tortious, delictual or quasi-delictual liability, directly produced its harmful effects **upon the person who is the immediate victim of that event.**” (emphasis added)

Consequently, “indirect victims” (persons who claimed damage consequent upon the harm suffered by other persons who were direct victims of the harmful act) could not bring proceedings against the perpetrator of that act in the courts of the place in which they themselves sustained the damage.⁹¹

Notwithstanding this modification, the Article 5(3) case-law indicates the following general conclusions in relation to the hypothetical case-study: the criterion of “the place where the harmful event occurred” confers jurisdiction on the courts of the state where the event that gave rise to the damage occurred as well as to the courts where the damage itself occurred, at the option of the plaintiff. This possibility however does not extend to the indirect victim of an harmful event. It follows that a person in Ireland who claims to be the direct victim of damage caused by a nuclear accident in the United Kingdom would have a choice of bringing an action before the English courts (place of the event giving rise to the accident) or the Irish courts (place where the damage occurred).

88. Case C-68/93, 7 March 1995, *Shevill and Others v Presse Alliance SA*, [1995] ECR, p. 415 *et seq.*

89. Case C-220/88, 11 January 1990, *Dumez v Hessische Landesbank*, [1990] ECR, p. 49 *et seq.* In this case two French companies, Dumez and Oth, were claiming compensation for the damage suffered by their subsidiaries, because of the cancellation of a loan by German banks.

90. *Idem*, pp. 62-73.

91. *Idem*, paras. 10-22.

4.4 *The law applicable and the rules on recognition and enforcement*

Having established which court will have jurisdiction, it is appropriate to consider briefly the law which would be applicable. In *Shevill and Others v Presse Alliance SA*, the ECJ confirmed that the object of the Brussels Convention was not to unify the substantive law and procedure of the different Contracting States, but only to determine which court had jurisdiction in disputes relating to civil and commercial matters, and then to facilitate the enforcement of judgements. Questions raised by an action for damages in tort or quasi-tort – such as “the circumstances in which the event giving rise to the harm may be considered harmful to the victim, or the evidence which the plaintiff must adduce” – are to be settled “solely by the national court seised, applying the substantive law determined by its national conflict of laws rules, provided that the effectiveness of the Convention is not thereby impaired.”⁹²

If the plaintiff in our hypothetical case decides to go to the English courts it is the conflict of laws rules of that country which will determine the question of the applicable law. If the court seized is in Ireland, Irish conflict of laws rules will be applied. This could lead to the application of different rules of substantive law, depending on the court seized, with different legal regimes governing such issues as the precise character of the causes of action (for example does an action lie for pure environmental loss?), evidence, valuation and recovery of damages (for example, can loss of profit be recovered?) and amount of compensation. This could lead to *forum shopping*, with the plaintiff understandably choosing to bring proceedings before the courts most likely to be most favourable to his or her claims.

In this regard, the Brussels Convention establishes a regime for the recognition and enforcement of judgements,⁹³ with the object of simplifying the relevant procedures in order to facilitate the circulation of judgements given in the Contracting States.⁹⁴ If given in accordance with the provisions of the Convention, a decision of the court of a Contracting State in our hypothetical case would be recognised and enforceable in the other Contracting States. In particular, the judgements are automatically recognised in the other Contracting States, unless one of the grounds for the refusal of recognition specified by the Convention itself exists⁹⁵ and the merits of the decision cannot be subjected to

92. *Shevill and Others v Presse Alliance* cit. *supra* note 88, paras. 38-39.

93. Title III. Articles 25-49.

94. Preamble.

95. Article 26 provides for the possibility of opposing recognition. Amongst the grounds for refusal of recognition, Articles 27 and 28 include conflict with

review.⁹⁶ The Brussels Convention specifies certain requirements concerning enforcement and all other matters which are not regulated by it are subject to the provisions of the national law of the State of enforcement.⁹⁷

5. Nuclear damage and jurisdictional issues: *Shortt and Others v. Ireland, the Attorney General and British Nuclear Fuels Plc.*

Some of the issues identified above have been the subject of consideration by the Irish courts in the ongoing case of *Shortt and Others v. Ireland, the Attorney General and British Nuclear Fuels Plc.*⁹⁸ The plaintiffs reside on the east coast of Ireland. They claim to be adversely affected by operations of British Nuclear Fuels (BNFL) at Sellafield (including operations relating to the THORP project). They claim that gaseous and liquid discharges from BNFL have caused damage to health and the environment in their area. They also claim that those activities and the increased radioactive contamination could lead to an estimated two thousands deaths in the next 10 years. They have brought proceedings in the Irish courts seeking *inter alia*: a declaration that BNFL has contravened European Directives (Council Directive 85/337/EEC and Council Directive 80/836/Euratom) and international law; injunctions restraining the defendant from continuing its project until compliance with European Directives had been assured; damages; and compensation.

public order, lack of respect of the defendant's rights, irreconcilability with other judgements, etc.

96. Article 29.

97. Articles 33-49. For a detailed analysis of the provisions of the Brussels Convention on the recognition and enforcement of judgements see the authors cit. *supra* note 3.

98. *Constance Shortt and Others v. Ireland, the Attorney General and British Nuclear Fuels Plc.*, [1996] Irish Reports, pp. 188-220.

An initial issue was the question of whether the Irish courts were competent to entertain the claim, given that the activities alleged occurred in the United Kingdom. The plaintiffs had brought their application not under the jurisdictional rules of the 1968 Brussels Convention but rather under jurisdictional rules under Irish law: Order 11 of the Rules of the Supreme Court, permitting service out of the jurisdiction on a person who is not a citizen of Ireland where:

- “(f) the action is founded on a tort committed within the jurisdiction; or
- (g) any injunction is sought as to anything to be done within the jurisdiction, or any nuisance within the jurisdiction is sought to be prevented or removed, whether damages are or are not also sought in respect thereof [...]”.

BNFL challenged the approach, arguing that the plaintiffs’ claim should have been brought under 1968 Brussels Convention. This argument was dismissed by the High Court, O’Hanlon J. ruling that BNFL was a proper party to the plaintiffs’ action. The High Court referred to the jurisprudence of the ECJ to conclude that the tort in question was committed within its jurisdiction (a condition for the application of Order 11). O’Hanlon J. observed that although the activities of BNFL were carried on outside the jurisdiction of Ireland they had harmful consequences within Ireland, on the atmosphere and seacoast along the east coast. Referring to the *Handelswerkerij v. Mines de Potasse* judgement, he concluded that “there is ample authority for the proposition that a tort may be regarded as having been committed within the jurisdiction if any significant element occurs within the jurisdiction”. He went on to analyse the case law of the ECJ to affirm that “as to the meaning to be attributed to the expression tort when referred to in the Convention, this was the subject of a decision by the European Court in *Kalfelis v. Schröder*, where a definition equally wide in scope to that applicable in Irish law (a wrong independent of contract) was adopted”. Finally the High Court dealt with the question of the *forum conveniens*. O’Hanlon J. observed that:

“as between trying the case in this jurisdiction or in the law courts of England, it does not appear to me that there is much to choose between the two options on the grounds of comparative costs and convenience. Some additional costs and inconvenience will be incurred by the third defendant (BNFL). From the point of view of the other parties to the suit, the High Court in Dublin would appear to be more convenient and less

costly than having to travel to England, but the scales do not appear to me to come down firmly one side or another.”

The High Court concluded that it was preferable that the proceedings be litigated in Ireland rather than England having regard to the comparative cost and convenience of litigating in either jurisdiction.

BNFL appealed to the Irish Supreme Court, which dismissed the appeals. It affirmed that the case for service out of the jurisdiction under Order 11 had been made out by the High Court. It was not necessary to discuss at length the applicability of the 1968 Brussels Convention, since the plaintiffs had chosen to apply for leave under Order 11 in accordance with the traditional procedure for applying to service out of the jurisdiction. However, the Supreme Court observed in passing:

“It is possible to invoke the [1968 Brussels] Convention to institute proceedings in the national jurisdiction where the effect of the alleged wrongful act is felt. Secondly it would not appear to be possible to invoke the Convention in an administrative law action. It may be possible to invoke the Convention where the action is essentially based on some civil wrong but also contains some minor elements of administrative law.”

In an interesting *obiter dictum*, the Supreme Court further held that in the instant case the invocation of Irish jurisdiction did not amount to an interference with the legislative and judicial powers of another sovereign state (the United Kingdom), since the subject matter of the litigation related to the consequences in Ireland of activities carried on in the United Kingdom rather than to the activities themselves. These decisions of the High Court and Supreme Court provide judicial authority for the approach set out in our analysis above.

6. Conclusion

It is apparent that there may be advantages and disadvantages in acting under the two sets of conventions. The advantage of the dedicated regime provided by the Paris and Vienna Conventions is that it concentrates jurisdiction over claims for an accident in a single country (and perhaps even a single court), avoiding the risk of conflicting judgements being awarded on the same issue. Furthermore, claimants under the Paris and Vienna Conventions will not have the burden of proving fault, a task which may (but not necessarily) arise under the Brussels Convention. Against this, the advantages of the Brussels

Convention fall to be weighed. From the perspective of persons damaged by a nuclear accident they will have the option of choosing where to institute an action, either before their own courts or the courts of the state where the event occurred. This means that they may at least choose not to file actions abroad, with all the attendant difficulties that may bring in terms of language, cost and geographic distance. Moreover, they will not be subject to the low limits on liability established by the Vienna and Paris Conventions, or their progeny. And they will not be subject to the narrow definitions of nuclear damage which (in the case of England at least) would exclude most environmental claims (and even claims where harm other than physical damage had occurred).⁹⁹

The Paris and Vienna Conventions were essentially developed to nurture nascent nuclear industries. Even as amended they can scarcely be said to accommodate the interests of victims. It is surely no coincidence that it is principally nuclear-power states which have acceded to these instruments. For countries like Ireland – as well as Luxembourg and Austria – it would be difficult indeed to identify many, if any, reasons why they should accede to these conventions when the Brussels Convention appears to provide adequate or superior protection.

99. See *Merlins and Others v. BNFL*, [1990] All England Law Report 3.

LES DOMMAGES AUX BIENS SUR LE SITE

DAMAGE TO “ON-SITE” PROPERTY

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Abstract

The objective of this paper is to present and examine the various legal interpretations which have been formulated in relation to the question whether the channelling of liability to nuclear operators applies equally to contractual and extra-contractual liability, or simply to the latter. The response to this question determines whether the operator of a nuclear installation can invoke the general liability of one of his suppliers in the event of nuclear damage to on-site property caused by that supplier's negligence. The author points out the uncertainty that exists for suppliers in relation to their scope of liability and the possibility of potential court cases, and expresses the conviction that this question calls for a definitive answer in the future.

The author describes the two main postulates advanced in connection with this debate. The first theory denies the operator's right to invoke the general liability (*responsabilité de droit commun*) of one of his suppliers. Certain supporters of this theory believe however that this possibility may be provided for contractually. This theory is based on the premise that (i) the text of the conventions makes no distinction between contractual and third party liability; (ii) the Paris Convention provides that the operator can have a right of recourse if this has been expressly provided for by contract, which would appear to indicate that the founders of the Convention had given the question of contractual liability due consideration; and (iii) the founders of the Convention wanted to set up a practicable system of insurance of nuclear risk by channelling the risk to the operator and providing for limited liability. The second theory claims that the nuclear operator can invoke the general liability of a supplier even without a contractual clause to this effect. This particular interpretation is based on the supposition that Article 6 of the Paris Convention only concerns third party liability and rights of recourse in this respect between operators and suppliers, but not direct contractual liability between suppliers and operators.

The author proceeds to examine criticisms advanced by various parties in respect of the opposing theories, and concludes that an institutional decision is necessary in order to put an end to the legal uncertainty surrounding this question of interpretation.

Introduction

L'objet de cette communication est de tenter de synthétiser les différentes interprétations juridiques qui ont été avancées relativement à un problème juridique particulièrement controversé posé par les Conventions de Paris et de Vienne :

La canalisation de la responsabilité sur l'exploitant porte-t-elle tant sur la responsabilité extracontractuelle que contractuelle ou en vise-t-elle que la responsabilité civile extracontractuelle ? Pratiquement, l'exploitant d'une installation nucléaire peut-il mettre en cause la responsabilité contractuelle de droit commun de l'un de ses fournisseurs en cas de dommage nucléaire aux biens sur le site imputable au fait de ceux-ci ?

Comme vous le savez, les questions que nous voulons évoquer se sont posées depuis déjà des décennies et il semble que, si plusieurs études ont déjà été réalisées par d'éminents spécialistes, elle n'ont pu conduire à une interprétation paraissant offrir aujourd'hui suffisamment de sécurité juridique.

L'incertitude quant à la portée des responsabilités et recours possibles constitue toujours un risque, qui a son coût, directement ou indirectement, pour tous les opérateurs industriels, exploitants, fournisseurs et assureurs.

Notre objectif n'est pas de tendre, sur base d'une nouvelle analyse, à soutenir une thèse supplémentaire. Cet effort paraît sans doute vain.

Nous voudrions plutôt seulement résumer et examiner brièvement les questions posées, les différentes thèses en présence, ainsi que les points d'interrogation qui nous paraissent subsister pour souligner ici, *l'intérêt qu'il y aurait, pour les praticiens du droit nucléaire, à ce que cette question puisse être à l'avenir clairement et définitivement tranchée.*

Bref exposé des thèses en présence¹

Nous nous référons, pour ce faire, notamment, à la remarquable et détaillée chronique du Doyen G. Vedel, publiée en 1973, intitulée : *Un*

1. Voir en annexe les principales dispositions des Conventions de Paris et de Vienne concernant la problématique en question.

*problème difficile : la responsabilité des fournisseurs envers les exploitants d'installations nucléaires en cas de dommage nucléaire imputable au fait de ceux-ci*², au récent mémorandum de notre collègue M. Tore Wiwen-Nilsson³, de décembre 1996, ainsi qu'à plusieurs autres publications ou commentaires dont on trouvera les principales références dans le texte de cette communication⁴.

Deux thèses totalement divergentes sont en présence.

La première refuse à l'exploitant le droit de mettre en cause la responsabilité de droit commun de l'un de ses fournisseurs. Cette thèse est défendue notamment par M. T. Wiwen-Nilsson, qui précise néanmoins qu'un recours est possible si celui-ci est prévu contractuellement. Le Doyen G. Vedel, quant à lui, lorsqu'il développe la première thèse (à laquelle il ne se rallie néanmoins pas) considère que l'on ne peut prévoir contractuellement qu'une action récursoire (et pas d'action directe) à l'égard des fournisseurs.

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2. Cahier de Jurisprudence de l'Electricité et du Gaz (C.J.E.G.), France, 1973.
 3. Memorandum *Liability of Suppliers and Contractors for nuclear damage to on-site property under the Vienna Convention on Civil Liability for Nuclear Damage, 1963* (+ analyse de la même problématique dans le cadre de la Convention de Paris), document de travail du 20 décembre 1996 à caractère non officiel examiné par les membres du Groupe de Contact de l'AEN. Sur les questions de responsabilité soulevées dans le contexte des programmes d'assistance à la sûreté nucléaire en Europe de l'Est.
 4.
 - *Un problème d'interprétation soulevé par la Convention sur la responsabilité civile dans le domaine de l'énergie nucléaire*, K. Lietaert, RGAR, 1985, pp. 1088 et suivantes.
 - *Transplantatie van « canalisatie van aansprakelijkheid » van het kernenergierecht naar het milieu(aansprakelijkheids)recht : een goeie of een gebrekkige zaak ?*, Tom Vanden Borre in *Ius commune en milieurecht, Actualia in het Milieurecht in België en Nederland Intersentia Metro 1997*.
 - Documents parlementaires – travaux préparatoires relatifs à la Loi belge du 22 juillet 1985 sur la responsabilité civile dans le domaine de l'énergie nucléaire (laquelle « transpose » en droit belge la Convention de Paris).
 - *Preliminary Report on Financial Protection against Atomic Hazards*, par des collaborateurs de la Columbia University, 1956.
 - *International Problems of Financial Protection against Nuclear Risk*, Harvard Law School, 1959.

La deuxième, défendue par le Doyen G. Vedel, lui reconnaît ce droit sans qu'il soit besoin d'une quelconque clause contractuelle en ce sens.

La *première interprétation* exclut toute responsabilité du fournisseur en vertu du raisonnement suivant lequel les Conventions (article 6 de la Convention de Paris et article II de la Convention de Vienne) « *concentrent* » ou « *canalisent* » sur l'exploitant les responsabilités de tout ordre entraînées par un accident nucléaire. Les exceptions à ce principe (comme l'action ou l'omission intentionnelle d'une personne physique ; l'utilisation d'un réacteur faisant partie d'un moyen de transport ; la clause contractuelle en sens contradictoire) sont sans rapport avec le problème posé. Du fait que les articles 3 de la Convention de Paris et IV de la Convention de Vienne exonèrent l'exploitant de la réparation de tout dommage causé à l'installation nucléaire elle-même et des biens qui se trouvent sur le site de l'exploitation, il s'ensuit simplement qu'un tel dommage n'est jamais réparé. En effet, ou bien il s'agit de choses qui sont la propriété de l'exploitant qui n'a évidemment pas d'action contre lui-même ; ou bien il s'agit de choses qui sont la propriété d'autres personnes que l'exploitant et, en ce cas, l'absence de responsabilité de l'exploitant, *ratione situs* (si l'on peut dire), ne permet pas d'action en réparation.

La *deuxième interprétation* n'est pas moins simple. Elle se ramène au raisonnement suivant : Les articles 3 et IV respectivement des Conventions de Paris et de Vienne excluent les dommages *ratione situs* en tant qu'ils visent la responsabilité de l'exploitant. L'article 6 de la Convention de Paris, ainsi que les articles II et X de la Convention de Vienne concentrent sur l'exploitant toute la responsabilité en matière d'accidents nucléaires en tant qu'il s'agit de la responsabilité envers les tiers. Mais les dommages causés à l'exploitant de façon directe par ses fournisseurs ne relèvent pas du régime exceptionnel de responsabilité défini par la Convention : leur réparation ne relève ni d'une action des tiers victimes de l'accident, ni d'une action récursoire de l'exploitant à raison de sa propre responsabilité. D'autre part, l'exclusion de responsabilité *ratione situs* ne vise que le cas où l'exploitant serait responsable. On est donc dans une hypothèse échappant aux stipulations des Conventions et qui, notamment conformément à l'article 14 de la Convention de Paris, relève de l'application du droit national qui, évidemment, consacre les responsabilités du fournisseur pour les dommages causés aux biens du « client ».

Remarque

Par ailleurs, quelle que soit l'interprétation retenue, la responsabilité de l'exploitant pour des dommages aux biens sur le site ne peut, selon le Doyen Vedel, être retenue, eu égard à l'exonération dont bénéficie l'exploitant en vertu

de l'article 3(a)(ii) de la Convention de Paris (ou IV, 5 et 7 de la Convention de Vienne).

Résumé et examen des arguments avancés

Le principe de la canalisation s'applique au dommage qui est couvert par les règles d'indemnisation prévues par la Convention. Toute la question est d'en apprécier leur portée.

La première interprétation se base principalement sur trois arguments

Les textes des Conventions ne font aucune distinction entre la responsabilité envers les tiers et la responsabilité contractuelle.

Les Conventions, lorsqu'elles édictent des dispositions dérogatoires au droit commun en matière de responsabilité, auraient en vue tant la responsabilité contractuelle que la responsabilité aquilienne, tout en laissant le champ libre à des conventions dérogatoires en matière de responsabilité contractuelle. Il s'ensuit que, sauf clause contractuelle contraire, la responsabilité objective instaurée par les Conventions se substituerait à la responsabilité contractuelle de droit commun et que, lorsque les conventions exonèrent l'exploitant de toute responsabilité, elles l'exonéreraient aussi de sa responsabilité contractuelle.

Les textes disposent simplement que le droit à réparation pour un dommage causé par un accident nucléaire ne pourrait être exercé que contre un exploitant. Ils énoncent de façon limitative les cas où, exceptionnellement, une autre responsabilité peut être recherchée et confirment que l'exploitant ne peut être rendu responsable, en dehors de la Convention, d'un dommage causé par un accident nucléaire.

À cet égard, M. T. Wiwen-Nilsson⁵ précise et souligne certains points que nous pensons pouvoir résumer comme suit :

Convention de Paris

Dans le texte de 1960, la disposition de l'article 6(b) (« Sous réserve des dispositions du présent article, aucune autre personne n'est tenue de réparer un dommage causé par un accident nucléaire... ») était générale et excluait,

5. Op. Cit.

conformément à sa formulation, la responsabilité pour un tiers autre que l'exploitant pour les dommages causés par un accident nucléaire.

Cependant, d'après les renseignements recueillis auprès du Ministre suédois de la Justice, il aurait été soutenu qu'il serait raisonnable de conclure que, lorsque ces dispositions avaient été rédigées, elles viseraient seulement à couvrir le dommage pour lequel l'exploitant est responsable conformément à la Convention de Paris, mais que des « actions » pourraient être introduites dans le cadre du régime ordinaire de responsabilité contre toute personne pour tout dommage résultant d'un accident nucléaire pour lequel l'exploitant n'est pas responsable selon les termes de la Convention et notamment, pour ce qui nous occupe, pour les dommages aux biens se trouvant sur le site.

Mais il y a lieu de tenir compte du Protocole additionnel du 28 janvier 1964 à la Convention de Paris, qui notamment a modifié l'article 6(b) et a ajouté un article 6(c) :

- dont le premier point dispose que des actions peuvent être intentées contre une personne physique qui a causé intentionnellement le dommage en ce qui concerne, par exemple, les biens se trouvant sur le site, et
- dont le deuxième point prévoit, depuis lors, expressément que l'exploitant ne peut être rendu responsable, en dehors de la Convention, d'un dommage causé par un accident nucléaire.

On pourrait en déduire que les modifications apportées en 1964 à l'article 6 de la Convention de Paris auraient étendu expressément l'application de celle-ci pour inclure des règles permettant un système de responsabilité suivant les règles du droit commun mais en limitant le régime de responsabilité de droit commun aux cas spécifiés expressément par le nouveau texte de la Convention de Paris. Un de ces cas est celui de la responsabilité pour les dommages aux biens se trouvant sur le site, causés par des personnes physiques ayant commis un acte ou une omission procédant de l'intention de causer un dommage. Tel ne serait pas le cas des fournisseurs.

On peut souligner aussi plusieurs passages de l'exposé des motifs de la Convention de Paris qui explicitent expressément que les règles de droit commun seront applicables pour les dommages résultant d'un acte ou d'une omission intentionnelle contre la personne physique qui en est l'auteur et qu'il est par ailleurs essentiel que le concept de canalisation de la responsabilité sur l'exploitant implique qu'aucune action ne pourra être engagée contre une autre personne et en particulier, par exemple, contre une personne qui a fourni des

services, des matériels ou des équipements à l'occasion du planning, de la construction ou de la modification ou l'entretien, de la réparation ou de l'exploitation de l'installation nucléaire.

Convention de Vienne

Nous nous référons ici aux conclusions de M. T. Wiwen-Nilsson⁶ sur base de son analyse des textes et des « *Official Records* » (dans lesquels on retrouve les projets des dispositions initiales et les amendements successivement discutés) :

The text of the Vienna Convention literally read excludes the liability for nuclear damage of all persons other than the operator, unless otherwise is expressly provided in the Convention. No express provision can be found in the Convention with respect to liability of suppliers (other than suppliers being individuals which can be disregarded in this context) for on-site damage. Nuclear damage is defined as all damage to property; i.e. it includes damage to on-site property. There is no term in the Convention that would limit its application to only the liability rules of the Convention to the exclusion of other rules of law in the field of civil liability. On the contrary there are express terms in the Convention and also with liability for damage which is not even nuclear damage (Article II, paragraph 6).

The records from the Vienna Convention do not support the view that the delegates at the Conference had the intention that suppliers should be liable for nuclear damage to on-site property. Rather the opposite can be read from the Records.

Although the conclusion requires a careful study of different documents and different passages of the Convention and the history of the Convention, it nevertheless seems clear that the Vienna Convention (like the Paris Convention) does not permit claims against suppliers and contractors for damage to the nuclear institution or on-site property as a result of a nuclear incident unless the supplier or contractor has agreed in writing to accept such liability.

6. *Op. cit.*

2. La responsabilité contractuelle se trouve visée dans un cas particulier (les textes ne permettent un recours de l'exploitant que s'il est expressément prévu par un contrat), ce qui prouverait bien que les auteurs de la Convention l'ont eue présente à l'esprit lors de l'élaboration de la Convention.

3. Les auteurs des Conventions ont voulu rendre possible et supportable un système d'assurances en matière de risques nucléaires par la concentration des risques sur la tête de l'exploitant et par la limitation du montant de la responsabilité.

La seconde interprétation

La première interprétation, selon laquelle, en ce qui concerne par exemple la Convention de Paris, les dispositions de l'article 6 de cette dernière concerneraient toutes les espèces de responsabilités, aussi bien délictuelles ou quasi délictuelles (envers les tiers) que contractuelles (dans les rapports de l'exploitant et de ses fournisseurs) est contestée par les tenants de *la seconde interprétation, qui suppose que les dispositions de l'article 6 ne concerneraient que la responsabilité envers les tiers et les actions récursoires qui naîtraient de ce chef entre l'exploitant et ses fournisseurs, mais non la responsabilité contractuelle directe entre fournisseurs et exploitants.*

Les tenants de cette seconde interprétation critiquent la première, principalement sur la base des contre-arguments suivants que nous résumerons et commenterons comme suit – en nous limitant (pour la facilité et la clarté de cette communication) à nous référer aux dispositions de la Convention de Paris de 1960 et de son Protocole additionnel de 1964 au sujet desquels ils ont surtout été émis. Sans doute cependant leur examen, ainsi que celui de leur exposé des motifs, peut-il être utile pour l'appréhension de textes de la Convention de Vienne de 1963, dont plusieurs dispositions, si elles ne sont pas identiques à celles de la Convention de Paris, n'en sont cependant pas moins relativement proches.

1. D'abord en ce qui concerne le *premier argument*, ses critiques soutiennent que l'article 6(a) ne viserait que les actions en responsabilité exercées par des personnes autres que l'exploitant lui-même. Dire que l'exploitant est responsable, laisserait intacte la question de savoir qui et dans quel cas serait par ailleurs responsable envers l'exploitant.

Selon la lettre même du texte, les actions en responsabilité de l'exploitant ne seraient pas exclues dans leur principe, sauf lorsqu'elles prennent la forme d'actions récursoires non prévues par les contrats. La preuve

de ceci serait qu'il faut un texte spécial (le paragraphe f) de l'article 6 pour exclure un recours (à comprendre comme une action récursoire) de l'exploitant envers les tiers et notamment, sauf stipulation contraire, envers ses cocontractants.

À cela, ne pourrait-il peut-être cependant être répondu que l'article 6(f) sert à déroger au principe général stipulé à l'article 6(a) ?

2. Ensuite, les critiques de la première interprétation contestent le *second argument* qui soutend celle-ci, selon lequel les auteurs de la Convention auraient eu présent à l'esprit l'existence de relations contractuelles entre l'exploitant et les fournisseurs, ainsi que la responsabilité qui en découlerait. Ils estiment plutôt que ce qui a été envisagé et réglementé, ce ne seraient que les actions récursoires qui peuvent être introduites par l'exploitant contre l'un de ses cocontractants à la suite de la mise en cause de sa responsabilité par des tiers, mais que le droit commun subsisterait en ce qui concerne les actions en responsabilité de l'exploitant lui-même envers d'autres personnes, dès lors que ses actions ne prennent pas leur source dans une action récursoire (le paragraphe f) de l'article 6 est ainsi interprété comme une limitation de la responsabilité envers l'exploitant s'appliquant uniquement aux actions récursoires).

Ne pourrait-on cependant pas objecter que l'article 6(f) qui traite du « *droit de recours* » de l'exploitant, ne ferait pas la distinction entre l'action directe et l'action récursoire et vaudrait donc pour les deux, le droit de recours n'étant pas limité à l'action récursoire qui fait suite à la mise en cause de la responsabilité de l'exploitant par des tiers ?

3. Enfin, les tenants de la deuxième interprétation contestent le troisième argument des tenants de la première thèse (qui se fonde sur le fait que les auteurs de la Convention, en concentrant tous les risques sur la tête de l'exploitant et en limitant le montant de la responsabilité, auraient voulu rendre possible et supportable un système d'assurance du risque nucléaire), qu'ils considèrent comme inopérant, même s'il paraît de poids, car il ne vaudrait que de *lege ferenda* (si la législation n'atteint pas son but, il faut la changer. On ne peut appliquer une règle que pour autant qu'elle puisse se déduire d'un texte).

Ils estiment aussi que l'interprétation qui exclurait toute responsabilité envers l'exploitant, sous forme d'actions « *directes* » aboutirait à un résultat surprenant : le fournisseur pourrait être mis dans l'obligation de réparer les dommages causés à des tiers, alors que ces dommages peuvent être quasi illimités et imprévisibles, si un droit de recours est expressément prévu par contrat, mais il ne pourrait pas être amené à réparer les dommages causés à

l'exploitant, alors que ces dommages, s'ils peuvent être élevés, ne sont cependant ni illimités, ni imprévisibles.

Ce dernier argument perd – nous semble-t-il – de vue que, pour les tenants de la première interprétation (à tout le moins telle que développée par M. T. Wiwen-Nilsson⁷) une action directe de l'exploitant contre ses fournisseurs n'est pas totalement exclue dès lors qu'elle est possible pour peu qu'elle ait été prévue contractuellement.

Dans ce cadre, il peut également être intéressant d'opposer les travaux parlementaires relatifs à la Loi belge du 22 juillet 1985 sur la responsabilité civile dans le domaine de l'énergie nucléaire (laquelle « transpose » en droit belge la Convention de Paris) qui précisent à propos de l'article 6 de cette Loi (qui prévoit également explicitement que l'exploitant d'une installation nucléaire n'est pas responsable des dommages à l'installation nucléaire elle-même et à d'autres installations nucléaires, même en cours de construction, qui se trouvent sur le site, ni des dommages aux biens qui se trouvent sur ce site et qui doivent être utilisés en rapport avec l'une ou l'autre de ces installations) que :

Cet article, directement inspiré de l'article 3(a) de la Convention de Paris, circonscrit le dommage qui fait l'objet de la responsabilité de l'exploitant. L'article 6 primo a pour objectif d'empêcher qu'une grande partie du montant couvrant la responsabilité légale de l'exploitant soit absorbée, à titre de dédommagement pour les installations, là où la Convention de Paris et le présent projet visent spécialement l'indemnisation des « vrais » tiers, c'est-à-dire de ceux qui ne sont ni propriétaires, ni exploitants des installations ou des biens s'y rapportant.

L'article 6 primo s'applique quel que soit le propriétaire des installations nucléaires ou des biens visés, c'est-à-dire surtout des substances nucléaires louées ou des produits confiés par des clients à l'exploitant pour irradiation et retraitement.

Cet alinéa n'exclut toutefois pas qu'en dehors des dispositions de la Convention, qui traitent de la responsabilité quasi

7. Comme nous l'indiquions plus haut, dans sa description de la première thèse, le Doyen G. Vedel part du principe que l'article 6(f) de la Convention de Paris ne permet qu'une action récursoire contractuelle et non une action directe.

délictuelle de l'exploitant, le propriétaire de l'installation ou des biens assure ceux-ci ou les fasse assurer par l'exploitant contre tous dommages.

De même, il n'exclut pas la possibilité pour l'exploitant de prévoir un recours contractuel contre un autre propriétaire, sans préjudice des principes de la responsabilité légale.

4. Par ailleurs, selon les tenants de la deuxième thèse, celle-ci résulterait déjà du titre de la Convention de Paris « Convention on Third Party Liability in the field of Nuclear Energy » (« Third Party » : « One who is a stranger to a transaction or proceeding »).

La pertinence de cet argument a cependant souvent été considérée comme assez faible : la notion de « Third Party » peut en certains cas ne pas désigner des tiers au sens français du mot :

- la Convention de Vienne emploie dans son texte anglais le terme « Civil Liability », ce qui pourrait marquer qu'elle entend régler l'ensemble du problème et notamment celui des dommages sur le site.
- Et la mise en harmonie des deux Conventions a entraîné des modifications à la Convention de Paris par le Protocole additionnel de 1964.

5. On souligne aussi l'utilisation du mot « victime » en travers des commentaires (dans l'exposé des motifs) relatifs à la responsabilité envers le « public », qui serait seule en cause, suivant les tenants de la deuxième thèse.

Dans le même sens, on peut mentionner le rapport de la « *Harvard Law School International Problems of Financial Protection against Nuclear Risks* »⁸. Ce rapport examine notamment les risques encourus par l'industrie nucléaire américaine pour les fournitures aux exploitants nucléaires européens.

Si le rapport d'Harvard se consacre quasi exclusivement à la protection des fournisseurs contre les actions qui pourraient être introduites par des tiers, à la suite d'un accident nucléaire, il pourrait, comme le soutient Tom Vanden Borre⁹, suggérer par ses termes : « By relegating extent and terms of

8. Cf. supra.

9. Cf. supra. p. 347.

this inter-party liability to the realm of contract bargaining, all interests would be adequately safeguarded », que, parallèlement, un recours contractuel par l'exploitant contre les fournisseurs serait possible, dès lors qu'à ce sujet les accords contractuels nécessaires pourraient être faits.

Par ailleurs, ce dernier auteur voit une confirmation de cette analyse dans le « Preliminary Report on Financial Protection against Atomic Hazards »¹⁰ et estime que « The Convention provides an exceptional Régime and its scope is limited to risks of an unexceptional character for which common law rules and practice are not suitable. Whenever risks, even those associated with nuclear activities can be dealt with through existing legal processes, they are left outside the scope of the Convention » (exposé des motifs, n° 7).

Ces quelques passages peuvent cependant apparaître comme n'étant pas déterminants.

Les tenants de la première thèse relèvent cependant que l'exposé des motifs retient le fait « qu'un accident [...] pourrait causer des dommages considérables, tant aux personnes qui en seraient victimes qu'aux entreprises exploitant une installation nucléaire ou dont l'activité est liée à cette exploitation », ce qui tiendrait à établir que le régime spécial mis en place par la Convention aurait bien envisagé, pour les soustraire dans leur totalité au droit commun, les dégâts causés aux installations de l'exploitant, comme les dommages subis par les personnes tierces.

6. Nous voici presque arrivés au terme de notre recension des principaux contre-arguments et objections possibles, défendues par les tenants de la deuxième thèse.

On peut encore mentionner un dernier raisonnement de logique formelle : la deuxième interprétation offre la possibilité d'un recours direct de l'exploitant contre ses fournisseurs et entrepreneurs. Mais, en vertu du principe de canalisation, les fournisseurs ne peuvent agir les uns contre les autres et, en vertu de l'exclusion de la responsabilité de l'exploitant en matière de dommages sur le site, ils ne peuvent obtenir de réparation de l'exploitant. Ainsi, les fournisseurs qui n'ont aucun recours les uns contre les autres, ni contre l'exploitant, demeureraient cependant soumis, chacun en ce qui le concerne au

10. En abrégé « *Preliminary Report* » rédigé par des collaborateurs de la Columbia University et publié en mars 1956.

recours de l'exploitant. Cette situation serait profondément aberrante, selon les défenseurs de la première thèse.

Pourtant, rétorquent les tenants de la deuxième interprétation, il n'y a pas d'absurdité. En effet, on est en présence du fait que, en vertu des dispositions de droit international, certains rapports juridiques sont soustraits au droit commun, cependant que d'autres y demeurent soumis en raison du caractère doublement restrictif attaché à l'interprétation des règles dérogeant au droit commun et à l'interprétation des conventions internationales limitant la souveraineté du législateur national. Il n'y aurait là dès lors aucune absurdité.

Que sans pouvoir agir les uns contre les autres, ils demeurent soumis à la responsabilité pour les dégâts causés de leur fait aux installations de l'exploitant serait un élément de l'équilibre général du système.

Mais les tenants de la première thèse peuvent ne pas se laisser convaincre.

Conclusions

Après un examen très approfondi des différents principes de solutions pouvant être mis en œuvre, le Doyen Vedel en est venu finalement à préférer la seconde des deux interprétations, à savoir que la conclusion serait que la Convention de Paris n'interdit pas dans l'article 6 les actions directes de l'exploitant envers ses fournisseurs ou entrepreneurs fondées sur le contrat et étrangères à toute action récursoire et qu'elle n'édicte dans son article 3, en ce qui concerne la responsabilité envers l'exploitant, aucune irresponsabilité en ce qui regarde les dommages causés à l'installation ou aux biens se trouvant sur le site et qui sont ou doivent être utilisés en rapport avec elle.

M. T. Wiwen-Nilsson penche, quant à lui, pour la première interprétation, empêchant tout recours – sauf si celui-ci est prévu contractuellement¹¹ – par l'exploitant contre les fournisseurs, et ce tant dans le cadre de la Convention de Paris que de la Convention de Vienne.

Comme on le voit plus on tente d'approfondir la problématique, plus les questions, loin de se résoudre, se multiplient.

11. Ce qui, du point de vue du résultat (possibilité, in fine, d'une action directe contre les fournisseurs), rapproche dans cette mesure ainsi limitée les deux interprétations.

Comme l'a dit le Doyen Vedel : « Notre problème évoque invisiblement un certain nombre de problèmes de logique formelle apparemment anecdotiques, mais qui sont provoqué de très savantes et profondes discussions et ont entraîné de véritables crises épistémologiques.

Dans une compagnie où aucun homme ne porte la barbe, le capitaine ordonne au sergent major d'établir deux listes : celle des soldats qui se rasent eux-mêmes et celle des soldats qui sont rasés par le barbier de la compagnie. Sur quelle liste doit figurer le barbier ? Il se rase lui-même et est rasé par le barbier. Si donc, chacune des deux listes est exclusive de l'autre, comme le veut le capitaine, le problème n'a pas de solution.

Un condamné à mort aura la vie sauve s'il répond exactement à la question qui lui sera posée avant l'exécution. La question posée est la suivante : « Seras-tu exécuté ou auras-tu la vie sauve ? ». Le condamné répond : « Je serai exécuté ». Le bourreau se prépare donc à l'exécution. Mais le condamné objecte que, puisqu'il a donné la réponse exacte, il doit avoir la vie sauve. À quoi le tribunal rétorque que, s'il a la vie sauve, il a répondu inexactement à la question et doit donc être exécuté. Mais s'il est exécuté, il a répondu exactement à la question et doit donc avoir la vie sauve. Et la controverse peut longtemps se poursuivre.

Tous ces problèmes dont le modèle a été donné dans l'Antiquité par le paradoxe sur Epiménide et les Crétois menteurs ont invité les chercheurs de la logique formelle à approfondir la notion de référentiel, c'est-à-dire, en langage vulgaire, de la règle du jeu ».

Plusieurs se sont attelés à approfondir cette règle du jeu. Mais l'horizon recule au fur et à mesure que l'on avance.

Ainsi, lorsque le mémorandum de M. T. Wiwen-Nilsson a été soumis au Groupe d'experts gouvernementaux sur la responsabilité civile dans le domaine de l'énergie nucléaire constitué auprès de l'AEN, aucun de ces experts ne s'est départi des conclusions auxquelles abouti M. T. Wiwen-Nilsson, mais sans que cela ne puisse cependant signifier un accord de leur part.

Comme déjà souligné depuis de nombreuses années, pour mettre fin à l'insécurité juridique qui découle de cette question d'interprétation, la seule solution adéquate serait de provoquer une décision institutionnelle.

Même s'il a souvent été dit qu'une décision politique claire à cet égard pourrait sans doute paraître difficile à court terme, il nous a semblé qu'il y avait

lieu de rappeler les questions restées en suspens, afin de pouvoir insister pour que cette problématique puisse être dès que possible définitivement tranchée.

L'intérêt de tous, nous semble-t-il, est de mettre un terme à cette incertitude quant à la portée des responsabilités et recours possibles.

Que l'obscurité fasse enfin place à la clarté.

**DISPOSITIONS DE LA CONVENTION DE PARIS RELATIVES À LA
PROBLÉMATIQUE DES DOMMAGES AUX BIENS SUR LE SITE**
(souligné par l'auteur)

Article 3

a) L'exploitant d'une installation nucléaire **est responsable** conformément à la présente Convention :

- i) de tout dommage aux personnes ; et
- ii) de tout dommage aux biens, à l'exclusion

1. de l'installation nucléaire elle-même et des autres installations nucléaires, même en cours de construction, qui se trouvent sur le site où est implantée cette installation ;

2. des biens qui se trouvent sur ce même site et qui sont ou doivent être utilisés en rapport avec l'une ou l'autre de ces installations, s'il est établi que ce dommage (appelé ci-après le « *dommage* ») est causé par un accident nucléaire survenu dans cette installation ou mettant en jeu des substances nucléaires provenant de cette installation, sous réserve des dispositions de l'article 4.

Article 6

a) Le droit à répartition pour un dommage causé par un accident nucléaire ne peut être exercé que contre un exploitant responsable de ce dommage conformément à la présente Convention ; il peut également être exercé contre l'assureur ou contre toute autre personne ayant accordé une garantie financière à l'exploitant conformément à l'article 10, si un droit d'action directe contre l'assureur ou toute personne ayant accordé une garantie financière est prévu par le droit national.

b) Sous réserve des dispositions du présent article, aucune autre personne n'est tenue de réparer un dommage causé par un accident nucléaire ; toutefois cette disposition ne peut affecter l'application des accords internationaux dans le domaine des transports qui sont en vigueur ou ouverts à la signature, à la ratification ou à l'adhésion, à la date de la présente Convention.

- c) i) Aucune disposition de la présente Convention n'affecte la responsabilité :
 - 1. de toute personne physique qui, par un acte ou une omission procédant de l'intention de causer un dommage, a causé un dommage résultant d'un accident nucléaire dont l'exploitant, conformément à l'article 3(a)(ii)(1) et (2) ou à l'article 9, n'est pas responsable en vertu de la présente Convention ;
 - ii) L'exploitant ne peut être rendu responsable, en dehors de la présente Convention, d'un dommage causé par un accident nucléaire.
- f) L'exploitant n'a de recours que :
 - i) si le dommage résulte d'un acte ou d'une omission précédant de l'intention de causer un dommage, contre la personne physique auteur de l'acte ou de l'omission intentionnelle ;
 - ii) si et dans la mesure où le recours est prévu expressément par contrat.

Article 14

b) Le « *droit national* » et la « *législation nationale* » signifient le droit ou la législation nationale du tribunal compétent en vertu de la présente Convention pour statuer sur les actions résultants d'un accident nucléaire ; le droit ou la législation nationale est applicable pour toutes les questions de fond et de procédure qui ne sont pas réglées spécialement par la présente Convention.

**DISPOSITIONS DE LA CONVENTION DE VIENNE RELATIVES À LA
PROBLÉMATIQUE DES DOMMAGES AUX BIENS SUR LE SITE**
(souligné par l'auteur)

ARTICLE I

- k) « Dommage nucléaire » signifie :
- i) tout décès, tout dommage aux personnes, toute perte de biens ou tout dommage aux biens, qui provient ou résulte des propriétés radioactives ou d'une combinaison de ces propriétés et des propriétés toxiques, explosives ou autres propriétés dangereuses d'un combustible nucléaire, de produits ou déchets radioactifs se trouvant dans une installation nucléaire ou de matières nucléaires qui proviennent d'une installation nucléaire, en émanent ou y sont envoyées ;

ARTICLE II

1. L'exploitant d'une installation nucléaire est responsable de tout dommage nucléaire dont il est prouvé qu'il a été causé par un accident nucléaire :

- a) Survenu dans cette installation nucléaire ;

5. Sauf disposition contraire de la présente Convention, aucune personne autre que l'exploitant n'est responsable d'un dommage nucléaire. Toutefois, la présente disposition est sans effet sur l'application de toute convention internationale de transport qui était en vigueur ou ouverte à la signature, à la ratification ou à l'adhésion lorsque la présente Convention a été ouverte à la signature.

ARTICLE IV

1. L'exploitant est objectivement responsable de tout dommage nucléaire en vertu de la présente Convention.

5. L'exploitant n'est pas responsable, en vertu de la présente Convention, du dommage nucléaire causé :

- a) à l'installation nucléaire elle-même ou aux biens qui se trouvent sur le site de cette installation et qui sont ou doivent être utilisés en rapport avec elle ;
- b) au moyen de transport sur lequel la matière nucléaire en cause se trouvait au moment de l'accident nucléaire.

7. Aucune disposition de la présente Convention n'affecte :

- a) la responsabilité de toute personne physique qui a causé, par un acte ou une omission procédant de l'intention de causer un dommage, un dommage nucléaire dont l'exploitant, conformément au paragraphe 3 ou au paragraphe 5 ci-dessus, n'est pas responsable en vertu de la présente Convention ;

ARTICLE X

L'exploitant n'a un droit de recours que :

- a) si un tel droit a été expressément prévu par un contrat écrit ;
- b) ou, si l'accident nucléaire résulte d'un acte ou d'une omission procédant de l'intention de causer un dommage, contre la personne physique qui a agi ou omis d'agir dans cette intention.

**THE AMENDMENT OF THE LAW ON COMPENSATION
FOR NUCLEAR DAMAGE IN JAPAN**

**LA RÉVISION DE LA LOI JAPONAISE RELATIVE
À LA RÉPARATION DES DOMMAGES NUCLÉAIRES**

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Résumé

En introduction à sa communication, l'auteur rappelle que le régime de responsabilité civile nucléaire au Japon repose sur deux lois de 1961 : la Loi sur la réparation des dommages nucléaires et la Loi sur les accords d'indemnisation relatifs à la réparation des dommages nucléaires. Ces lois ont été modifiées régulièrement depuis leur adoption. Il souligne également que le régime applicable dans ce pays est fondé sur la responsabilité objective et exclusive de l'exploitant nucléaire – mais non limitée dans son montant – et sur une garantie financière obligatoire et limitée de cette responsabilité, moyennant un accord d'indemnisation passé avec le Gouvernement.

L'auteur passe ensuite à l'analyse de la récente (1999) modification de la Loi sur la réparation, suite aux recommandations d'un comité spécial. Ce comité s'est en particulier référé dans ses travaux aux amendements apportés en 1997 à la Convention de Vienne. Le premier point étudié par l'auteur est la révision du montant de la garantie financière, porté à 60 milliards de yens pour les réacteurs de puissance. Il est noté que la question d'un montant approprié pour couvrir les opérations de déclassé et le stockage du combustible nucléaire, devra être examinée à l'avenir. Concernant la durée de validité de la Loi, elle est prolongée jusqu'en 2009.

L'auteur analyse dans une seconde partie de son exposé une série de questions abordées par le Comité spécial mais qui n'ont pas donné lieu pour le moment à une modification de la législation nucléaire. Il s'agit en particulier de la notion de dommage nucléaire, des clauses d'exonération de la responsabilité de l'exploitant et des délais de prescription.

L'auteur conclut sa présentation en consacrant des remarques à la position du Japon et de la région asiatique par rapport aux Conventions internationales sur la responsabilité nucléaire.

I. Outline of compensation scheme for nuclear damage

The legal regime relating to the compensation for nuclear damage in Japan is governed by “The Law on Compensation for Nuclear Damage” [Law No. 147, 1961] (hereinafter referred to as “the Compensation Law”), and “The Law on Indemnity Agreement for Compensation of Nuclear Damage” [Law No. 148, 1961] (hereinafter referred to as “the Indemnity Agreement Law”).

The basic liability scheme on compensation for nuclear damage in the Compensation Law is constituted on the basis of strict (without fault) and unlimited liability, and such liability is channelled to a “nuclear undertaker” who is engaged in the “operation of the reactor, etc.” [Arts. 3(1) and 4(1)].¹ Furthermore, in order to operate the reactor, etc. a nuclear undertaker has to have provided financial security for compensation of nuclear damage (hereinafter referred to as “financial security”) by means of contracts for liability insurance in respect of potential nuclear damage and an indemnity agreement for compensation of nuclear damage (hereinafter referred to as “indemnity agreement”²) or the deposit (approved as an arrangement that makes compensation available for nuclear damage). The minimum amount of financial security (hereinafter referred to as “financial security amount”) per factory or place of undertaking or per nuclear ship shall be specified by the Law or Cabinet Order [Arts. 6 and 7].

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1. If the damage is caused as a result of the transportation of nuclear fuel materials (including materials contaminated by nuclear fuel material) between nuclear undertakers, the consignor of such materials shall be liable for the damage, unless there is a special agreement between them [Art. 3(2)]. The “nuclear undertaker” means a person who is granted a license for: (i) establishment of a nuclear reactor; (ii) fabricating business; (iii) reprocessing business; (iv) waste disposal business; (v) business of storage of spent nuclear fuel; or (vi) using of nuclear fuel material [Art. 2(3)]. The “operation of the reactor, etc.” means: (i) operation of the reactor; (ii) fabricating; (iii) reprocessing; (iv) use of nuclear fuel material; and (v) disposition of nuclear fuel material [Art. 2(1)].
 2. Indemnity agreement is the contract under which the government undertakes to indemnify a nuclear undertaker for his loss arising from compensating for the nuclear damage not covered by the liability insurance contract (e.g. where damage was not claimed within ten years from the date of the incident, etc.) if he becomes liable for such damage, in return for his payment of an indemnity fee [Art. 10]. The Indemnity Agreement Law provides details relating to this agreement.

In addition to this financial security, in the event that nuclear damage occurs, where the amount of compensation to be paid for such damage exceeds the financial security amount available and when the Government deems it necessary in order to fulfil the purpose of the Compensation Law, the Government shall give to a nuclear undertaker such aid as required for him to compensate the nuclear damage, to the extent that the Government is authorised by the decision of the National Diet [Art. 16].

II. Amendment of the Compensation Law

(1) Introduction

The Compensation Law has been amended on a regular basis, approximately every ten years (in 1971, 1979, 1989 and 1999). The provisions in the Compensation Law relating to the indemnity agreement [Art. 10(1)] and to the measures taken by the State [Art. 16(1)] are applicable to nuclear damage involving operation of the reactor, etc. in respect of which the action comes under one of the heads enumerated in Article 2(1) as operation of the reactor, etc.,³ and has begun by a specified date (under Art. 20 before amendment, 31 December 1999). This specified limited applicable period has been ten years for each amended term. Therefore, the Compensation Law has been amended every ten years, in order to extend the applicable period for these provisions. And, upon each amendment of the applicable period, the financial security amount has also been periodically revised.

The 1999 Amendment of the Compensation Law [Law No. 37, 10 May 1999] provided for an increase in financial security amounts and the extension of the applicable period for the provisions relating to the indemnity agreement and the measures taken by the State in the same manner as previous revisions. The amendment of the Compensation Law was based upon the decision by the Atomic Energy Commission (A.E.C.). In the preparatory work carried out by the Special Committee on Compensation Scheme for Nuclear Damage of the A.E.C., not only the above-mentioned increase of financial security amounts and the extension of the applicable period for related provisions, but also several issues, including the review of the notion of “nuclear damage”, the scope of exoneration from liability, prescription periods and consideration of the international conventions, came under examination, especially taking into account the new regime adopted in the Protocol to amend

3. See note 1.

the Vienna Convention, 1997. In this paper, those issues which were not included in the actual amendment, but which were chosen to remain in the future programme of work as matters to be examined as soon as possible, are also described.

(2) *Revision of the financial security amount*

The financial security amount specified in the Compensation Law has been regularly increased at approximately ten-year intervals [Japanese yen (JPY) 5 billion in 1961, JPY 6 billion in 1971, JPY 10 billion in 1979, and JPY 30 billion in 1989]. These revisions of the liability amount were carried out by taking into account similar levels of liability adopted in several main nuclear industrialised states as the limit of liability for the operator of a nuclear reactor, and the maximum available capacity of the nuclear insurance market. In the preparatory study for this year's amendment, these elements were of course carefully examined. The nuclear liability amounts applicable under the laws of the United Kingdom and the Netherlands, and the financial security amount under the laws of Germany and Switzerland were referred to for that purpose. Furthermore, the following factors were taken into account: (i) the amount fixed for compensation for nuclear damage under the Paris Convention and the Brussels Supplementary Convention combined is 300 million SDRs; (ii) the minimum amount to be established by the Installation State as a limit of the financial security of the operator liable, where the liability of the operator is unlimited, under the revised Vienna Convention [Art. VII 1(a)], is also 300 million SDRs; and (iii) 300 million SDRs is equivalent to about JPY 56 billion, and the available amount to be supplied by the liability insurance market has been increased to JPY 60 billion, because of the increase in the capacity of the insurance market in Japan, and an expansion of the market capacity for reinsurance on a global level.

As a result of those considerations, the financial security amount was increased to JPY 60 billion. This figure is twice the former amount.

Under the Cabinet Order based on the Compensation Law (relating to the operation of nuclear reactors at less than 10 000 kW/h, the fabrication, use or transportation of nuclear fuel material or nuclear spent fuel, and the disposition, custody or transportation of nuclear waste, etc.), the two types of lower financial security amount (JPY 6 billion and JPY 1 billion respectively) are set out according to the categories and types of the case. For these special, exceptional lower amounts, increasing the financial security amount to twice the level in each case has been recommended by the A.E.C.

As regards this point, the necessity for special requirements in relation to financial security and/or the level of its amount in cases of decommissioning of reactors, storage of spent nuclear fuel outside the power plant, radioisotopes other than nuclear fuel materials, or high-level waste of nuclear fuel material, or the operation of experimental reactors for nuclear fusion, etc. shall be examined in the near future according to developments made in this field and the corresponding necessity for financial security for each case.

(3) *Extension of applicable period*

As mentioned above, the applicability of the provisions of the Compensation Law which relate to the indemnity agreement and the measures taken by the State were due to expire on 31 December of this year (1999). However, still such a complementary scheme for compensation for nuclear damage as based upon those provisions is necessary to protect the interests of potential victims and to acquire the acceptance and co-operation of the public. Therefore, the applicable period for the said provisions [Arts. 10(1) and 16(1)] has been extended for the next 10 years (up to 31 December 2009).

III. Other issues examined in the Special Committee of the A.E.C.

(1) *Notion of Nuclear Damage*

In the Protocol to Amend the Vienna Convention, 1997 (hereinafter referred to as “the Protocol”), as regards nuclear damage, several types of loss or damage are enumerated as “nuclear damage” in the definition in paragraph 1, sub-paragraph (k) of revised Article 1.

Under the Compensation Law, “nuclear damage” means any damage caused by the effects of the fission process of nuclear fuel material, by the effects of radiation of nuclear fuel material etc. or by the effects of toxic natures of such materials [Art. 2(a)], and categorisation of nuclear damage in accordance with the types of damage is not done. In this definition, “damage caused by “the effects” is understood as meaning damage having a reasonable causal link with the effects”; if there is a reasonable causal link between the damage and the effects, not only direct damage, but also indirect damage is included in the definition of nuclear damage.

Therefore, for instance, the cost of measures of reinstatement of impaired environment, qualified as nuclear damage under the definition in

paragraph 1, sub-paragraph (k) of Article 1 of the revised Vienna Convention, is included in the notion of nuclear damage under the Compensation Law, if there is reasonable causation between the facts of the cause and the measures taken, and providing the cost of such measures is reasonable.

On the basis of this understanding, as regards the cost of measures of reinstatement of impaired environment, the Special Committee considered that an amendment of the definition of nuclear damage was not necessary, although the definitions of “measures of reinstatement”, “preventive measures” and “reasonable measures” in paragraph 1, sub-paragraphs (m), (n) and (o) of revised Article 1 of the Vienna Convention might be useful for decisions as to the admissibility of costs for such preventive measures. Furthermore, the notion of environmental damage and “an economic interest in any use or enjoyment of the environment” are not entirely clear in the view of the Special Committee. Therefore, at this stage, it is not suitable to give any consideration to such notions relating to environmental damage.

In respect of the costs of preventive measures, if the damage “caused by the effects” means the damage not only caused by direct and actual influence of the energy by nuclear fission or of radiation, but also caused by the threat or possibility of actual exposure, such damage, including the costs or expenses for evacuation, may be accepted as the damage admissible under the Compensation Law, to the extent that there is a reasonable causal link.

Therefore, at this stage, any urgent amendment is not necessary; however, further study might be necessary in respect of evacuation costs and expenses and the costs of preventive measures to minimise or prevent proliferation of damage.

(2) *Exoneration from liability*

Under the Protocol, if the operator of a nuclear installation proves that nuclear damage is directly due to an act of armed conflict, hostilities, civil war or insurrection, he is not liable for that damage [Art. IV 3]. Similarly, under the Compensation Law, the nuclear undertaker is not liable for nuclear damage in the case where damage is caused by an extraordinary great natural disaster or by a serious social disturbance [Art. 3(2)].

Under both provisions, in between the enumerated events (act of armed conflict, hostility, civil war or insurrection) in the Protocol and the notion “serious social disturbance” used in the Compensation Law, there is no significant difference: in other words, all events in the former are included in

the “serious social disturbance” in the latter. This is our understanding, and, in the text of the Compensation Law, use of the words related to war, in any sense, was carefully avoided at the time when the original draft of the Law was established in 1960.

The provision which provided that the operator is exonerated from his liability for nuclear damage in the case where the damage caused by a nuclear incident is directly due to a grave natural disaster of an exceptional character in the former Vienna Convention [Art. IV 3(b)] is deleted by the Protocol. Therefore, the problem as to whether the corresponding element in the exoneration provision in the Compensation Law should also be deleted or not was examined. Under the Compensation Law, the Government shall, in the case where the nuclear undertaker is exonerated from his liability for nuclear damage by reason of the facts mentioned in the above provisions, take the necessary measures to relieve victims and to prevent any increasing of the damage [Art. 17]. Therefore, if the “extraordinary great natural disaster” is deleted from the factors which exonerate the nuclear undertaker from liability, in the case where the nuclear damage is caused by such an extraordinary great natural disaster, the grounds on which the victims are relieved by the Government might not appear in the Compensation Law. Although the liability of the nuclear undertaker is unlimited under the Compensation Law, such damage cannot be covered in its entirety by liability insurance, and the available amount to be indemnified under the indemnity agreement in respect of compensation paid by the nuclear undertaker is limited to JPY 60 billion, even if the Indemnity Agreement Law were amended accordingly, in order to cover such loss.

Furthermore, it is common understanding in Japan that such an “extraordinary great natural disaster” means “natural disaster” or results of natural phenomena in a scale not known in our historical experience. Therefore, even if such natural disaster is maintained in the list of exoneration, it is possible to consider that such compensation scheme may still be recognised as compatible with the international regime.

Following close consideration of this situation, the Special Committee did not recommend any amendment for provisions governing exoneration from liability.

(3) *Period of limitation of action*

Under the Protocol, the period following which rights of compensation for nuclear damage are extinguished if an action is not brought within that period has been amended from 10 years to 30 years from the date of

the nuclear incident, with respect to loss of life and personal injury (with respect to other damage, the 10-year period has been maintained) [Art. IV 1(3)].

In the Compensation Law, there are no special provisions as regards limitation of action or prescription for compensation of nuclear damage: the general rules of prescription for tort under the Civil Code (Art. 724) are applicable. Under these general rules, the period of prescription is three years from the date on which the person suffering damage had knowledge of that damage and of the person liable for the damage. In any case, the right to compensation for damage shall be extinguished if an action is not brought within 20 years from the date of the tort (or tortious act).

When considering the extension of the period of limitation of action in the Protocol, the Special Committee carefully examined the necessity and the feasibility of extending the prescription period in the national law. From the point of view of the protection of victims and considering the possibility of subsequent appearance of bodily injuries due to radiation, extension of the prescription period with respect to loss of life and personal injury might be desirable. If this is the case, why are 30-year periods appropriate for such a purpose? Suitable statistical data could not be found, and under existing positive law in Japan, a 30-year period for prescription or limitation of action is not known in any case. Therefore, in order to explain the reasoning of this 30-year period, more careful study is required in this regard. However, as the direction of the amendment is just and preferable, the Special Committee recommended further examination of this matter along the lines of extension of the period to the level internationally acknowledged, while also giving careful attention to the balance among the question of prescription periods in Japanese law in general.

IV. Consideration of the International Conventions or other regimes

Japan is not Party to either the Paris Convention or the Vienna Convention. In order to explain this negative attitude, in respect of the Paris Convention, the geographical situation in relation to the other Contracting Parties (lack of necessity of uniformity of compensation scheme) has been pointed out. In respect of the Vienna Convention, the fact that the numbers of parties are not high enough and that the level of liability is not sufficient, has been argued. More substantially, it has been pointed out that the limitation of liability schemes adopted in both Conventions conflict with the unlimited liability regime in the Japanese Compensation Law.

However, circumstances have gradually changed. Namely, the number of parties to Vienna Convention has increased little by little, and several states

are showing their interest in the Vienna Convention, and furthermore, in the Protocol to Amend the Vienna Convention, difficulties related to the conflict of regime between limited liability and unlimited liability regimes have been intentionally avoided.

Furthermore, in 1997, the Convention on Supplementary Compensation for Nuclear Damage was adopted, and in connection with international transportation of nuclear fuel materials and radioactive waste for Japanese nuclear undertakers, the necessity of taking measures to join this Convention (and the Vienna Convention) might come under consideration.

In addition to such a change of circumstances, and given that in the near future, it is expected that the development and use of atomic energy make tremendous progress in Asia, it is desirable to examine the possibility of participation in any international framework for compensation of nuclear damage (through ratification of international conventions or conclusion of a regional framework in the area around Japan), in order to promote the sound development and use of atomic energy and an efficient remedy for victims of nuclear damage. However, at this stage, the existing legal regimes governing compensation for nuclear damage in the states around Japan are not sufficient in comparison to the international level, in some cases. Therefore, it is necessary, as a first step, under the initiative of my government, to strongly recommend improvement of the compensation schemes for nuclear damage to international levels, in the states around Japan, and to positively assist such schemes in that area. This is the opinion of the Special Committee.

**RECENT DEVELOPMENTS: NEW LEGISLATION
AND ADHERENCE TO CONVENTIONS (USA)**

**DÉVELOPPEMENTS RÉCENTS : LÉGISLATION NOUVELLE
ET ADHÉSION AUX CONVENTIONS (ÉTATS-UNIS)**

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Résumé

La législation applicable aux États-Unis à la responsabilité pour les dommages nucléaires est inscrit dans une Loi dite Price-Anderson, adoptée en 1957. Ses dispositions ont, entre autres, cette particularité qu'elles mettent en œuvre un système de canalisation économique et non juridique de la responsabilité de l'exploitant nucléaire.

La validité de la Loi Price-Anderson a été prolongée à plusieurs reprises, en même temps qu'elle était modifiée. L'auteur de la présente communication traite en particulier de sa dernière extension intervenue en 1988.

La Commission de la réglementation nucléaire (NRC) et le Département de l'Énergie (DOE) des États-Unis ont récemment diffusé des rapports au sujet de l'éventuelle prolongation de l'application de la Loi dont le terme actuel est 2002. Parmi les recommandations, figure la ratification de la Convention sur la réparation complémentaire des dommages nucléaires.

I would like to begin by expressing Sue Sheridan's regret at not being able to attend this Symposium and speak to you on the Price-Anderson Act, along with other issues related to nuclear liability. The Price-Anderson Act was adopted in the United States in 1957 to serve two purposes: first, to create a framework within which the nuclear industry could develop, and second, to ensure adequate compensation in the event of a nuclear incident. We did a very good job in the beginning in fulfilling the first objective, by creating a stable framework that facilitated the development of the nuclear industry. We adopted an economic channelling approach rather than opting for legal channelling.

Approximately every 10 years, the Price-Anderson Act comes up for renewal. In most of the debates preceding each revision, the emphasis has been on how to ensure prompt and adequate compensation for victims. There have been improvements almost each time it has come up for renewal. These debates have often been long and intense, and they have explored many of the issues with which you are familiar.

The Price-Anderson Act last came up for renewal in 1988. The US Congress spent about 3 or 4 years considering various proposals for this legislation. When the revision process began, most of the predictions that people had as to the outcome of the changes were unfounded. They thought that the emphasis of the revision would be on the nuclear utilities. As it turned out, the principal subject up for discussion was the US Department of Energy (DOE) and its relationship with its contractors. We spent a considerable time debating the question of liability amounts and, in the end, the contractor's liability was raised twenty-fold. We also had a long debate on the subject that Dr. Pelzer brought up this morning, as to whether contractors should be indemnified where they are guilty of gross negligence or intentional tort. We concluded that the system of channelling liability to one source was the best choice. Even those who had advocated that the contractor be held liable in the case of gross negligence had tailored their proposals towards the close of the debates so that they would only apply to the profit that the supplier would make. Having taken into account this "diluted" proposal, the ultimate decision was to keep the system which channels liability exclusively to the operator. The Price-Anderson Act next comes up for renewal in 2002. The DOE has prepared a report for Congress which is available on the Internet at www.gc.doe.gov. You can also consult the various comments received from 20 to 30 individuals and organisations following the invitation for public comment.

I would like to address one aspect of this report which may be of particular interest to this audience. One of the DOE recommendations is that the Convention on Supplementary Compensation should be adopted and conforming amendments, expected to be few in number, incorporated into the

Price-Anderson Act. The US legislation already provides more than the minimum liability amount required under the Convention on Supplementary Compensation. The Convention requires that coverage be extended to all Member countries: we already extend coverage to all damage wherever suffered. The one major change for the US will relate to jurisdiction. This issue is not covered at present by the Price-Anderson Act. As we heard already during this Symposium, jurisdiction is a very important issue. Dr Pelzer spoke of the uncertainty that causes concern amongst people in relation to US law. I can understand why people are concerned. However, if there were an accident in a country near the United States causing damage within the US, I am certain that US courts would assert jurisdiction over that accident and all those involved. If there were a transport accident on the high seas or the Exclusive Economic Zone that affected US interests, US courts would be asked and most likely would take jurisdiction over that accident and everyone involved in it. I believe furthermore that if there were an accident anywhere in the world involving a US company, that there would be people who would take their claim in a US court and request the court to take jurisdiction. The example that comes to mind is the Bhopal accident in India where a US company in the chemical industry was involved in an accident. The attorneys sought to have US courts take jurisdiction. While ultimately the court declined to take jurisdiction, this was not because it doubted its capacity to do so: it basically waited to ensure that there was an adequate remedy available in India.

**BRIEF INTRODUCTION TO CHINA'S
NUCLEAR LIABILITY REGIME**

**PRÉSENTATION SUR LE RÉGIME DE RESPONSABILITÉ
NUCLÉAIRE EN CHINE**

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Résumé

Les bases de la législation chinoise relative à l'utilisation de l'énergie nucléaire ont été posées au début des années 80, au moment où ce pays démarrait son programme nucléaire civil. La transition de l'économie chinoise vers une économie de marché exige à son tour un renforcement de l'infrastructure juridique. Dans le domaine nucléaire, la priorité a jusqu'à présent été accordée aux aspects de sûreté.

Les auteurs signalent toutefois que les autorités chinoises réfléchissent actuellement à l'élaboration d'une législation sur la responsabilité civile nucléaire et ont suivi attentivement les travaux du Comité permanent de l'AIEA .

Les auteurs passent ensuite à la description des dispositions contenues dans la déclaration gouvernementale de 1986, s'agissant de la responsabilité objective et exclusive de l'exploitant nucléaire, de la limitation de cette responsabilité, de l'intervention du gouvernement, des droits de recours, de la clause d'exonération de responsabilité et de la compétence juridictionnelle. Les auteurs indiquent également que les autorités chinoises sont dans l'ensemble favorables aux changements apportés en 1997 à la Convention de Vienne et à la nouvelle Convention sur la réparation complémentaire, tout en ayant le souci de ne pas imposer de charge financière excessive à l'industrie nucléaire. Ils concluent à la nécessité de poursuivre dans ce pays les études visant au renforcement de la législation nationale sur la responsabilité civile nucléaire.

In the early 1980s, China began to construct nuclear power stations. First, a nuclear power plant, with a capacity of 300 Mwe, was self-designed and constructed at Qinshan, Zhejiang Province. Then another NPP, with a capacity of 2×900 Mwe, was built at Shenzhen Daya Bay, Guangdong Province by importing complete sets of equipment under a Sino-Hong Kong joint venture. By now, the two NPPs are in operation and four new NPPs, consisting of eight units, are under construction. Nuclear power construction is shifting from the beginning stage to the small batch construction stage in China. At the same time, Chinese nuclear law is developing and booming. In the early 1980s, China began to make drafts of laws and regulations in nuclear energy. After substantial work, a series of administrative regulations of the State Council, many department rules and safety guides have been published to protect the healthy development of nuclear power.

Since China's economic system is shifting from a planned economy to a market economy, the legislative task is very heavy. The National People's Congress of China and the Chinese government have been doing their best to enact laws and regulations. By statistics, from 1979 to the end of 1998, the National People's Congress and its Standing Committee issued 346 laws and the State Council issued 811 administrative regulations in total. Most of these are economic laws and regulations. A legal system with Chinese characteristics has been set up preliminarily and is being perfected according to the legislative plan. As a special branch of the legal system, nuclear law needs to be set up and improved step by step. At the beginning of the development of nuclear power, the Chinese government focused on safety and nuclear safety supervision and administration, therefore establishing a large quantity of regulations, national standards and professional standards related to safety, such as Regulations on the Safety Regulation for Civilian Nuclear Installations of the People's Republic of China, Regulations on Nuclear Materials Control of the People's Republic of China, Emergency Management Regulations for Nuclear Accidents at Nuclear Power Plant, etc., to ensure the safe and healthy development of nuclear power. The legislation task is so heavy that the State Council put emphasis on the laws and regulations related to protecting the reform, development and stability. At the same time, it gives consideration to the legislation in other fields. Under this premise, some nuclear regulations are not issued, but the relevant research, study and drafting work are being done. In respect of nuclear liability, a Chinese delegation took part in the sessions of the IAEA Standing Committee on Liability for Nuclear Damage to follow the amendment of the Vienna Convention on Civil Liability for Nuclear Damage and the negotiations leading to the adoption of the Convention on Supplementary Compensation for Nuclear Damage. All these made good preparation for the future of Chinese nuclear legislation both in theory and in practice.

In fact, China's nuclear liability legislation basically keeps step with nuclear power construction. In the process of contract negotiation on Daya Bay nuclear power project, the foreigners put forward the issue of nuclear third party liability arising from nuclear accidents. To clarify this question, the State Council adopted an Official Reply Relating to Nuclear Third Party Liability (Guo Han 1986 No. 44, hereinafter referred to as the "Official Reply"). The Official Reply, as an administrative regulation, is the legal basis on how to deal with nuclear third party liability issues. The main points of it are as follows:

- **The Principle of Absolute and Exclusive Liability.** For any nuclear damage caused by a nuclear accident which happens on the site of the nuclear power plant or damage which happens before nuclear material of the facility is taken over by a third party or after operator takes over a third party's nuclear material in the territory of the People's Republic of China, the operator designated by the government should be fully responsible for the damage, and any other parties will not hold any responsibilities.
- **The Principle of Limited Liability.** It includes two kinds of limitation: the amount limit and the time limit. The operator only holds limited liability for a nuclear accident. The total amount of the compensation is a maximum of 18 million Renminbi (RMB). The victims of a nuclear damage have the right to seek compensation from the operator within three years from the date on which the victim knew or should have known of the damage. However the claim must be made within ten years from the date when the accident occurred. If the ten years have expired, the right to claim indemnity will be lost.
- **Government Support.** If the total amount of the compensation for the damage exceeds 18 million RMB, the PRC government will provide necessary financial compensation, which will be limited to a maximum of 300 million RMB.
- **Rights of Recourse.** If nuclear damage is caused by a third party's intentional act or omission, the liable operator only will have a right of recourse against that third party.
- **Exonerations.** Operators shall not be liable for nuclear damage caused by acts of armed conflict, hostilities, riot or grave natural disasters.

- **Competent Court.** All actions for compensation of nuclear damage caused by a nuclear accident occurring on Chinese territory which involve a third party must be submitted to the People's court, which has jurisdiction over the place where the accident occurred, to accept and hear the case.

The Official Reply uses the pertinent provisions of the international conventions for reference. Basically the principles of the Official Reply are consistent with those of the international conventions. Talking about the conventions, here we would like to express our general views on the revision of the Vienna Convention on Civil Liability for Nuclear Damage and the Convention on Supplementary Compensation for Nuclear Damage. These two conventions improve the nuclear liability system. They raise the liability amounts of nuclear operators, which will play a positive role, not only in providing victims with more protection, but also in heightening the operator's awareness of nuclear safety and improving public acceptance to nuclear energy. But on the other hand it is disadvantageous to develop the peaceful uses of nuclear energy for the countries whose nuclear energy industry is in early stages of development by imposing too heavy liabilities on the operator.

Taking a general view of the practical performance of nuclear power plant construction and operation in China in the past ten years, the principles of the Official Reply were abided by on the Daya Bay nuclear power project, and applied on other nuclear power projects. There are insurance clauses and/or the nuclear third party liability clauses in the contracts signed with foreign equipment suppliers and construction contractors, which provide that the operator must insure against nuclear third party liability.

In any case, the Chinese nuclear liability law is still in its initial stages; there remains a lot of work to do. We need to strengthen investigation and research into the theories and practices of nuclear law, including nuclear liability legislation, both in China and overseas in order to perfect the nuclear liability regime according to the objective realities of China and incorporating the experience of other countries. These will provide an important basis for activities involving the peaceful use of nuclear energy; they will also protect the public and promote the development of nuclear power in China.

**RECENT DEVELOPMENTS: NEW LEGISLATION
AND ADHERENCE TO CONVENTIONS (SLOVENIA)**

**DÉVELOPPEMENTS RÉCENTS : LÉGISLATION NOUVELLE ET
ADHÉSION AUX CONVENTIONS (SLOVÉNIE)**

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Résumé

L'auteur de la présente communication décrit successivement l'état du programme nucléaire en Slovénie, les fonctions de l'Administration slovène pour la sûreté nucléaire et le contenu de la législation nationale relative aux utilisations de l'énergie nucléaire.

Il passe ensuite à l'analyse de la politique slovène à l'égard des conventions nucléaires internationales et les efforts de rapprochement avec la législation de l'Union européenne. Il consacre quelques développements au régime de non-prolifération, à la sûreté nucléaire et à l'évacuation des déchets radioactifs, à l'exportation des matières, équipements et technologie nucléaires et au système de notification d'urgence et d'assistance mutuelle en cas d'accident nucléaire.

L'auteur conclut sa présentation en analysant les intentions du gouvernement slovène en ce qui concerne la législation sur la responsabilité civile nucléaire et signale la demande d'adhésion à la Convention de Paris et l'intention de son pays de solliciter également l'adhésion à la Convention Complémentaire de Bruxelles.

1. Introduction

Nuclear programme

Nuclear Power Plant Krško is a Westinghouse 632 MWe two loop PWR. Its construction commenced in 1974, in 1981 it was synchronised to the grid, and in 1984 a special permit for commercial operation was granted. Licensing was done on the basis of the preliminary and final safety analysis reports following vendor country regulations, with the assistance of several missions from the IAEA. The NPP Krško was built as a joint project of the electric utilities of Slovenia and those of the neighbouring Croatia.

The Research Reactor TRIGA Mark II of the Jožef Stefan Institute has a 250 kWt General Electric pool reactor.

The Žirovski Vrh Uranium Mine and Mill was in operation in the period of 1985 to 1999 and is now in the decommissioning phase.

Regulatory body

Since its creation in 1987, the Slovenian Nuclear Safety Administration (SNSA) has evolved and matured into a regulator, with a clear separation between regulation and promotion of nuclear energy. Its competencies are related to regulatory, inspection and technical tasks in the sphere of:

- Nuclear and radiation safety of nuclear facilities.
- Trade, transport and handling of nuclear and radioactive materials.
- Accounting for and control of all nuclear facilities and materials (safeguards).
- Physical protection of nuclear facilities and materials.
- Liability for nuclear damage.
- Qualification of NPP's personnel.
- Quality assurance.

- Radiation monitoring.
- Early exchange of information in the event of nuclear or radiation emergencies.
- International co-operation in the field of nuclear safety; and
- Other tasks defined in “nuclear” and other legislation.

The SNSA has the power to propose new legislation and is responsible for preparing new laws and regulations. The SNSA is currently revising the 1984 Act on Radiation Protection and the Safe Use of Nuclear Energy.

2. Status of legislative framework

In 1991 Slovenia became an independent sovereign state. The continuity of the legal system was ensured by adopting all relevant laws from the former Federation of Yugoslavia. Accordingly, legislation on nuclear energy (and safety) in Slovenia is made up of the following main laws and regulations:

- Act on Radiation Protection and the Safe Use of Nuclear Energy (“the 1984 Act”); and
- Act on Implementing Protection Against Ionising Radiation and Measures for Safety of Nuclear Facilities (“the 1980 Act”).

On the basis of the two above-mentioned Acts, several (more than 15) important regulations, which essentially implement the radiation protection provisions, have been adopted and have entered into force.

There are several other laws and regulations related to the nuclear area as a whole:

- Act on the Fund for Financing the Decommissioning of Krško NPP and Disposal of Radioactive Waste from Krško NPP;
- Act on Environmental Protection; and
- Decree on Export and Import Regime of Specific Goods.

International multilateral and bilateral agreements (signed, ratified and published) also constitute an integral part of Slovenian legislation. Slovenia is a party to almost all relevant international instruments in this field.

Third party nuclear liability is covered by two domestic laws:

- Act on Third Party Liability for Nuclear Damage (adopted in 1978 and revised in 1979);
- Act on the Insurance of Liability for Nuclear Damage (of 1980),

which follow the provisions of the 1963 Vienna Convention on Civil Liability for Nuclear Damage to which Slovenia is a party.

3. New legislation and adherence to Conventions

From the very beginning of the Slovenian independence, there was a firm intention to update (or review) the legislation in the field of nuclear and radiation safety. The first step was carried out already in 1993, when the draft of the new “Nuclear and Radiation Safety Act”, and the new “Third Party Liability Act” were prepared. At that time also, instruments in the international legal framework were under preparation, for example the Nuclear Safety Convention, the revision of the Vienna Convention, the Convention on Supplementary Compensation for Nuclear Damage and the Joint Convention on the Safety of Spent Fuel and the Safety of Radioactive Waste Management. Waiting for the outcome of these international instruments delayed the process of updating our domestic legislation in this field. On the other hand, Slovenia is approaching membership of the European Union, which means that we will have to harmonise our legislation with the EU legislation. The transposition of different directives into Slovenian legal system has already started.

Since the existing legislation on nuclear and radiation safety is not completely in line with the current western European practice, it is planned that by the end of 2000 the new legislation will be in the Parliamentary procedure.

The main recent developments in the nuclear field in general are shown below:

Safeguards

Slovenia has concluded an Agreement with the IAEA for the Application of Safeguards in connection with the Treaty on the Non-proliferation of Nuclear Weapons. On November 26, 1998 the Republic of Slovenia signed the Protocol Additional to the Agreement between the Republic of Slovenia and the International Atomic Energy Agency for the application of Safeguards (“the Protocol”). The Protocol shall enter into force after ratification in the Slovenian Parliament.

Nuclear, radiation and radwaste safety

Slovenia is a party to the Convention on Nuclear Safety.

On January 19 1999, the National Assembly of the Republic of Slovenia ratified the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management. The Convention entered into force on February 6, 1999.

Export of nuclear material, equipment and technology

At the end of February 1999 the Government of the Republic of Slovenia adopted a new Decree on Import and Export of Certain Goods.

With these amendments, Slovenia has established a complete export control of equipment or material especially designed or prepared for processing, use or production of special fissionable material thereby fulfilling the requirements of the NPT, as set forth in paragraph 2 of Article III.

Early notification and assistance

Slovenia is a party to both the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency.

Based on these two Conventions, and based also on the Council Decision 87/600 Euratom on Community Arrangements for Early Exchange of Information in the Event of a Radiological Emergency, Slovenia concluded bilateral agreements with Hungary, Austria and Croatia. An agreement with Italy is under preparation.

4. Nuclear third party liability

Besides the two above-mentioned domestic Acts (on liability and on insurance of liability for nuclear damage), Slovenia is also a party to the 1963 Vienna Convention on Civil Liability for Nuclear Damage (since 1977) and to the Joint Protocol relating to the Application of the Vienna Convention and the Paris Convention (since 1994). Slovenia has not signed either the Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage or the Convention on Supplementary Compensation for Nuclear Damage.

(a) Nuclear Damage

The definition and scope of nuclear damage are 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;
- 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 ionising radiation emitted by any other source of radiation inside a nuclear installation.

(b) Liability Principles

The main principles governing nuclear third-party liability are as follows:

- The operator of a nuclear installation shall be liable for nuclear damage regardless of fault.
- The operator of a nuclear installation shall be liable for nuclear damage if such damage has been caused by a nuclear accident in his nuclear installation.
- Except as otherwise provided in international agreements on liability for nuclear damage, ratified by Slovenia, no person other than the operator of the nuclear installation shall be liable for nuclear damage, caused by a nuclear accident in the nuclear installation.

(c) Small Reactors

Basically small reactors (such as for example research reactors) are treated on a par with as nuclear power plants in respect of the liability amount, since the definition of a nuclear installation covers both. But with respect to insurance to cover liability for nuclear damage the amounts for small reactors are significantly lower than those for the NPPs. Pursuant to the 1980 Insurance Act, the amounts are dependent on the thermal power of such nuclear reactors operating for research purposes.

(d) Insurance Amounts

Under the 1978 Liability Act, the liability amount for the operator of a nuclear facility is set at USD 5 million, 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.

Accordingly, the mandatory insurance amount for nuclear installations was fixed at USD 5 million, for research reactors this varied from USD 0,22 million (below 10 kW), USD 0,33 million (between 10 kW and 1 MW), and to USD 0,55 million (between 1 MW and 25 MW), whereas USD 1,66 million was fixed in respect of mandatory insurance for carriage of

nuclear materials. Since these amounts were considered to be relatively low, the Slovenian government adopted a Decree on 26 November 1998 to increase these amounts, as follows:

LIABILITY COVERAGE	LIABILITY AMOUNT	INSURANCE AMOUNT
Nuclear installation	USD 42 million	USD 42 million
“Research reactors” thermal power below 10 kW thermal power between 10 kW and 1 MW thermal power between 1 MW and 25 MW	USD 42 million	USD 1,87 million USD 2,08 million USD 4,67 million
Carriage of nuclear material	USD 42 million	USD 14 million

According to the Decree of 26 November 1998, the figures mentioned in this table are valid as of 1 February 1999.

(e) State Liability

State intervention is foreseen only in cases where the financial means provided for by the insurer are insufficient to compensate for nuclear damage. In this case the Republic of Slovenia guarantees to cover the difference up to an amount of USD 42 million. Since the operator of a nuclear power plant is liable for the amount of USD 42 million and has to maintain mandatory insurance for that amount, the State intervention only in fact takes place in the event of a research reactor accident or if the accident took place during the transportation of nuclear material.

(f) Amount of Liability

The operator of a nuclear installation is liable for nuclear damage up to a certain amount of Tolars (Slovenian currency), equivalent to USD 42 million for each nuclear incident. This amount does not include any interest or costs awarded by a court. The operator of a nuclear installation is required to take out and maintain insurance to cover his liability for nuclear

damage. Since the parity of former Yugoslav currency (Dinar) was constantly and often rapidly changing, several Decrees were passed to define new amounts of liability limits and insurance amounts. But finally, in 1991, the Slovenian government passed the decree that fixed the liability limit of the operator of a nuclear installation to USD 5 million in the equivalent sum of Slovenian currency (Tolar). Also insurance amounts were fixed as USD 5 million in the equivalent sum of Tolars. Finally, by a Decree of the Slovenian government of 26 November 1998, which entered into force on 1 February 1999, this amount was increased to USD 42 million.

(g) Exclusion of Operator's Liability

The operator of a nuclear installation is not liable for nuclear damage if such damage is caused by:

- a nuclear accident due to an act of aggression, war or armed conflict; or
- a nuclear accident directly due to an earthquake, floods, fire or any other grave natural disaster upon proof that such damage could not have been anticipated or avoided.

In addition, the operator of a nuclear installation is not liable for nuclear damage suffered by a person upon proof that such person has caused the damage intentionally. In accordance with the Vienna Convention, the Slovenian nuclear legislation also provides that an operator will not be liable for damage caused to a nuclear installation or to property on the site of that installation which is used or to be used in connection with that installation; or to the means of transport where the nuclear material was at the time of the nuclear accident.

(h) Competent Court

In Slovenia, the jurisdiction over compensation for nuclear damage is vested only with the local court within whose territory the nuclear installation is situated. If the nuclear damage occurs during the transportation of nuclear material, jurisdiction over compensation actions will lie with the local court of the territory where the nuclear accident took place or the court of the territory in which the liable operator has its residence.

(i) Direct Action

Actions for compensation for nuclear damage may be brought directly against the insurer.

(j) Distribution of Funds

There are no provisions on the distribution of funds in the Slovenian third party liability legislation. However, a reference is made to the Act on Maritime and Inland Navigation, which incorporates provisions in respect to such distribution procedure.

(k) Prescription Periods

An action for compensation for nuclear damage must be brought within 10 years from the date of a nuclear accident or 20 years from the date of theft, loss, jettison or abandonment, if nuclear damage is caused by a nuclear accident involving nuclear material which, at the time of the nuclear accident, was stolen, lost, jettisoned or abandoned. A claim for compensation may be brought within a period of 3 years from the date on which the person suffering nuclear damage had knowledge of the damage and of the operator liable for the damage, as is stipulated in Section 20 of the Act on Liability for Nuclear Damage.

(l) Rights of Recourse

According to Section 7 of the Act on Liability for Nuclear Damage, the operator of a nuclear installation has a right of recourse only against:

- an individual who has acted or omitted to act with intent to cause nuclear damage, so that nuclear damage results from that act or omission;
- a Contracting Party if this is explicitly provided for in writing.

Section 19 further provides that if any undertaking or enterprise pays part of the compensation for the damage caused by a nuclear accident and the operator of a nuclear installation is liable therefore, such an undertaking or enterprise has a right of recourse against the operator liable up to the amount paid.

5. New Developments

The 1978 Act on Liability for Nuclear Damage is currently under revision. A draft Law on Third Party Liability for Nuclear Damage was prepared in 1993 which aims to conform its provisions to the revised Vienna Convention and which contains provisions currently incorporated in the 1978 Act and the Act on Insurance of Liability for Nuclear Damage. It also contains new provisions concerning, *inter alia*, the allocation of funds in the event nuclear damage exceeds the maximum amount of liability of the operator per nuclear incident.

Since Slovenia is among the EU applicant countries and since its nuclear programme is of western origin and the licensing followed the vendor country's regulations, the Slovenian Government decided in 1997 to initiate preparatory action towards a Slovenian accession to the Paris and Brussels Conventions.

Based on this decision, the Minister of Foreign Affairs sent on 2 March 1999 a notification to the Secretary General of the OECD of our application to accede to the Paris Convention on the Third Party Liability in the Field of Nuclear Energy of 29 July 1960, as amended by the Additional Protocol of 28 January 1964 and by the Protocol of 16 November 1982.

Should the outcome of this application be positive, the intention of the Slovenian Government is to apply for the accession to the Brussels Convention supplementary to the Paris Convention of 31 January 1963 and simultaneously to withdraw from the Vienna Convention.

**THE RENOVATED INTERNATIONAL NUCLEAR THIRD PARTY
LIABILITY REGIME: THE ITALIAN PERSPECTIVE**

**LE RÉGIME INTERNATIONAL RÉVISÉ DE RESPONSABILITÉ
CIVILE NUCLÉAIRE : LE POINT DE VUE DE L'ITALIE**

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Résumé

Après avoir salué l'amélioration significative que constitue à ses yeux la réforme du régime international de responsabilité civile nucléaire, l'auteur fait part de son intention d'aborder celle-ci dans la perspective particulière de l'Italie, un pays qui a choisi en 1997 de renoncer à son programme électronucléaire tout en continuant d'être fortement impliqué dans les travaux relatifs aux conventions nucléaires internationales. Il précise que les installations nucléaires en cours de déclassement dans son pays sont toujours soumises au régime spécial de responsabilité pour les dommages nucléaires.

Après avoir relevé la difficulté et la complexité des travaux qui ont abouti à la révision de la Convention de Vienne et à l'adoption de la nouvelle Convention sur la réparation complémentaire, l'auteur commente une série de points qui présentent un intérêt particulier pour l'Italie : il s'agit notamment de l'augmentation du montant de responsabilité, ainsi que du montant de la garantie financière complémentaire, en comparant les mérites des systèmes régionaux ou « globaux » en la matière ; de l'extension aux dommages à l'environnement de la notion de dommage nucléaire, en soulignant les problèmes d'interprétation que cela peut poser ; de l'élargissement du champ d'application géographique ; de l'introduction du concept de zone économique exclusive dans la clause de compétence juridictionnelle ; de la clause d'entrée en vigueur de la nouvelle Convention sur la réparation complémentaire que l'auteur trouve trop peu exigeante.

L'auteur conclut sa présentation en expliquant que la signature par l'Italie des instruments adoptés en septembre 1997 avait la valeur d'un geste de bonne volonté à l'égard de cet exercice de modernisation du régime de responsabilité civile nucléaire et il souligne l'importance accordée par son pays au travail de révision en cours de la Convention de Paris.

Note: The views expressed by the author do not necessarily reflect those of the Italian authorities.

Introduction

The important and long-awaited development of the international nuclear liability regime marks a significant improvement, since the old regime had grown inadequate both in itself and with regard to a range of legal, political and economic factors.

Rather than dwell on the specific features of the new regime, since a number of them have already been addressed by many speakers, I propose to comment on some of its implications, from the point of view of a country which has been Party to the regime for many years and which has fully applied it even after a referendum in 1987 marked a turn in the national nuclear energy policy and led to the phasing-out of its nuclear power plants. Fortunately, “full application” does not refer to any incidents, but rather to the enactment of legislation which complies in all respects with the Paris and Brussels Conventions. The phasing-out of nuclear power plants was actually a political follow-up to the 1987 referendum. Incidentally, it must be stressed that the referendum was not about whether Italy should or should not continue its nuclear power programme, but rather about a particular provision of the procedure to be applied in order to select sites for nuclear power plants. In any case and obviously, the referendum did not entail the “phasing-out” of nuclear liability obligations on operators. It should be borne in mind, by the way, that nuclear power production in Italy is in the hands of the State. Nuclear plants, even though shut down and in the course of decommissioning, are in fact still covered by liability provisions in the event of an incident arising from fuel stored therein or from highly contaminated materials, etc.

Those obligations are obviously bound to terminate once the conditions set forth in the 1990 NEA Steering Committee Decision for exclusion from the scope of the Paris Convention are fulfilled at the power stations now being decommissioned. From that point of view, Italy may be regarded as a former nuclear country, yet it is a country still quite willing to maintain adequate requirements for as long as necessary not only from considerations of safety but also in respect of nuclear liability imperatives. Despite the changes in the energy policy of the past decade, there is a keen awareness that phasing-out nuclear energy does not necessarily mean overlooking the basic issues facing a large number of countries – nuclear or otherwise – such as safety and protection, safeguards for non proliferation purposes, safe management of radioactive waste and, indeed, nuclear liability itself. This is why Italy has always assiduously followed the international activity in this area also through all the long years needed to forge the new regime under consideration today. Understandably, since our country is in close

proximity to several countries operating nuclear plants, one of its main concerns has been to achieve a system ensuring adequate compensation for potential victims of an incident.

1. The international debate

It is well-known that the negotiations to amend the Vienna Convention and produce an instrument for additional compensation were long and arduous. Countries, considered individually or in groups, expressed needs and put forward at times contradictory demands. New proposals were confronted with different institutional and legal systems, economic and geo-political features, developments in the nuclear sector, including legislation, traditions, etc. More specifically, certain basic issues gave rise to concerns and animated debate, such as liability amounts, damage to the environment and relevant cover, geographical scope, jurisdiction, conditions for entry into force and so on.

It is worth pointing-out that the lengthy, tiresome and sometimes frustrating debate finally did result in two new instruments becoming part of the regime, eloquent proof despite everything that there was a shared general determination to make progress.

Although nuclear energy has been going through particularly troubled times since Chernobyl, the international community has made very serious efforts in many directions, including moves to improve the overall legal regime. Nuclear liability has, of course, formed the subject of international legislation for many years. In this connection, while there is no denying the merit of NEA and its convention which nearly 40 years ago set the wheels in motion, nevertheless IAEA deserves credit despite the more moderate success which marked its own convention for many years, on account of the very high number and variety of countries involved.

2. Some of the main issues in the new regime – the Italian view

As mentioned previously, the phasing out of nuclear power in Italy has not affected the country's interest in a sound and comprehensive international nuclear liability regime. Naturally, among the many issues at stake, both in their own right and as part of negotiations for the new regime, some are of more particular interest to Italy.

(a) It is well known that the previous regime already made it possible for State Parties to establish a minimum liability amount, although higher limits were and are recommended. Obviously, this has applied only to the

Paris/Brussels regime, the Vienna regime having been slower to take off, although even within the latter the liability amounts were soon to prove inadequate. The Brussels supplementary regime is, of course, very important for the countries parties to it, should a particularly serious incident occur. Italy became a party to this Convention fairly early on, and upon ratification the regime of the international fund to be made available by the community of States became part of the national regime without further need for secondary legislation.

However, it was clear from the outset of negotiations for the new international regime that more substantial funds were needed to cover damage in a far broader geographical context than was possible under the Brussels regime. It is true that the present situation in Italy is not such as to be likely to give rise to an incident, and this, in principle, has obvious drawbacks as to Italy's participation in such a fund under conditions similar to States operating nuclear plants. All the same, Italy has never lost sight of the intrinsic and generally shared objective of a "universal" regime intended to ensure the best possible compensation of damage and protection of potential victims, implying a cost put on States based on acceptable conditions. This is why our country has always been in the vanguard of those seeking equitable criteria for contributing to the international fund, and it has likewise supported the idea of a ceiling for each State Party, depending as far as possible on the size of its nuclear power programme and inherent implications in terms of potential incidents. In this connection, Italy is of course perfectly aware that the differing degree of safety standards in the various groups of countries is indeed a paramount feature to be borne in mind when dealing with liability issues.

In any case and whatever the approach, we feel that nuclear liability policy needs careful handling, since it is bound to strongly affect public opinion vis-à-vis nuclear energy, the acceptability and credibility of which were shaken decisively after Chernobyl, even though this could well be regarded as a "one off" occurrence.

(b) Compensation of environmental damage is now an attractive feature of the renovated regime. This was the result of a compromise between demands for compensation for environmental damage per se and firm opposition to such. We certainly join those who welcome this development, confined though it be to "measures of reinstatement" and "preventive measures"; however, the freedom left to national courts to establish individually the extent of compensation appears to us to weaken the international instruments under consideration, in terms of the uniformity which they aim to ensure. Also, the call for "appropriate and proportionate" measures and for "approval" by the competent authorities, again subject to such national

legislation as may or may not exist in this respect, seems to add to the already rather uncertain reference terms of the issue.

The “loss of income” in connection with the use or enjoyment of the environment, equally part of these provisions, although considered in a separate context, may also cause some perplexity. We feel that economic implications and the somewhat cynical approach they might imply should not have priority when dealing with the protection of the environment. Also, a distinction should be drawn between use and enjoyment. These may relate to totally different categories such as, for example, holiday resort managers on the one hand and tourists on the other. Clearly, future developments in this respect at national level are closely related to the development of national environmental legislation, and this in turn is an expression of the degree of “sensitivity” to environmental issues in the various countries and, last but not least, of the interpretation (broadly speaking) they accord to the very notion of “environment”. This notion varies quite significantly, if not from one country to another, certainly between groups of countries. In our opinion, such is the case of the matter as far as compensation of environmental damage is concerned under the Conventions on the one hand, and in the law of individual countries on the other.

(c) The problem of geographical scope, in our view, touches upon the actual spirit of the liability regime as far as the protection of potential victims of an incident is concerned. The principle introduced in the new Vienna Convention that damage is covered wherever incurred, apart from certain limitations, no doubt represents progress and an important specification vis-à-vis the previous text. In other respects, the perspective of a uniform regime to be achieved universally does entail that efforts be made to seek an approximation between the new Vienna text and the corresponding provisions of the Paris Convention. We understand the reasons of those who feel that the application *tout court* of the Conventions wherever damage is suffered is but a poor incentive toward ratification or accession, but perhaps we should not overlook the potential benefits also for States Parties, deriving from damage coverage extended to third party States.

(d) As for jurisdiction and entry into force, we share, on the one hand, the views of those who welcome some of the important innovations such as inclusion of the “exclusive economic zone” as part of the territory where the new Vienna Convention and the Supplementary Compensation Convention are applicable, and the sole competent court to be determined by the State having jurisdiction according to the revised Vienna Convention. On the other hand, we wish to express some misgivings as to the conditions for the entry into force of the Supplementary Compensation Convention, since the low number of

ratifying States required (in itself encouraging) does not seem to entail an obvious success on the basis of the total installed capacity. Admittedly, it is not easy to imagine how that capacity would be apportioned among States Parties, whose interests (together with the respective installed capacity) in ratifying or acceding to the Convention vary so importantly. These misgivings are undoubtedly associated with what would be the actual chances of achieving a worthwhile international fund. Besides, we cannot help but add that Italy, as probably other countries in a similar position, would undoubtedly feel a lot more encouraged to ratify the Supplementary Compensation Convention once large nuclear energy-producing countries had taken action to this effect.

3. Concluding remarks

Some of our comments were probably already known at least to the experts who, like us, were involved in the negotiations, and hopefully they share them at least in part.

It might be argued that the renovated regime creates more problems than it was intended to solve, but we are certain that a number of improvements have been realised and that many of the problematic aspects associated thereto are, so to speak, physiological – the inevitable outcome of the extremely complex nature of most of the issues under consideration.

Italy, traditionally a party to the Paris/Brussels system, signed the two new conventions as early as October 1997, in a mere gesture of “good will” but intended to give concrete expression to its determination to participate in the general effort to create a global regime of nuclear third party liability. Italy regards this as a target to be pursued independently of its own choice as to a nuclear power programme, in that such a regime, if adequate, is beneficial to all countries involved, whether they are producers or potential victims. We therefore attach the utmost importance to the current revision of the Paris Convention, (the other pillar of the whole system and decisive for the desired uniformity of the system) as well as to the revision of the Brussels Supplementary Convention, whenever it might be felt that this revision should be pursued. The achievement of a true global regime is all the more important as a minimum goal, considering that Italy – just as other countries – has always stressed the need for a comprehensive regime of nuclear liability covering also the international liability of States. This kind of liability, in fact, is referred to by a provision in the new Conventions, which is merely intended to leave general public international law unaffected, and therefore meets only in part and indirectly the international liability of States issue in the nuclear sector.

**CURRENT STATUS OF THE RUSSIAN LEGISLATION ON CIVIL
LIABILITY FOR DAMAGE CAUSED BY RADIATION**

**ÉTAT ACTUEL DE LA LÉGISLATION RUSSE SUR LA
RESPONSABILITÉ CIVILE POUR LES DOMMAGES
CAUSÉS PAR LES RAYONNEMENTS IONISANTS**

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Résumé

À l'heure actuelle, la réparation d'éventuels dommages causés par un accident nucléaire dans la Fédération de Russie serait régie par le Code civil ainsi que par la loi fédérale sur les utilisations de l'énergie atomique mais une législation spécifique sur la responsabilité civile des exploitants nucléaires ainsi que sur la garantie financière fait toujours défaut.

Les auteurs de la présente communication expliquent qu'un projet de Loi sur la réparation des dommages nucléaires et sur l'assurance a été préparée ces dernières années par les départements compétents et soumis par le Gouvernement au Parlement (DUMA) en 1997. Ce texte s'inspire des dispositions de la Convention de Vienne de 1963.

Parallèlement au projet gouvernemental, un groupe de députés de la DUMA a préparé un autre projet de loi, et l'un et l'autre ont été examinés par les parlementaires en première lecture en septembre 1998. Après avoir signalé les différences entre les deux projets concernant, les auteurs indiquent qu'un groupe de travail constitué au sein de la DUMA étudie les divers avis recueillis et prépare un texte révisé en vue d'une deuxième lecture.

Du côté gouvernemental, c'est l'autorité réglementaire des activités nucléaires (Gosatomnadzor) qui est chargée de rédiger des amendements. Les questions à l'étude portent plus particulièrement sur les modalités du mécanisme de garantie financière de la réparation des dommages.

The present paper provides brief information related to the stages of development and current status of the Russian legislation on civil liability for loss and damage caused by radiation.

The need for legal regulation of issues related to the compensation of nuclear damage in the Russian Federation is conditioned by the lack of legislation specifying the liability of operators of nuclear installations and the State for nuclear damage, as well as by the current unavailability of legitimate financial and insurance mechanisms which would guarantee compensation of such damage.

The Constitution of the Russian Federation, the Civil Code of the Russian Federation and the Federal Law on the Use of Atomic Energy serve as a legal basis for drafting the appropriate law.

The drafting of the Federal Law on Nuclear Damage Compensation and Nuclear Insurance was initiated by Governmental Decree No. 34 of 13 January 1995, and was carried out by a working group comprising representatives from Gosatomnadzor of Russia, Rosstrakhnadzor (the Russian Insurance Supervision Authority), the Ministry of Defence and Goskomoborprom of Russia (the State Committee of Defence Industry). Advice in relation to drafting issues was provided by western experts. Such consultations were organised by the OECD/NEA.

Drafting was completed by the Summer of 1997, and in August the draft Law was submitted on behalf of the Government of the Russian Federation to the State Duma for review.

The governmental draft further extended the legislative provisions formulated in the Civil Code of the Russian Federation and the Federal Law on Atomic Energy Use in respect of the compulsory compensation of damage caused by an entity which represents an enhanced danger source through its use of nuclear materials, atomic energy or radioactive substances.

The draft Law took into account current international law provisions, in particular those established in the Vienna Convention on Civil Liability for Nuclear Damage (1963), signed by the Russian Federation in May 1996.

The purpose of the draft Law is to ensure the right of individuals (natural persons) and corporate entities to receive total compensation for any personal injury or damage to life or property resulting from the use of atomic energy. It also aims to define the compensation procedure for such damage.

The draft Law identifies the subjects of civil liability, establishes the basis and limits of such liability, and defines the mechanism of guaranteeing financial security for compensation of nuclear damage.

The following concepts serve as the basis for the draft Law:

- Channelling of nuclear damage liability to an operating organisation while limiting by law its financial liability.
- Free choice by an operating organisation of financial security covering its liability.
- Total compensation of nuclear damage by the State in cases specified by law.
- Prohibition on using nuclear materials, atomic energy and radioactive substances without providing the competent authorities with proof of financial coverage for the compensation of nuclear damage as required by law.
- Nuclear damage compensation must be provided to natural and legal persons either on a voluntary basis or by enforcement.
- Amounts and forms of nuclear damage compensation are specified, as are the manner and sequence in which such compensation payments should be made.
- Compensation of damage to the environment is outside the scope of the draft Law and is regulated by the Russian nature conservation and civil legislation.

In parallel to the drafting work being done by the Government of the Russian Federation, a number of deputies of the State Duma have been working on the development of a similar draft.

Both drafts were reviewed by the State Duma during the first hearing in September 1998. This hearing resulted in approval as a basis for future work of the Duma's draft Law on Civil Liability for Nuclear Damage and its Financial Security.

The principle differences between the draft Law approved by the State Duma in the first hearing and the governmental draft are as follows:

- A provision (without details concerning implementation) relating to the compensation of environmental damage is included.
- Two-level financial security of civil liability engaging a utility (the first level would be a minimum of United State dollars (USD) 5 million covered by liability insurance; the second level would be the difference between the liability insurance of USD 5 million and the maximum liability limit, to be covered by mutual insurance).
- Possibility of exempting a utility from the first-level liability provided that the Government of the Russian Federation grants a State guarantee.
- Establishment of a State insurance pool to protect the life, health and property of natural and legal persons as well as to prevent a radiation accident or to mitigate its consequences.

In October 1998, a Working Group was set up at the State Duma in order to review comments and proposals to the draft Law and prepare it for the second hearing.

All in all, 209 amendments to the draft Law on Civil Liability for Nuclear Damage and its Financial Security were submitted to the State Duma by the President of the Russian Federation, the Government, the Prosecutor-General's Department, the Legal Affairs Office of the Council of Federation Administration, the Superior Arbitration Court as well as by some Duma committees and legal and executive bodies of the Russian Federation.

Gosatombdazor of Russia was responsible for making amendments to the draft Law on behalf of the Government of the Russian Federation.

In April 1999, the DUMA Working Group had completed the reviewing of all the comments and proposals, and started re-drafting to take account of all accepted amendments for the second hearing.

At the next stage, the DUMA Working Group, which reviews comments and proposals on the draft Law and prepares the draft for the second hearing, will discuss the following issues:

- Necessity to maintain a two-level financial security of civil liability engaging a utility or implementation of the freedom of choice principle to select between different forms of financial security for liability.
- Terms and conditions for providing the State guarantee.
- Expediency of establishing the State insurance fund to cover nuclear damage.

The work of the Working Group will result in a draft Law ready for the second hearing before the State Duma.

Session V – Séance V : Discussions

Prof. M. Hinteregger

Prof. Pelzer indicated in his statement that there are five leading principles of nuclear liability law: strict liability, channelling, limitation of liability in amount and in time, mandatory financial security and the principle of congruence between liability and financial security. Only two of these concepts find support from Prof. Pelzer: the principles of strict liability and mandatory financial security. Germany has indeed rejected two of the other principles: limitation of liability in amount and congruence between liability and financial security. Concerning the ten-year limitation of liability in the Paris and Vienna Conventions, Prof. Pelzer is extremely critical. This leaves only the principle of channelling. The Austrian Atomic Liability Act has eliminated this principle too. The reasons why Austria has done so were already presented by Prof. Pelzer. He pointed out that the historical reason behind this conception was the protection of suppliers. This is not necessarily the case any longer. The nuclear industry is now a highly-specialised and economically strong industry which should be able to address its responsibilities in the same manner as other risk-based industries. In addition, in my opinion, suppliers to nuclear power plants should be able to provide contractual guarantees by providing for rights of recourse or else insurance. The second argument is that channelling is unique in the legal world. I can see no reason why it should be further upheld. The third, and I believe the most important reason, is that channelling can be an instrument for the protection of victims, but only if there is sufficient compensation for potential victims. That this is not the case under the Paris or Vienna Conventions has yet to be admitted by the promoters of these conventions. The second point of my statement is as follows. Prof. Pelzer does not appear to be generally opposed to the Austrian Atomic Liability Act. He is concerned that this Law could be instrumentalized to hamper nuclear industries in other countries. In the first place, the Austrian Law was never meant to serve this purpose: in my opinion this could only arise out of misuse of the legislation. Misuse can always happen, even against the will of the creators of a law, but I cannot see how this could be the case in respect of the Austrian Law. The presumption of causation and the instrument of comprehensive information can come into action only when damage has already occurred. These instruments are very moderate in their extent and their applicability. The presumption of causation, applicable only for personal injuries, can be rebutted by the liable person. There are several safeguards to prevent the misuse of the comprehensive information obligation. This Law should be regarded as a promotion of the concept that the nuclear industry is aware of its responsibilities.

M. P. Kayser

Je rappelle à M. Pelzer que le Luxembourg n'est pas un pays antinucléaire, mais seulement un pays non-nucléaire. Il respecte scrupuleusement le Traité EURATOM et le Traité sur la non-prolifération. Ceci étant dit, dans ces deux Traités, il n'est inscrit nulle part que le montant de responsabilité civile nucléaire peut être excessivement bas. En effet, il arrive parfois que les pays nucléaires oublient involontairement l'existence de pays non-nucléaires. À titre d'exemple, nous savons qu'en Allemagne, il y a un régime performant pour indemniser les victimes en cas d'accident nucléaire. Dans la loi allemande, il est dit que les victimes étrangères peuvent profiter des mêmes avantages que les victimes allemandes au cas où ces bénéfices seraient réciproques. Un accord a été conclu à ce sujet avec la Suisse. Cependant, l'Allemagne ne s'est pas rendu compte qu'un pays non-nucléaire qui ne crée pas de risque ne peut pas offrir de réciprocité à l'Allemagne. En d'autres termes, s'il se produisait un accident nucléaire dans notre région, les victimes allemandes seraient indemnisées intégralement de même que les victimes suisses, alors que les victimes luxembourgeoises seraient, si le Luxembourg était Partie à la Convention de Paris et à la Convention de Bruxelles, obligées de se contenter des montants inférieurs prévus par ces Conventions. Le Gouvernement ne peut donc pas soumettre un projet de loi pour permettre la ratification des Conventions de Paris et de Bruxelles. Ainsi, nous n'avons d'autre choix que d'adopter une législation similaire à celle de l'Autriche, à la seule différence que nous soutenons le principe de la canalisation de la responsabilité.

M. J. Martinez-Favini

Il y a deux grands absents dans cette réunion : la question du tarif de l'électricité – et qui paie le tarif, comment on calcule le tarif, etc. En ce qui concerne les pays comme le nôtre qui ont besoin dans l'avenir de cette énergie, on peut parler de responsabilité du constructeur ou du fournisseur mais ça se reflète dans le prix de l'énergie nucléaire. La deuxième question que je voudrais évoquer est qui paie le coût d'une centrale nucléaire? Si un jour l'Autriche a besoin de centrales, je voudrais savoir si elle aura des offres, et si c'est le cas, quel sera le prix à payer pour cette garantie. La dernière question est une considération éthique concernant les pays non-nucléaires – je crois savoir que le Luxembourg importe de l'électricité d'origine nucléaire d'autres pays en Europe : je ne sais pas si nous pouvons parler de « pays non-nucléaire » dans le sens propre du terme.

M. P. Rothery

Lorsque le Professeur Pelzer a évoqué le principe de la canalisation, il a introduit la notion de juste ou d'injuste pour qualifier le profit que ferait le constructeur ou le fournisseur. Je représente l'industrie nucléaire française, en particulier un constructeur de réacteurs, et je voudrais m'élever contre cette qualification en ce qui concerne le profit du constructeur. Il y a un mécanisme juridique qui est défini par les Conventions, notamment par la Convention de Paris et par la Loi française, qui fait que la responsabilité est canalisée sur l'exploitant et donc le risque est canalisé sur l'exploitant. À partir de ce système juridique, le constructeur, société de droit privé, intervient du mieux qu'il peut pour construire, pour améliorer ou pour entretenir les centrales nucléaires dans le cadre de contrats que lui sont passés. Dans une économie de marché, il est normal que le constructeur le fasse en faisant du profit. Je ne vois pas en quoi la notion de juste ou d'injuste intervient là. La sanction viendra du marché, par le biais des actionnaires. Je me demande notamment, en matière d'accident, ce qu'est devenue la société qui a construit Three Mile Island.

Dr. C. Kunz

En ce qui concerne la nouvelle loi autrichienne, je souhaite faire trois commentaires. Ma première observation porte sur l'abandon du principe de la responsabilité exclusive, en combinaison avec la compétence des tribunaux autrichiens. Il faut se demander si cette solution n'est pas contraire au but de cette nouvelle loi, compte tenu du fait qu'un jugement rendu par le tribunal compétent autrichien aurait de bonnes chances d'être exécuté contre un fournisseur ou un transporteur qui a son siège dans un autre pays occidental, tandis qu'avec les exploitants ou fournisseurs des centrales nucléaires situées dans l'Europe Centrale et Orientale, l'exécution d'un jugement rendu en Autriche serait assez difficile. Je me demande donc si c'est vraiment une solution qui protège tout le monde, y compris les autrichiens, ou si au contraire ça n'aggraverait pas la situation. Le deuxième commentaire que je souhaite faire est de demander si cette nouvelle loi autrichienne ne contrevient pas au Traité EURATOM auquel l'Autriche a adhéré : je partage l'avis de M. Pelzer car le but du Traité EURATOM est de promouvoir l'utilisation pacifique de l'énergie nucléaire, ce que cette Loi ne fait évidemment pas. Elle tente de restreindre l'utilisation de l'énergie nucléaire non seulement en Autriche mais aussi dans ses pays voisins qui ont choisi cette source d'énergie. La troisième observation de mon intervention est la suivante : selon l'article 30 de la Loi et la résolution du Parlement autrichien du 7 octobre 1998, le Gouvernement et le Parlement autrichien vont observer les développements à venir dans le régime de la responsabilité civile nucléaire internationale. Cependant, je ne comprends pas

pourquoi l'Autriche veut seulement « observer » et ne veut pas contribuer aux derniers développements, par exemple en ratifiant la CSC pour que des fonds supplémentaires soient disponibles plus vite.

Mr. D.-H. Chang

Prof. Pelzer mentioned during his presentation that many countries which are involved in nuclear activities have not joined the international regime. I would like to point out that Korea's participation in the international regime cannot be examined without taking into consideration the participation of other countries such as China, Russia and Japan. We cannot see any merit in joining the conventions unless such other important countries also make this choice. My second point concerns channelling. I personally support this concept. I understand that Prof. Pelzer raised this issue in relation to the strengthening of protection for victims. However, I would like to examine this issue from the viewpoint of the operator. If the accident is caused due to the defect of a product supplied to the operator, is it reasonable for the latter to bear all the liability? I address this question to Prof. Pelzer.

Mr. N. Pelzer

I will respond to questions in the order in which they were asked. In Prof. Hinteregger's question, she seemed to assess from my paper that Germany already to some extent deviates from the principles laid down in the international conventions. This would be a misunderstanding. We have strict liability, full legal channelling, liability limited in time (which was extended from 10 years to 30 years, in line with the Convention). It is true that we have unlimited liability. However, we have had lengthy discussions with our colleagues from the Paris Convention to confirm that this was acceptable within the context of the Paris Convention. Of course if there is unlimited liability, there is no way to provide unlimited coverage: this is a logical problem rather than a legal one. With regard to channelling, I said that I fully support this principle, as I feel it is necessary. Without legal channelling, nobody would be able to supply anything to nuclear installations as the risk is too great. I agree that there are certain limited cases where we should mitigate the negative effects of channelling: perhaps in the case of contributory negligence, there could be a claim limited to the value of the supply, including possible profits. I will return to this later. Prof. Hinteregger, I understand that you also accept to a certain extent that suppliers require protection. I refer in particular to Section 23, paragraph 2 of your Law, and to the article which you wrote on this legislation in the OECD/NEA Nuclear Law Bulletin, an excerpt of which reads as follows :

“The main target of this provision [...] is to protect the Austrian suppliers to nuclear plants as they are amongst the very few suppliers in the world who, in future, will not be protected by legal channelling”. Furthermore, you said that there should be no fear that Austria would apply this Act unreasonably as to interfere with the use of nuclear energy in other countries. I have no reason to think otherwise.

In respect of Mr. Rothery’s concern, where he pointed out that profit is a normal part of business life, I would add that risk is also an integral part of business life. Suppliers in other fields always run the risk that they may lose their profit and they may have to pay compensation. Therefore, to sum up, I would support the principle of channelling in general, and just provide for limited exceptions in the case of contributory negligence.

In reply to Mr. Kayser, I remind him that when we drafted our Atomic Energy Act, we specifically wanted to include Luxembourg within the protection of our legislation: this is why we do not apply the territorial restriction as provided for under Article 2 of the Paris Convention. I do agree however that it is difficult for a non-nuclear state to provide reciprocal benefits. When the act was drafted, we were not aware of these problems, but we will certainly take them into consideration when revising the legislation in the near future. I do not understand however, why Luxembourg does not simply become a Party to the Paris Convention: there would be no need to adopt comprehensive legislation on the uses of nuclear energy and liability.

Mr. Chang said that in respect of Korea’s adherence to international conventions, they are monitoring what their neighbouring states are doing – I understand this but if all countries took the same approach, we would never attain global harmonisation. I think it is up to the nuclear power states to set an example as they are the countries creating the risk. On your second question in relation to channelling, certainly the operator creates the risk and therefore is to be held liable for any damage. But there is also responsibility of the supplier if he supplies defective components. This is the reason for my proposal which is obviously in the victim’s favour – however, it is also largely in the interest of the supplier as it constitutes a guarantee in respect of the scope of his potential liability.

Mr. W. Gehr

In reply to Mr. Martinez-Favini’s remarks, I would like to confirm that there is no Austrian need for nuclear energy. The main ethical considerations we have are the protection of victims and everything else is

secondary. In response to Dr. Kunz's comments, Austria does participate in the development of international law on civil nuclear liability in this and in other fora. In relation to the ratification of the Convention on Supplementary Compensation, I would note that recently, we have been approached to participate in the protection of straddling fish stocks on the high seas. Since we are a land-locked country, this is of limited interest to Austria. However, we will do so because our EU partners want to protect such stocks. If the nuclear countries wish to protect victims, we will certainly give some thought to joining the regime, but only when it is substantially more favourable than it is at present. In relation to Austria's membership of the EURATOM Treaty, contrary to the Treaty establishing the EC, this Treaty has not been substantially amended. We are not against a promotion of nuclear energy in all its aspects. However, the EURATOM Treaty is somewhat dated and should be revised. The question was raised as to whether the Austrian Atomic Liability Act protects Austrian victims. You will understand that this is the assumption of the Austrian parliament; otherwise as representatives of the Austrian people, our Members of Parliament would not have ratified it. It is recognised in the *Exposé des Motifs* that the system of execution of judgement has not proved so far that it works. In the case it wouldn't work, I think that based on international customary law, we have good reason to believe that if an Austrian judgement of benefit to a victim, particularly in the case of death or personal injury, were not executed adequately in another state, first this would have a huge impact politically and on the whole system of the execution of judgements and secondly, under international law, this would probably amount to a denial of justice. To conclude, Austria is waiting for an effective international regime of nuclear third-party liability to be established. When and if this happens, our government will be more than willing to examine this regime with a view to its acceptance.

M. J. L. David

Ma remarque s'adresse à M. Gehr que je félicite pour la clarté de son exposé. M. Martinez-Favini a évoqué quelques questions qui sont bonnes à reprendre. Lorsqu'on parle de victimes potentielles, je crois qu'il est utile également de parler des bénéficiaires actuels du nucléaire. Le nucléaire apporte des avantages certains. Je voudrais demander à M. Gehr comment il pense que l'Autriche, qui, manifestement, à travers cette loi se déclare très antinucléaire, pourrait-elle, dans un monde européen qui se rétrécit de plus en plus, adopter les directives européennes en droit interne qui, entre autres, lui imposeront de distribuer de l'électricité sur son territoire à des industriels qui demanderaient à acheter de l'électricité bon marché en provenance de pays qui sont très nucléaires comme la France ?

Mr. F. Nocera

I was particularly interested in the reference in Prof. Pelzer's paper to the provision in the EURATOM Treaty requiring Member states to abstain from any measures which would hinder the objective of the Treaty itself. The reason for my interest is that, in 1980, there was a submission for a referendum in Italy on the law concerning the siting of nuclear installations. This submission was rejected (1981) by the Italian Constitutional Court on the basis of that same provision in the EURATOM Treaty.

Mr. S. McIntosh

I would like to make a couple of comments from the viewpoint of a non-nuclear country on the Austrian law. I do have sympathy for Austria's position in so far as the majority of Austria's neighbouring states are Party to the old Vienna regime with its totally inadequate limits. I understand therefore that Austria wished to make a statement that this was unsatisfactory and if those countries weren't going to change their position, then Austria would take action. However, there are two concerns. Mr. Gehr has outlined how the Austrian law will be reviewed in the light of international developments. However, we have seen in the context of the Price-Anderson Act, that whatever the virtues of alternative approaches, politicians tend to become rather attached to the regime they already have. My second point is that, to the extent that the new law discourages suppliers, particularly Western suppliers, from engaging in the upgrading of safety at Central and Eastern European facilities, that would appear to me to run counter to that which we discussed recently at the Review Meeting under the Nuclear Safety Convention, as to the importance of continuing the upgrading work at those installations.

M. W. Gehr

En réponse à mon interlocuteur français, M. David, je crois qu'il touche un point valable. Nous avons transféré une partie de notre souveraineté en tant que Membre de l'Union Européenne à l'Union. Nous participons à l'élaboration des Actes de l'Union et dans la mesure où ces Actes engagent l'Autriche, nous les mettrons en œuvre. Il nous reste une portion de souveraineté en matière de responsabilité civile nucléaire, et donc nous avons mis en place une législation nationale qui répond aux besoins de l'Autriche. Nous faisons ce que nous pouvons pour que notre politique nationale soit mise en place et se concrétise en instruments juridiques. Là où nous avons délégué

notre compétence à l'Union Européenne, ce seront les Actes de l'Union qui prévaudront.

As far as Mr. McIntosh's intervention is concerned, there is an assumption that an Austrian-type legislation would discourage suppliers from carrying out upgrading work on existing installations in Central and Eastern Europe. I do not really believe in this argument – I think that it is in fact a matter of money. If there is enough money available, then the supplier will sell his product. If his product does not sell, this is either because his product is not good and he is wary of the consequences or because he is not a good salesman. As written in Prof. Pelzer's *exposé*, I don't think if sufficient financial means are available, and the supplier has a good product, he would not go ahead and sell his product to a buyer.

M. P. Strohl

Je voudrais compléter ce qui a déjà été dit par plusieurs intervenants. Il faut souligner que dans la conception d'un régime de responsabilité civile nucléaire internationale, les règles de responsabilité objective, de responsabilité exclusive, d'obligation d'assurance et de limitation de responsabilité sont inséparables, en droit comme en fait. L'exploitant nucléaire est celui qui fait l'investissement lourd pour un profit étalé souvent sur une durée importante et c'est lui seul qui peut concentrer sur sa personne les assurances de responsabilité disponibles sur le marché international sur la base de règles précises et claires qui sont posées par les conventions. Si nous pensons à la responsabilité des fournisseurs, bien entendu ils font un profit mais ce profit est ponctuel. Pourraient-ils être rendus responsables pour leur faute ? Bien entendu oui, mais cette faute sera difficile à prouver. Quelle est la limite de responsabilité qu'il faudrait prendre ? Il faudrait prendre la même que celle de l'exploitant lui-même. Nous aurions dans ce cas pour une centrale nucléaire, à côté de l'assurance de l'exploitant, peut-être une cinquantaine ou une centaine de polices d'assurance responsabilité avec le même montant de garantie pour les mêmes dommages. Ceci soulèverait des problèmes en ce qui concerne la faute et des incertitudes quant à la loi nationale applicable. Par conséquent, je crois que cet abandon de la clause de l'exclusivité de la responsabilité est un choix purement politique qui, dans la pratique, ne pourra pas fonctionner.

Prof. U. Magnus

Since we are discussing challenges ahead, I feel compelled to make a more general remark. The nuclear countries expose their non-nuclear

neighbours to a very rare risk of a very high potential and I feel that the reaction of Austria and of our Austrian colleagues is completely understandable. I doubt that public international law gives any remedy against the attitude or approach of Austria and eventually the other non-nuclear countries which may wish to follow this attitude. Mr. Kohlemainen, the nuclear countries have no instrument to force non-nuclear countries to adopt certain rules on jurisdiction or applicable law. In order to avoid further widening the gap between liability systems of nuclear and non-nuclear countries, I feel we must develop a global system which is attractive enough for non-nuclear countries. This is the compromise which must be found in the future and is one of the most challenging requirements we have to meet.

Mr. N. Pelzer

I would like to react to comments which have been made by several speakers. First, Mr. Nocera, I am very grateful for the reference which you provided to the judgement in your country in respect of Article 192 of the EURATOM Treaty. This Italian judgement could perhaps be a challenge in the event that the Austrian law is applied in a manner which could lead to a European reference. Secondly, I fully agree with Mr. Strohl's view when he pointed out that the elements of the international nuclear liability regime form a consolidated unity. If you remove one element then the system will crash, to the disadvantage of victims. It was not the intention of my presentation to demolish the system. I feel however that it can be improved, and that there are certain areas where the negative aspects can be mitigated, as is the case with regard to channelling. Finally, in reply to Dr. Magnus, you said that you would not rely on public international law rather than civil law – I agree with you. You referred to the last sentence of my presentation which perhaps I should clarify for the record. I said that in cases of catastrophe of Chernobyl-like magnitude, nobody will look into civil law provisions. Victim States and the Incident State will start paying compensation to their respective victims. It will only be at a later stage that Victim States would seek recourse from the Incident State. This could be only done on the basis of public international law. If we talk and discuss the issue of catastrophic incidents, we should also try to find ways and means of identifying an instrument of public international law which would allow States, having compensated their own victims, to seek recourse from the Incident State.

Mr. S. McIntosh

I have a couple of comments in respect of Prof. Sand's presentation. The first is that although 55% of the world's nuclear reactors are located in countries that are not Party to the present conventions, I don't think you can necessarily draw the conclusion that those conventions don't represent some form of customary law. Those countries that are outside the conventions nevertheless by and large apply the provisions of these conventions in their domestic laws. My second point concerns the accession of non-nuclear states to the existing third-party liability conventions. If you take the example of Ireland given by Prof. Sands, I certainly agree that there is no reason for a non-nuclear state to ratify any of the conventions at this stage or until their neighbouring states become Party. However, the Convention on Supplementary Compensation has introduced a new factor which might influence Ireland to ratify this Convention as opposed to, say the Paris Convention – the dedicated fund for transboundary victims. If Ireland were to ratify the Convention at a stage where the fund has reached, say 300 million SDRs, and there is an accident in the United Kingdom for example, which affects victims in both the UK and Ireland, if Ireland took the Convention on Supplementary Compensation route, there would be 150 million SDRs available exclusively for Irish victims. On the other hand, if an Irish victim were to rely upon obtaining judgement in an Irish court and then having it enforced in a British court, he would have to take his place in line with all the British victims. Although in theory under Irish law, liability might be unlimited, resources are all ultimately limited.

M. P. Kayser

Je voudrais faire une remarque en ce qui concerne ce que vient de dire M. McIntosh sur l'exemple irlandais. Je crois que l'Irlande ne profiterait pas d'une adhésion à la Convention sur la réparation complémentaire car, à mon avis, le Royaume-Uni ne ratifiera pas cette Convention. L'Irlande devrait déjà attendre que le Royaume-Uni devienne Partie à cette Convention.

Prof. K.-G. Park

Je souhaite poser une question à Prof. Sands. Si je résume la nouvelle loi autrichienne, il y a certains grands changements : tout d'abord, l'introduction

d'un jugement autrichien et l'application du droit autrichien pour les dommages en provenance d'installations nucléaires situées à l'étranger ; ensuite, l'abolition de la limitation de cette responsabilité dans son montant ; et enfin, l'abandon du principe de la responsabilité exclusive de l'exploitant. En premier lieu, il me semble qu'il y a un risque de conflit de juridiction avec les États voisins, car si, par exemple, une victime autrichienne porte plainte devant son juge national contre le fournisseur plutôt que contre l'exploitant et que le juge autrichien passe jugement contre ce fournisseur, cette décision devra être reconnue et exécutée dans un autre pays. Un juge allemand, par exemple, pourrait refuser d'exécuter ce jugement car, en droit allemand, il existe le principe de la canalisation. Nous sommes alors devant une impasse juridique. Comment pourrait-on résoudre cette question ?

Mr. R. Manovil

My question is related to the issue which has just been raised by Prof. Park. Couldn't the country where the sentence is to be executed (in his example, Germany) invoke public order principles?

Prof. P. Sands

Addressing the questions in the order in which they were raised, Mr. McIntosh is absolutely right that one must treat with caution arguments about the existence of customary international law. I raised this argument in order to address Prof. Pelzer's point, and the theme that runs through his paper, that somehow there was a norm of practice which had developed. I tried to explain that there was no such norm of practice in the great majority of countries, and I think it would be very difficult to argue before the International Court of Justice, the European Court of Justice or any national court that the arrangements established in the Vienna and Paris Conventions reflect in some way customary international law. This is largely because so few states on a global basis have participated in them. One could of course imagine the notion of a regional custom in the European context, but even then, it would be fairly reasonable to argue that countries like Austria, Luxembourg and Ireland are persistent objectors. Furthermore, there is a lively debate as to whether procedural rules can ever be reflected in customary international law. Essentially all these conventions do is establish a series of procedural rules.

In relation to the question of whether Ireland might be enticed by the Convention on Supplementary Compensation, I cannot speak for the Irish government. I would simply say that 150 million SDRs in the context of a major

nuclear accident would not be a sufficiently high sum to provide any incentive to join. Secondly, it wouldn't apply to any of the claims that have been brought for example in the Shortt case. Let us assume that there is an accident in the United Kingdom which doesn't even have the consequence of allowing any radiation to reach Ireland. We can imagine that this could nevertheless have very serious economic consequences on tourism. Under the Paris and Vienna Conventions and the Convention on Supplementary Compensation, there would be no basis for a claim against the UK. However, it would probably be included under ordinary principles of Irish law. On a related point, the question of enforcement of judgements is indeed a very complex one. The key question is whether the British courts, faced with the judgement of an Irish court which the plaintiffs sought to enforce, would give effect to such an order or not, or whether they would invoke "ordre public" as a way of not giving effect. In the current state of English law, I find it very hard to see how an English court would do that. Ultimately, it would be for the European Court of Justice, and the question would inevitably be referred by way of an Article 177 reference, for determination of what is the governing rule. However, having seen the way in which the House of Lords addresses questions pertaining to customary international law and the consequences of participating or not in an international treaty regime, particularly in the context of the recent Pinochet case, I think it would be difficult to imagine the situation in which an English court would say that Ireland's decision not to participate in a nuclear liability regime would preclude its ability to enforce a judgement. That would in effect be applying a convention to a state which had decided not to ratify the convention, which was precisely the issue which arose in Pinochet, but in a different context. My personal opinion is that a damages award would probably be enforceable. On the other hand, I find it difficult to imagine an English court giving effect to an Irish injunction, however superior, to shut down operations of the nuclear reprocessing facility in Cumbria. I suspect that the two governments would get together and try to work out a pragmatic arrangement over the long term to address the concerns of one of the states.

Mr. N. Pelzer

I would like to dispel any misconceptions in relation to my presentation. Prof. Sands appears to have understood from my presentation that I believe that the international liability principles of the international conventions had developed to such an extent as to have attained the status of customary international law. Of course they are internationally-agreed principles which, however, do not reflect customary international law in the sense of the Statute of the ICJ. On the other hand, they do have some weight. Roughly 47 States are Party to the Conventions, and many more states have

accepted those principles in their national legislation. I would like to add one word on “ordre public”: I know that this concept is under discussion at present. However, in Germany we have Article 38 of the Introductory Act to the Civil Code which states that German citizens can not be held liable to a greater extent than is provided under German law. Although this Act is currently in the process of being revised, the substance of this special issue very probably will not be changed. Therefore a foreign judgement against a supplier could not be enforced in our country. The question of execution of judgements from EU States has not been finally decided and is still open.

M. P. Reyners

En réponse à l'exposé de M. Beyens, je voudrais reprendre ce qu'il a dit à la fin de son exposé en évoquant l'intérêt, sinon la nécessité d'une réponse institutionnelle. Je crois que dans l'intérêt de la sécurité juridique, les Parties Contractantes ont la responsabilité d'essayer d'indiquer clairement aux partenaires dans l'industrie nucléaire quelle est la façon correcte de lire et d'appliquer les Conventions sur le point de la responsabilité pour les dommages aux biens sur le site. J'ai pour ma part l'intention de leur proposer de reprendre l'étude de cette question.

**REPORTS SUBMITTED BY PARTICIPANTS
FROM CENTRAL AND EASTERN EUROPEAN
COUNTRIES AND THE NEW INDEPENDENT STATES**

**RAPPORTS SOUMIS PAR LES PARTICIPANTS
D'EUROPE CENTRALE ET ORIENTALE ET DES
NOUVEAUX ÉTATS INDÉPENDANTS**

ARMENIA

Summary of current situation in respect of the legislation governing nuclear liability and insurance in Armenia

Vanik Nersesyan

Armenian Nuclear Regulatory Authority

In the Republic of Armenia (“the RA”), nuclear liability is governed by the international treaties ratified by the RA, the Civil Code of the RA, the Law of the RA for the Safe Utilisation of Atomic Energy for Peaceful Purposes and other laws.

In accordance with the Constitution of the RA, international treaties which have been ratified are constituent parts of the legal system of the Republic. If they stipulate other regulations than those established by the law, the regulations of the treaties are applied, *i.e.* the predominance of international treaties is ensured.

In ratifying the Vienna Convention on Civil Liability for Nuclear Damage and the Convention on Nuclear Safety, the RA assumed obligations in respect of nuclear liability under these international treaties. In addition to these international treaties, the Civil Code of the RA and the Code of the RA on Administrative Violations establish regulations governing nuclear liability.

The Civil Code of the RA directly indicates that legal persons and citizens whose activities are connected with sources dangerous for the environment (*e.g.* atomic energy utilisation) are obliged to compensate any damage caused by that source, if they cannot prove that the damage caused is the result of a deliberate action or natural disaster. The owners of the more dangerous sources assume joint liability for damage caused to third persons due to the impact of these sources.

In this respect, and in accordance with the Code, the statutory limitation does not extend to requirements concerning compensation of damage to the life and health of citizens.

In the field of atomic energy, liability for administrative violations is determined in accordance with the Code of the RA on Administrative Violations.

The principle legal instrument in this field is the Law of the RA for the Safe Utilisation of Atomic Energy for Peaceful Purposes. It defines such principles of legal regulation as protection of the public and the environment from radiation damage due to the use of atomic energy, and ensures that safety is the predominant factor.

At the same time, the Law lays down principles affording legal protection to those physical persons and legal entities that suffer nuclear damage. Entrusting the operating organisation with full responsibility for safety in all operations involving the use of atomic energy, as well as those activities which involve nuclear and radioactive materials, the Law indicates that the liability for nuclear damage caused to physical persons and legal entities, as well as to the environment, as a result of activities in the field of atomic energy, is assigned to the licensee who performs these activities. The measures governing liability for nuclear damage and its compensation must not be less than those measures established in the international treaties ratified by the Republic of Armenia. The Law furthermore obliges the licensee to maintain sufficient financial resources to ensure the payment of compensation for nuclear damage. If the amount necessary to fully compensate all nuclear damage exceeds the available resources of the licensee, the Government of the Republic of Armenia will provide the necessary additional amount.

It is foreseen to develop a Law on Nuclear Insurance but the timetable in relation to its drafting and adoption has not yet been fixed.

THE REPUBLIC OF BELARUS

Legislation governing nuclear liability and insurance in Belarus: current status

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Despite the fact that the development of nuclear power engineering in Belarus is mainly concentrated on research and there are no nuclear power plants on its territory, the Belarussian people are familiar with what a nuclear incident is: not from publications but rather from their personal experience. The nuclear accident that occurred on 26 April 1986 touched upon the fortunes of millions of Belarussian citizens who participated in the mitigation of the catastrophe consequences or who lived in the contaminated areas.

The Law “On Social Protection of Citizens Affected by the Chernobyl NPP Accident”, adopted in February 1991, became the first legislative instrument aimed at protection of the interests of citizens in connection with nuclear damage arising as a result of a nuclear accident. The Law entitles citizens to a number of privileges and to a certain amount of compensation for the damage incurred to their health and property, and defines the procedure and conditions governing the granting by the state of such privileges and compensation. In order to finance measures taken for the mitigation of the consequences of the disaster in Belarus, a special *emergency tax* was introduced to the order of 20% for all economic entities. At present, the tax rate has been reduced to 8%; however it still remains an extra economic burden for Belarussian manufacturers.

On 5 January 1998, the President of the Republic of Belarus signed the Law “On Radiation Protection of the Public” which came into force on that date. Article 25 of this Law establishes the right of citizens to compensation for damage caused to their health and property as a result of exposure to ionising radiation or a radiation accident. Article 17 of the Law provides that full liability for the harm caused to the health and damage incurred to the property

of citizens lies with the user of ionising radiation sources, and Article 18 specifies that the user must compensate for such harm and damage in accordance with the procedures established by the legislation of the Republic of Belarus.

The establishment of procedures governing compensation for harm and damage arising as a result of a radiological accident or other radiological impact is one of the functions of the State in the field of radiation safety (Article 5 of the Law).

The provisions contained in one of the latest acts – the Law “On Protection of the Public and Territories against Emergency Situations of a Natural or Technical Character” adopted on 16 April 1998 – are consistent with the norms of the legislation set forth above.

Article 20 of this Law specifies that the citizens of the Republic of Belarus have the right:

- to address individual and collective inquiries to the bodies of state government and local executive and administrative authorities concerning protection of the public and territories against emergency situations;
- to receive compensation for damage caused to their health and property as a result of emergency situations;
- to receive free medical treatment, compensation and privileges for residing and working in areas affected by emergency situations;
- to obtain free state social insurance, compensation and privileges for damage incurred to their health in fulfilment of duties during intervention and control of emergencies; etc.

The Civil Code of the Republic of Belarus, adopted by the House of Representatives of the National Assembly (Parliament) on 28 November 1998, establishes liability for the harm caused by any activity which creates high potential hazards for the neighbourhood. The production and use of nuclear energy are listed among such activities. According to Articles 934 and 948 of the Civil Code, the owner of a source representing a high potential hazard must compensate in full any harm or damage inflicted to the person or property of citizens, as well as any damage incurred to the property of legal entities, if he cannot prove that “the harm has arisen owing to force majeure or was intentionally caused by the aggrieved party”. Article 934 of the Code states that

“the risk of causing damage in the future can constitute grounds for requesting prohibition of the activity that creates such risk”.

As regards insurance, Article 21 of the Law of the Republic of Belarus “On Insurance”, adopted on 10 December 1993, entitled “Refusal of payment of the insured sum or insurance indemnity”, unambiguously states *that the insured sum or insurance indemnity shall not be paid if the insured accident occurred as a result of the “direct or indirect effect of a nuclear explosion, radiation or radioactive contamination connected with any application of atomic energy or use of fissionable materials”.*

Such a situation reflects, to a certain extent, our recent history when managers of enterprises and members of the public, both in Belarus and in all other republics of the former USSR, held the deep-rooted idea that the state will protect us from all hazards and misfortunes. In some cases, this viewpoint was and is still close to reality. The state, through its ministries and other central government bodies, has to pay for all negative phenomena or events which take place in public-owned enterprises (nuclear facilities fall within this category).

Certain steps have been made recently to develop the insurance business. The Civil Code of the Republic of Belarus contains a new Chapter 48 entitled “Insurance”. Article 825 of this chapter provides that *legislative acts may require that the persons specified therein shall insure:*

- the life, health or property of other persons specified in the law against possible harm,
- the risk of their civil liability which may arise as a result of causing harm to the life, health or property of other persons or as a result of breach of agreements (contracts) with other persons.

The insurance is obligatory where expressly required by legislative acts of the Republic of Belarus. According to Article 826, insurance is provided at the expense of the insured; however, Part 3 of Article 817 provides for the possibility of compulsory insurance of life, health and property of citizens at the expense of the appropriate budget (the compulsory state insurance).

The desire of the state to stimulate development of those types of insurance which are most important economically and socially is reflected in Decree No. 1141 of the Council of Ministers dated 21 July 1998 and entitled "On the Programme of Development of the Insurance Business in the Republic of Belarus for the period 1998-2000". The Programme includes the following measures:

- establishment of interdepartmental working groups to draft legislative acts governing insurance activities;
- drafting of the Law "On making modifications and additions to the Law of the Republic of Belarus on Insurance";
- preparation of proposals for adjustment and improvement of the taxation system in the field of insurance;
- drafting of the Law of the Republic of Belarus "On Compulsory Insurance of Employer's Liability for Damage caused to the Life and Health of Workers", etc.

Measures stipulated in this Programme aim to encourage the development of a real insurance market and place activities of insurance companies under control of the state. In the preparation of the above-mentioned draft Laws, account is taken of international agreements and conventions to which Belarus is a party. This is required by Article 8 of the Constitution which states that the Republic of Belarus "recognises the precedence of the generally recognised principles of international law and ensures compliance of its legislation with those principles". As an example, following the ratification by the Parliament of the Vienna Convention on Civil Liability for Nuclear Damage, the national legislation is currently being made consistent with the provisions of that Convention. This is done by establishing certain minimum norms of financial coverage against damage arising as a result of the use of nuclear energy for peaceful purposes.

In our opinion, it should be established by law that all enterprises representing major industrial hazards are subject to compulsory insurance; otherwise the state will have to continue paying compensation from its budget in the event of accidents and other cases of "nuclear damage". Civil liability for inflicting damage to the environment and to third parties, both physical and legal, must also be the object of compulsory insurance. Finally, enterprises under all forms of ownership where accidents can incur damage to the interests of the state should be subject to compulsory insurance.

REPUBLIC OF CROATIA

Legislation governing nuclear liability

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General

The Republic of Croatia became party to the *Vienna Convention on Civil Liability for Nuclear Damage* (hereinafter “the 1963 Vienna Convention”) by notification of its succession to this instrument in September 1992. The Republic of Croatia ratified the *Joint Protocol Relating to the Application of the Vienna Convention and Paris Convention* in October 1993.

The Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage and the Convention on Supplementary Compensation for Nuclear Damage are still in the governmental procedure of authorization before signature.

It should be mentioned that in Croatia there is at present no nuclear installation to which the regime of operator's liability may be applied. Therefore, the nuclear liability legislation only covers the situation where nuclear material is transported through the territory of the Republic of Croatia.

Act on Liability for Nuclear Damage

Introduction

On 9 October 1998, the Croatian Parliament adopted the new Act on Liability for Nuclear Damage (Official Gazette No. 143/98; hereinafter “the 1998 Act”), which amended the previous Act of 1978 (inherited from the former legislation). The need for amendment derived from some obvious deficiencies in the 1978 Act, in particular, its references to certain public authorities which in the Croatian legal system no longer exist, and the fact that

the formulation of certain provisions did not reflect in a sufficiently precise manner the solutions established in the 1963 Vienna Convention. The lack of the necessary level of precision, which resulted in legal uncertainty, concerned in particular the provision governing the minimum amount of liability of the operator.

Scope of Application

The 1998 Act governs liability for nuclear damage which results from peaceful uses of nuclear energy, insurance and other financial security covering such liability (Article 1). The definitions of nuclear material and nuclear installation to which the provisions of the 1998 Act refer, as well as the definition of nuclear damage, are the same as those contained in the 1963 Vienna Convention (Article 2). However, several nuclear installations of one operator that are located at the same site shall be considered as a single nuclear installation (Article 3). The Act contains a provision on reciprocity, which may be based on national legislation or established by multilateral or bilateral treaty, thus binding the state in question and the Republic of Croatia (Article 4).

Liability for Nuclear Damage

Liability for nuclear damage lies exclusively with the operator of a nuclear installation, irrespective of his fault (Articles 10 and 11). Exceptionally, with the approval of the competent State authority and with the written consent of the operator who would otherwise be considered liable, a carrier of nuclear material may take the place of the operator (Article 6). The operator is liable for nuclear damage caused by a nuclear incident if the incident occurred in his nuclear installation or during the transport of nuclear material to or from his installation (Article 5).

Liability for nuclear damage is limited up to the amount of Croatian kumas HRK 320 million, which corresponds approximately to USD 48 million (Article 8). In cases where several nuclear installations of one and the same operator are involved in any one nuclear incident, such operator shall be liable in respect of each nuclear installation involved, up to the amount established in Article 8 of the 1998 Act (Article 15). Also, the operator is not liable for nuclear damage caused to the nuclear installation or to any on-site property, or to the means of transport on which the nuclear material involved was located at the time of the nuclear incident (Article 13).

The 1998 Act has modified to a certain extent the provisions of the 1963 Vienna Convention in respect of liability for damage occurring during the transport of nuclear material. In addition, nuclear material may be imported into or transported through the territory of the Republic of Croatia only if the carrier has a certificate issued by or on behalf of the insurer or other financial guarantor providing the security required, which covers liability for nuclear damage up to an amount not less than that established under Article 8 of the 1998 Act (Article 19). This provision, which departs from the provisions of the 1963 Vienna Convention, does not however undermine the general rule of the 1963 Vienna Convention whereby the liability ceiling of the operator is that specified by the national law of the operator liable. This is because the limitation of liability established by the 1998 Act reflects the amount of minimum liability established by Article V of the 1963 Vienna Convention, as the US dollar referred to in this instrument denotes a unit of account equivalent to the value of the United States dollar in terms of gold on 29 April 1963 (USD 35 per one troy ounce of fine gold).

Limitation and Exclusion of Liability

The operator shall not be held liable for nuclear damage caused by a nuclear incident which is directly due to an act of armed conflict, hostilities, civil war, insurrection or a grave natural disaster of an exceptional character (Article 12). Also, in cases where the person suffering damage has acted intentionally or where the nuclear damage resulted from his gross negligence, the operator may be wholly or partly relieved from his obligation to pay compensation in respect of the damage suffered by such a person (Article 14).

Insurance and Other Financial Security

The operator is obliged to provide and maintain insurance or other financial security covering his liability for nuclear damage of an amount which shall not be lower than that established under Article 8. If the liability of the operator which may occur during transport of nuclear material is not covered by such insurance or other financial security, such liability shall be covered by a separate insurance policy or financial security (Article 16). The insurer or financial guarantor is not entitled to cancel the insurance or the financial security without giving notice in writing three months prior to such cancellation to the operator and the competent state authority. Furthermore, they are not entitled to cancel the coverage during the carriage of nuclear material (Article 17).

The Role of the State

The 1998 Act introduced elements of state intervention in respect of compensation for nuclear damage, in certain strictly enumerated situations. More precisely, the 1998 Act has recognised the obligation of the Republic of Croatia to establish measures of supervision to verify the existence and content of insurance or financial security contracts. The Republic of Croatia shall provide the means for compensation of nuclear damage up to the amount established under Article 8:

1. if the operator fails to provide for or maintain insurance or financial security pursuant to Article 16;
2. if the insurer or financial guarantor is not liable to compensate the nuclear damage, pursuant to the terms of the insurance contract or financial security;
3. if the insurer or financial guarantor cannot fulfil his contractual obligations due to insolvency.

In such cases, the Government of the Republic of Croatia has a right of recourse against the insurer or financial guarantor, or the operator, up to the amount paid, during a period of five years from each payment of compensation made (Article 20).

The Compensation of Nuclear Damage and the Right of Recourse

Jurisdiction over compensation for nuclear damage shall lie only with the court on whose territory the nuclear installation of the operator liable is located. However, where nuclear damage occurs during the carriage of nuclear material, jurisdiction over such actions shall lie with the court on whose territory the nuclear damage occurred or on whose territory the nuclear installation of the operator liable is located (Article 21).

Actions for compensation for nuclear damage caused by a nuclear incident may be brought not only against the operator, but also directly against the insurer or financial guarantor (Article 22). The action may be brought within ten years from the date of a nuclear incident, provided that the action is not brought later than three years from the date on which the person suffering nuclear damage had knowledge of the damage and of the operator liable for the damage (Article 24).

In cases where funds, which on the basis of public health insurance, pension insurance, inability insurance or other insurance funds, have been used entirely or partly for the payment of compensation for nuclear damage for which the operator is liable, the bodies responsible for the management of such funds have a right of recourse against the operator, up to the actual amount which has been paid (Article 26).

Penal Provisions

The operator shall be fined if he fails to acquire and maintain insurance or other financial security covering his liability for nuclear damage. Also, the insurer or financial guarantor shall be fined in the event that he cancels the insurance or financial security before giving notice in writing to the competent state authority, or during the carriage of nuclear material (Article 27).

Conclusions

The 1998 Act has incorporated all of the principles of the 1963 Vienna Convention and is almost entirely based on its provisions. Furthermore, Article 28 explicitly states that all other matters which are not specifically regulated by its provisions shall be governed by the provisions of the 1963 Vienna Convention. In any case, the 1998 Act is a significant step forward in comparison with the provisions of the old legislation.

ESTONIA

Civil responsibility in the event of a nuclear accident in Estonia

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There are no dangerous nuclear objects in Estonia and therefore no special legislation in this field. The following legislative provisions from the **Chemicals Act** adopted on 6 May 1998 may be used:

Paragraph 6. Dangerous enterprises and enterprises liable to be affected by major accident:

1. Dangerous enterprises are enterprises where chemicals are handled in greater quantities than the minimum combined hazard level.
2. Upon the categorisation of dangerous enterprises, the maximum permitted combined hazard level of the chemicals handled shall be established.
3. Enterprises liable to be affected by a major accident are enterprises where dangerous chemicals are handled in greater quantities than the threshold quantities.
4. Enterprises liable to be affected by a major accident are informed of the maximum quantities of dangerous chemicals which may be handled, and the handling of greater quantities is prohibited.

Paragraph 13. Restrictions on handling dangerous chemicals in enterprises liable to be affected by a major accident:

- (1) Determination of the quantity of dangerous chemicals which may be handled in enterprises liable to be affected by major accident is based on the following:
 - 7) the amount guaranteed for compensation for damage caused by a major accident with the worst possible consequences.

Paragraph 15. Conditions for handling chemicals:

- (5) In the event of an accident, a trader shall compensate for damage caused by the trader.
- (6) In order to compensate for possible damage, the owner of a dangerous enterprise shall insure against liability of the owner for damage which may arise from a major accident.

Paragraph 23. Liability of natural and legal person:

Natural persons bear civil liability and administrative or criminal liability for a violation of this Act or of legislation established on the basis of this Act, and legal persons bear civil and administrative liability, pursuant to the procedure prescribed by law.

LITHUANIA

Nuclear liability in Lithuania

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In 1991, after regaining its independence, Lithuania suddenly became a fully responsible owner of two powerful nuclear reactors – two RBMK-1500 units at Ignalina Nuclear Power Plant (hereinafter “INPP”). Five years later, in March 1996, Dr. Atsushi Takeda in *Enerugi Rebiyu* described the event in the following manner: “[...] the reactor fortunately or unfortunately fell into the hands of a small nation with little technical know-how for such a reactor.” This small nation had a lot of know-how in many areas, including electronics and scientific research in energy production, but there was an almost total lack of national specialists in nuclear matters, and in the area of nuclear legislation this was even more true.

The change of the ownership of nuclear reactors, mainly referred to world-wide as Chernobyl-type reactors, created a fully understandable concern within Western society and especially among neighbouring countries. In the absence of national regulations and a national regulatory body, with almost no local specialists, except for personnel of the power plant itself, and no legal basis for the operation and supervision of the nuclear power plant, the Government of Lithuania had to take immediate and well-founded action to ensure the safe operation of its reactors.

1. Brief introduction of Lithuania’s nuclear legal framework

Already on 25 June 1991, the Supreme Council of the Republic of Lithuania adopted the decision to become party to the Treaty on the Non-

Proliferation of Nuclear Weapons (NPT). One year later, on 15 October 1992, the Agreement between the Government of the Republic of Lithuania and the IAEA for the Application of Safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons was signed. The instrument of accession to the Vienna Convention on Civil Liability for Nuclear Damage was deposited one month earlier, on 15 September 1992, and it entered into force on 15 December 1992. As an owner of a powerful NPP, Lithuania had good reason to be the first country in the region to adhere to the Vienna Convention. Nevertheless, the role of the Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention was not immediately understood and appreciated. It is for that reason that the instrument of accession to the Joint Protocol was deposited on 20 September 1993, and it entered into force as of 20 December 1993.

At a later stage, Lithuania joined the following international conventions:

1. Convention on the Physical Protection of Nuclear Material.
2. Convention on Early Notification of a Nuclear Accident.
3. Convention on Nuclear Safety, and
4. In 1997, Lithuania signed the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, the Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage and the Convention on Supplementary Compensation for Nuclear Damage.

In accordance with these international agreements, Lithuania has developed and continues to develop its national legislative framework. The principal national Law in this area is the Law on Nuclear Energy. The preparation of the draft Law on Nuclear Energy started as early as Spring 1993. In this respect, the assistance from the IAEA, the OECD/NEA and such countries as Sweden and Great Britain was very helpful. Another Law directly regulating the use of nuclear energy is the Law on Radiation Protection (adopted in 1999). There are also two draft Laws on Radioactive Waste Management and on the Management of State Enterprise “Ignalina NPP”. These drafts are currently under discussion in our Parliament.

2. Nuclear liability according to Lithuanian legislative instruments

1993 can be noted as a year of wide international interest in respect of nuclear liability issues in Lithuania. The most serious attention was paid by the Swedish enterprises involved in the production of hardware in the framework of the programme of assistance for safety improvement at Ignalina Nuclear Power Plant. Representatives of the former Ministry of Energy were approached by Swedish advisors who informed them that Swedish enterprises would not provide hardware in the framework of the agreed assistance programme unless Lithuania adopted a domestic law, which would give the provisions of the Vienna Convention and the Joint Protocol force of law before the courts of Lithuania. A draft of such a law was also proposed, although, in our opinion, such a national law was redundant and unnecessary. This was so because Lithuania was already a party to those international treaties and at the time, all international treaties ratified or acceded to by the parliament of Lithuania (Seimas) had an equal status to national law (currently international treaties ratified by Parliament take precedence over national legislation). Nevertheless, at the time there were many urgent safety issues to solve, very scarce internal financial resources and not many possible sources of foreign assistance. The Ministry of Energy, therefore, was not willing to jeopardise the chances of receiving Swedish assistance and made the decision that there would be no harm done in adopting such a law. This occasion was used to add two provisions to the law, in order to provide details on a certain issue and also to ensure the minimal potential financial obligations:

- a) that several nuclear installations of one operator which are located at the same site shall be considered as a single nuclear installation;
- b) that the liability of the operator shall be defined as the sum in Lithuania Litas, equivalent to the minimum liability amount referred to in Article V of the Vienna Convention.

Concerning the latter provision, it was always assumed in Lithuania that the minimum liability amount was established in dollars according to their value in 1964, not current-value dollars. At the time of joining the Vienna Convention, it was furthermore quite clear that in the case of a large accident, the INPP would not be able to cover financially all possible damage, which meant that the role of the operator in such case should be transferred to the State.

In order to further relieve uneasiness of foreign hardware producers, and again acting upon advice from Sweden, we prepared another draft legal instrument, *i.e.* the bilateral agreement between Lithuania and Belarus under

which Lithuania agreed to compensate for all nuclear damage resulting from the INPP in the event of a nuclear accident and Belarus agreed to refuse any claims to third parties. Despite a lot of diplomatic efforts and direct contacts between Swedish and Belarussian officials, this agreement did not receive the support of our neighbours and was not signed. At the present time, since Belarus became a party to the Vienna Convention, the necessity for such an agreement lost its impetus.

With respect to nuclear liability, the Law on Nuclear Energy incorporated the main provisions of a Law adopted at an earlier stage on liability for nuclear damage, without substantial changes. This means that the operator is liable for nuclear damage to natural or legal persons as well as to their property, while taking into account environmental damage as well. The prescription period for filing a claim for compensation is 10 years maximum, commencing with the date on which the damage was suffered. The main additions constitute:

- a) the liability of the nuclear operator for consequential damage, when the cause of the other losses may not be clearly distinguished from the damage caused by the nuclear facility;
- b) the obligation of the nuclear operator to insure the facility or procure in some other way the funds necessary to cover the liability limit set at a minimum of 5 million SDRs;
- c) the explicit obligation of the Government to ensure the full amount of compensation in accordance with the Vienna Convention in the case of insufficient funds of the nuclear operator;
- d) the provision of social guarantees for the participants in the management of a nuclear accident and the mitigation of its consequences.

At this moment, it is still very difficult to insure the INPP against a nuclear accident. Nevertheless, the largest insurance companies of Lithuania are studying the experience of Hungary, the Czech Republic and Slovakia in the creation of domestic nuclear insurance pools. Accordingly, the INPP is collecting necessary evidence of numerous built-in or additional safety improvements making it much safer in comparison with RBMKs of earlier design. The Workshop on Nuclear Liability Legislation and Insurance of Nuclear Risks, sponsored by the OECD/NEA and held in Riga in December 1997, and the Seminar on Radioactive Waste Management and Nuclear

Liability, also sponsored by the OECD/NEA and held in Vilnius in 1998, demonstrated the active interest of the insurance companies of Lithuania, Estonia and Latvia in the subject of nuclear insurance. Insurance companies of Lithuania especially appreciated the information on international nuclear pools prepared by the Nuclear Pools Forum, which presented the basic principles of nuclear insurance and the pooling system.

During the above-mentioned Seminar in Vilnius, we were glad to discover that representatives of Western insurance pools have started to differentiate between RBMKs of different generations, because there are substantial differences concerning safety in the design itself. On the other hand, we are not very sure that insurance is the best option to ensure the necessary financial resources for liability purposes. At the moment we are still open to different options.

POLAND

The legislation governing nuclear liability and insurance in Poland: current situation and future plans

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Poland acceded to the 1963 Vienna Convention on Civil Liability for Nuclear Damage and the 1988 Joint Protocol on the Application of the Vienna Convention and the Paris Convention on 23 January 1990. However, it should be noted that the main liability provisions of the Vienna Convention were already taken into account in the Polish Atomic Energy Act of 10 April 1986, which was adopted in connection with the programme for the construction of nuclear power plants in Poland in the early 1980s with the intention of regulating all radiation protection and nuclear safety problems.

Part 1 of the Atomic Energy Act entitled “**General Provisions**” contains several definitions and four of them are particularly important to civil liability:

- nuclear installation means for the purposes of the Act an installation or device in which nuclear material is manufactured, applied, converted, stored or transported in sufficient quantities to allow a self-sustained fission reaction (Section 3.2);
- nuclear material means material containing fissile nuclides or nuclides which could become fissile following nuclear reactions, and in particular isotopes of uranium, plutonium and thorium (Section 3.1);
- operator means for the purposes of third party liability, the organisational unit carrying out, under licence from the President of the National Atomic Energy Agency, activities related to the development of nuclear power (Section 3.10);

- nuclear damage means damage caused to:
 - persons,
 - or property,
 - or to the environment

by the radioactive, toxic, explosive or other effects of nuclear materials and their fission products (Section 3.9).

Part 8 entitled “**Third Party Liability for Nuclear Damage**” regulates all questions important to the subject of civil liability, *i.e.* principles of liability, principles of exoneration from liability, insurance and other financial security, state intervention, compensation, time limits for bringing claims, competent court and procedure.

The main provisions are summarised as follows:

- *the operator of a nuclear installation* is solely liable for nuclear damage; where more than one person operates a nuclear installation, they are jointly and severally liable (Section 36.1 and 2);
- in the event of nuclear damage;
- during inland transport:
 - the operator sending the nuclear package remains exclusively liable until it is handed over to the consignee (Section 37.1);
- during international transport:
 - the consignor of the package or consignee is liable according to the agreement between them (Section 37.2);
 - should the agreement not provide explicitly for this circumstance, the consignor shall retain liability until the nuclear package is handed over to the authorised person at the frontier of the State in which the package is to be delivered (Section 37.2);

- the operator of a nuclear installation *is not liable* for nuclear damage *in two cases only*:
 - if the damage results *from an act of war*;
 - or if the damage results exclusively from an *intentional fault on the part of the victim* (Section 38);
- the operator of a nuclear installation has a *right of recourse* against the person whose intentional fault caused the damage (Section 36.3 and 37.3);
- compensation for nuclear damage includes (Section 39.2):
 - for the victim, *losses* suffered as a consequence of personal injury or damage to health, or as a result of the destruction or deterioration of property, or for other persons, losses suffered as a result of the death of the victim;
 - earnings the victim could have made had he/she not suffered the damage;

and

 - the *essential expenses* which have been or will be incurred following the accident, in order to prevent persons and *the environment* from being exposed to ionising radiation;
- compensation for nuclear damage also covers compensation for damage to *common property* following damage to the environment. The State Treasury is entitled to request compensation for such damage and any compensation obtained shall be paid into the Environmental Protection Fund (Section 39.3);
- there is *no prescriptive period for claims for personal injury*; claims for *property damage or environmental damage* are subject to a prescriptive period of **ten years** from the date of the incident (Section 41.1);
- claims for compensation may be brought before the courts on the basis of the *Code of Civil Procedure* (Section 42).

In relation to insurance covering third party liability for nuclear damage, the Atomic Energy Act contains four provisions:

- the operator of a nuclear installation is obliged to take out such insurance (Section 40.1);
- the Minister of Finance shall designate the insurance establishment which is to cover the operator's liability (Section 40.2);
- state intervention is provided for: when the nuclear damage suffered by any person exceeds the compensation amount provided for by insurance contract, the victim may request payment of the excess amount from the Treasury (Section 40.3);
- as regards nuclear damage to property and the environment, the Council of Ministers is to establish procedures to compensate any damage exceeding the amount provided for by insurance contract (Section 40.4). (Such procedures remain to be established).

A Regulation of 26 August 1986 of the Minister of Finance stipulates that the third party liability for nuclear damage of the operators of nuclear installations is to be insured by the State Insurance Corporation. The President of the State Insurance Corporation specified the general conditions of this insurance in a Regulation of 19 December 1987 (issued pursuant to the Act on Personal and Property Insurance).

The main provisions concerning insurance conditions of third party liability for nuclear damage are summarised below:

- the State Insurance Corporation (PZU) enters into insurance contracts covering civil liability for nuclear damage with persons potentially liable for such damage on the territory of the Republic of Poland;
- persons liable for nuclear damage (*i.e.* operators of nuclear facilities) as well as the scope and principles of such liability are defined by the Law of 10 April 1986 – the Atomic Energy Act;
- in an insurance contract on civil liability for nuclear damage, both PZU and the operator determine a guarantee amount constituting a ceiling of financial security which PZU provides for the damage;

- until the guarantee amount is used up, PZU takes over from the insured person civil liability for nuclear damage to the extent determined in the Atomic Energy Act;
- compensation for nuclear damage includes:
 - loss suffered by a victim as a result of personal injury or damage to health, as well as caused by damage to property, and
 - in case of other persons – loss resulting from of a victim’s death;
 - loss of profits which could have been achieved if loss had not been suffered by a victim;
 - necessary expenditure which has been or shall be borne – after an event causing loss – in order to prevent the public or the environment from exposure to ionising radiation;
- the liability of PZU commences the day following submission of an application for insurance unless a different commencement date is specified in the insurance contract;
- an insurance contract concluded for a period of one year is automatically extended for the next year unless denounced by any party two months before its expiration;
- insurance premiums for the civil liability of operators of nuclear facilities amount to 0,5 – 1% of the guarantee amount;
- in areas not covered by the present insurance conditions, the provisions of the Polish Civil Code and Atomic Energy Act apply.

With regard to insurance activity in Poland connected with nuclear installations, it should be noted that our experience in this matter is not wide. Construction of the first and siting of the second nuclear power station in our country were stopped in the early 1990s and there are no nuclear power plants in Poland at present. There are only two research reactors EWA and MARIA (EWA is in the decommissioning stage), a radioisotope processing centre, a spent fuel storage facility in Swierk and a radioactive waste facility at Rozan.

Nevertheless, the above-mentioned facilities, except the EWA reactor, are the subject of the agreement on civil liability insurance as being nuclear

installations according to the Atomic Energy Act and the provisions of the Vienna Convention. The Institute of Atomic Energy is the organisational unit which owns these facilities and carries out activities with operation of nuclear reactors spent fuel and radioactive waste management. In accordance with the provisions of the Atomic Energy Act and under the regulation of the Minister for Finance:

- The Institute has taken out third party liability insurance against nuclear damage with the State Insurance Corporation,
- the compensation amount provided for by contract this year is Polish zlotys (PLN) 2 million (approx. 500 000 USD); the highest amount of the State Insurance Corporation liabilities for nuclear damage;
- the insurance premium is PLN 10 000 per year.

It should be noted that the liability and insurance provisions contained in Polish regulations have never been confronted with problems of practical application: both before the adoption of the Atomic Energy Act and after its entry into force there has fortunately never been a nuclear incident in Poland connected with nuclear activities of a Polish operator that caused nuclear damage. Unfortunately, the regulations existing in Poland (like in the former Soviet Union as the state where the nuclear incident happened) contain no provisions governing compensation for damage to citizens and the environment of Poland resulting from the Chernobyl disaster.

When considering future plans on nuclear third party liability and nuclear insurance in Poland the following remarks should be taken into account:

There are no and there will no nuclear power stations in Poland at present and in the near future; pursuant to the Polish Parliamentary Resolution of 9 November 1990 (which remains unamended) on energy policy framework in Poland up to 2010:

- this policy is now and in the future must be directed toward the reduction of energy-consuming aspects of the economy;
- construction of nuclear power plants is possible only if it is based on the reactors of the new generation, which ensure economic effectiveness and ecological safety.

This means, that Poland remains and for many years probably will remain a state which carries out activities involving the peaceful uses of atomic energy, but which results in no potential risk of nuclear damage with transboundary consequences. On the other hand, Poland is very interested in protecting its own society and environment against the potential results of a grave nuclear incident which may occur outside Poland's territory due to the activities of a nuclear state.

When establishing regulations on civil liability and insurance in 1986, Poland was party to no international agreements in this field. However, the main liability provisions of the Vienna Convention (other liability conventions existing at this time were essentially open to the participation of OECD Member states) were taken into account in the Polish Atomic Energy Act. Due to this approach, the legislation was already in accordance with the Vienna Convention and there was no need to introduce any amendments following Vienna Convention ratification by Poland in 1990 (Official Gazette 1990, No. 63, it.371).

Poland actively participated in the work of the IAEA Working Group and the Standing Committee on Liability for Nuclear Damage which commenced negotiations in 1989 for the purpose of revision of the Vienna Convention and other conventions on nuclear liability. A Polish expert participated in the capacity of vice-chairman of the Working Group and of the Standing Committee. The drafts of two documents: the Protocol to Amend the Vienna Convention and the Convention on Supplementary Compensation for Nuclear Damage were the final result of 8 years of work of the aforementioned bodies. The official Statement of the Polish delegation that was presented at the Diplomatic Conference convened in Vienna, 8-12 September 1997 to adopt the both documents expresses the following opinion: "The documents presented to us constitute definite progress in the development of international law on liability and compensation for nuclear damage – whatever their deficiencies may be as regards the protection of victims of nuclear incidents".

From the beginning of the Standing Committee activities, the Polish delegation consistently pleaded for a solution which would ensure effective and real assistance for injured parties, accomplished either by a compensation fund supplemented from public sources and to be paid by the operator or alternatively by introducing an international and legally-binding state liability for transboundary damages caused by a nuclear accident at an installation situated on that state's territory or under its jurisdiction.

The Protocol to Amend the Vienna Convention, despite its imperfections, improves the legal situation of persons injured due to a nuclear accident in comparison with the present law, by:

- introducing an expanded definition of nuclear damage subject to compensation (including environmental damage);
- increasing the minimum amount of compensation;
- prolonging the time period of claims limitation for personal injury to 30 years from the date of a nuclear accident (Art. 8 of the Protocol, amending Art. VI of the Convention).

For these reasons, Poland signed the Protocol during the IAEA General Conference on 3 October 1997. In 1998 the President of the NAEA applied to commence the official procedure aimed at its ratification.

According to the new Polish Constitution and its Article 89, the ratification of the Protocol may take place after the appropriate decision of Parliament in the form of a rule.

ROMANIA

Nuclear liability and insurance in the transition period

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1. Introduction

Daily life is a risky business. People can understand risks resulting from a voluntary choice, like travelling, working or drinking alcohol and smoking, but the perception of radiation risk is different. The gap between public perception and specialists' evaluation is growing wider. Misunderstood risks that cannot be explained create difficulties of communication between experts and the public. The occurrence of unfortunate events, like Three Mile Island or Chernobyl, increase the concerns of the public, and the nuclear industry is spending substantial resources on rebuilding confidence in the peaceful uses of nuclear energy. A comprehensive nuclear law framework can provide a useful tool in order to promote greater confidence in nuclear energy.

2. Nuclear Liability in the Transition Period

Romania has had laws in place governing the regulation of nuclear activities since 1974, which remained in force throughout and subsequent to the national constitutional changes. Up to December 1996, the CNCAN activities were based on Law No. 61/1974 for the development of nuclear activities in Romania and Law No. 6/1982 on the quality assurance of nuclear facilities and nuclear power plants.

The nuclear safety legislation had been enacted in November 1974 (Law No. 61/1974) and it followed as closely as possible (for that time) the US Atomic Energy Act of 1954 as amended.

This Law had a specific chapter dealing with nuclear liability. Its main provisions in this field were:

- the responsibility belongs to the licence-holders;
- the liability of the licence-holder per nuclear accident was limited to Romanian leu (ROL) 80 million which corresponds to approximately USD 6 million;
- the licence holder must maintain insurance or other financial guarantee to cover his liability;
- the right to compensation is prescribed if an action has not been brought within 10 years from the date on which the victim had knowledge or should have had knowledge of the damage.

In 1990, preparations for a new law on the safe conduct of nuclear activities commenced. On 26 December 1996, the Law on the Safe Deployment of Nuclear Activities (Law No. 111/1996) entered into force. The Law repeals and replaces the previous law governing nuclear activities *i.e.* Law No. 61/1974 regulating all nuclear activities in Romania together with Law No. 6/1982 dealing with quality assurance in respect of all installations, as well as all other regulations contrary to the new Law. By the beginning of January 1998, important new amendments had been adopted to Law No. 111/1996.

Law No. 111/1996 as amended takes into account:

- changes in the political and economical environment, including democracy, the separation of powers and the free market economy;
- regulatory experience gained in Romania through the implementation of Laws No. 61/1974 and 6/1982;
- new legal developments at international and national level;
- recommendations of the IAEA expert mission on safety issues, including those provisions dealing with radioactive waste and facilities decommissioning;

- the need to strengthen the law enforcement provisions.

The new Law contains no provisions on nuclear liability. Pursuant to Article 18, paragraph 1, the licensee is obliged to prove that he has contracted an insurance policy or another form of financial guarantee in order to cover his liability, before his license can be issued. Pursuant to Article 55, the Government is to submit a draft Law on Nuclear Civil Liability to the Parliament. Since the national law is still under consideration by the competent authorities, Romania applies in the meantime the international conventions on civil liability to which Romania is a party.

Romania acceded to the 1963 Vienna Convention on Civil Liability for Nuclear Damage and to the 1988 Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention on 29 December 1992. Both entered into force for Romania on 29 March 1993.

On 18 November 1998, Romania ratified the Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage and the Convention on Supplementary Compensation for Nuclear Damage. Subsequently, the instruments of ratification were deposited with the Director General of the IAEA. Romania is the only country to have ratified the new international instruments in this field.

The National Commission for Nuclear Activities Control has prepared a draft Law on Civil Liability for Nuclear Damage, which has been considered by both the IAEA and the NEA. Their observations have been accepted and incorporated into the draft, having also been accepted by the Ministry of Industry and Trade and by the Ministry of Finance. At present the draft is being considered by the Ministry of Justice.

The purpose of this Law is to establish a comprehensive civil liability regime for damage caused by a nuclear incident. The draft Law closely follows the Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage and is based on the following main principles:

- compulsory insurance: the operator must maintain insurance or another form of financial security;
- strict and absolute liability: liability without fault of the operator of a nuclear installation;
- channelling of liability to the operator: the limit of operator's liability per accident may not be less than 300 million Special

Drawing Rights (SDRs) for nuclear power plants, 30 million SDRs for research reactors and radwaste repositories, 25 million SDRs for spent fuel transportation and 5 million SDRs for the transport of nuclear materials. With the approval of the National Commission for Nuclear Activities, the limits may be lower but the difference up to the indicated amounts should be provided by the State;

- long periods of prescription: compensation rights are barred if an action is not brought within 30 years from the date of the nuclear accident and 3 years from the date the victim knew about the damage;
- non-discrimination between victims;
- rights of recourse by the nuclear operator and the State;
- comprehensive definition of “nuclear damage” comprising damage to the environment, loss of income, costs of preventive measures and other economic losses if awarded by the Court.

3. Nuclear Insurance in the Transition Period

From the beginning, Romania nuclear operators fully accepted the fundamental principles of the nuclear third party liability regime. The Romanian nuclear power programme started and has been developed around the first nuclear power plant (NPP) site at Cernavoda, in the south-east area of Romania (Dobrogea region) on the right side of the Danube river about 160 km east of Bucharest. This first nuclear site was developed for five CANDU 6 units of 700 MW capacity each.

Cernavoda Unit 1 was connected to the grid on 2 December 1996 and received the operating licence on 1 May 1999 after a very rigorous probationary period. Until the end of 1998, it produced over 12 million MWh of electricity with a capacity factor of 88% which is very good by international standards. The unit is professionally managed by Romanian specialists and has earned praise from foreign experts.

Cernavoda Unit 1 is now owned and operated by Societatea Nationala “Nuclearelectrica” S.A. (SNN), one of the successors of the former Romanian Electricity Company (RENEL). The nuclear power plant provides approximately 10% of the electricity needed in Romania, thus avoiding an

annual import of approximately 104 million tonnes of hydrocarbons, that is a State budget saving of approximately USD 100 million per year.

The establishment of the Nuclear and Non-nuclear Liability Policy for Cernavoda NPP on 2 February 1995 (when the nuclear fuel arrived on site) was a complex but useful test for Romanian experts. They are now therefore in a position to share this brand-new experience with other specialists, eventually from countries also in a transition process. Furthermore, the Romanian insurance market is faced with a new challenge, namely setting up an Atomic Insurance Pool. Some details related to the Nuclear Liability Insurance Policy for Unit 1 of Cernavoda PHWR-CANDU are provided below:

- three insurance pools: British – British Insurance (Atomic) Energy Committee, Italian – “Pool” Italiano per l’Assicurazione dei Rischi Atomici and Romanian – Pool Roman de Asiguraire a Riscurilor Atomice (ARDAF, ASIBAN, ASIT, ASTRA, GENERALA, INTERAMERICAN, METROPOL, OMNIASIG, UNITA) represent the insurers and Societea Nationala “Nuclearelectrica” SA is the insured entity. The British cover about 59.75%, the Italians about 39.75% and the Romanians about 0.5%;
- the insurance policy states that the insurers will indemnify the insured against liability for damages in respect of:
 - (a) death or illness/bodily injury of any person;
 - (b) loss of or damage to property due to any nuclear occurrence involving the release of ionising radiation or contamination by radioactivity or a combination of the toxic explosive or other hazardous properties of nuclear fuel or radioactive products or waste, and occurring accidentally in connection with the insured’s use;
- up to an amount of USD 55 million.
- the insurers will also pay:
 - (a) costs and expenses recoverable by any claimant from the insured;
 - (b) costs and expenses incurred with the written consent of the insurers;

- up to an amount of USD 5 million in respect of claims for damages to which the Indemnity is expressed in nuclear liability part;
- the personnel of the nuclear installation is considered as “third party” for any nuclear occurrence and is also covered by the nuclear liability policy;
- the coverage limit is similar to Canadian practice, at the moment when the cover was acquired, and in accordance with the limits stipulated by the 1963 Vienna Convention on Civil Liability for Nuclear Damage (USD 5 million at 1963 value)

Initially, in negotiating and placement of the coverage, the experts from SNN SA faced a lack of adequate terminology and culture in the insurance field. The experience related to contractors’ all-risk insurance, in force from 31 December 1992, represented a good step in approaching the operational insurance, including nuclear liability.

Now, after about four years of experience dealing with prestigious nuclear insurers, SNN SA’s experts have reached an excellent level of understanding of insurance benefits, reflected in improvements in policies. Meeting with insurers and their on-site visits represents a challenge, but also a commitment for the negotiation team and the management of the nuclear installation. Their commitment is to maintain the policy in force, with reasonable prices, and the challenge is to maintain and “to improve the already high standards of operation” to quote the Insurers’ expert report from 27 April 1998.

From July 1998, the deregulation of the Romanian power sector commenced, and new actors are playing on the power market. Under these circumstances, Nuclearelectrica, being covered by nuclear liability and property insurance, has a stronger position on the market. It is interesting to note that the conventional power sector, which in the past usually retained the risk inside the company, is considering following the nuclear example and setting up a system of coverage which would reduce the risk retention and transfer it to the insurance market. Also, Nuclearelectrica is moving further, and has started to study other types of coverage, such as business interruption, management liability etc.

4. Conclusions

Recent achievements in the restructuring process of both the regulatory body and the utility, and in the nuclear legislative and regulatory framework reviewing process demonstrate the fact that in Romania, the transition process in the nuclear sector is done in a controlled manner and is oriented to fulfil the requirements laid down in the document “Agenda 2000” of the EU and the requirements of international nuclear conventions to which Romania is party.

RUSSIAN FEDERATION

Nuclear indemnity regulations in the Russian Federation

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MINATOM

In October 1995, the Federal Law “On the Use of Atomic Energy” entered into force. It formulates basic principles to be followed in the course of any activities associated with the operation of civil nuclear power facilities, ionising radiation sources and other nuclear materials.

This Law also contains basic principles that regulate nuclear damage liability issues. In particular and following the provisions of the Vienna Convention of 1963, all responsibility for damage resulting from an accident at a nuclear facility lies with the operator. The liability issues are also regulated by Article 1079 of the Civil Code of the Russian Federation, which entered into force on 26 January 1996. This Article states that legal persons and individuals whose activities relate to an increased hazard to the general public, including activities in the field of the use of atomic energy, shall make good any damage caused by this source.

Unfortunately, our western partners do not wish to notice such progress in the Russian legislation and are very insistent in requiring additional assurances from the Russian Federal Government. In so doing, they considerably complicate co-operation in the nuclear field. It is clear that the lack of a mechanism in Russia similar to that of the 1963 Vienna Convention complicates the court procedures for decision-making on nuclear indemnity issues but the practice of the assurances of the Russian Federal Government, which is being imposed, is unlikely to simplify them.

Nevertheless, with regard to a number of large-scale technical assistance programmes, the following agreements were concluded on behalf of

the Russian Federation Government to include provisions for regulation of nuclear liability issues:

- with the US in December 1993;
- with the Commission of the European Communities (Memorandum of Understanding) in February 1995;
- with the European Bank of Reconstruction and Development in June 1995;
- with Norway in May 1998;
- with Germany in June 1998.

At present, proposals are under examination for the development of similar agreements with France and a group of donors rendering assistance to resolve environmental problems in north-west Russia.

Activities in the field of waste management are regulated by separate legislation, including the following acts:

- the Federal Law “On Radioactive Waste Management” of 1995;
- the Federal Law “On Environmental Protection” of 3 March 1992;
- the Russian Federation Government Decree No. 1030 of 23 October 1995, “On the Federal Programme of Management, Utilisation and Disposal of Radioactive Waste and Spent Nuclear Materials”.

Preparations for the adoption of legislation regulating the use of atomic energy are under way. The following Federal Draft Laws are at different stages of advancement:

- on nuclear indemnity and nuclear insurance;
- on social security of individuals who live or work in the regions where nuclear facilities are located;
- on compulsory insurance of the Russian Federation citizens against radiation risk;
- on administrative responsibility of organisations involved in activities associating with the use of atomic energy.

SLOVAKIA

Nuclear liability in Slovakia

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Vice-Chairman, Nuclear Regulatory Authority

Martin Pospíšil

Legal Director, Nuclear Regulatory Authority

Introduction

Legislation governing nuclear liability and insurance is incorporated into the Act of the National Council of the Slovak Republic, in force since 1 July 1998 and entitled Act No. 130/1998 on the Peaceful Uses of Nuclear Energy and on Alterations and Amendments to Act No. 174/1968 Zb. on State Supervision of Work Safety as amended by Act of the National Council of the Slovak Republic No. 256/1994 Z.z.

Nuclear Damage

Nuclear damage and compensation for such damage is set out in Chapter Five of Act No. 130/1998 as follows.

Chapter Five

NUCLEAR DAMAGE AND COMPENSATION FOR SUCH DAMAGE

Section 26

Nuclear damage

1. Nuclear damage is detriment to property, loss of life or harm to health caused by an accident [Section 24(2)(c)] or by an accident during transportation [Section 24(3)].
2. Compensation for damage shall be covered by general regulations on liability for damage¹, except as otherwise stipulated in this Act or an international agreement by which the Slovak Republic is bound.
3. Nuclear damage shall also be damage that has arisen through the expenditure of costs or measures necessary to avert or reduce irradiation or to restore the natural environment to its previous or an equivalent state, should such measures have been instigated as a result of a nuclear incident and should the nature of the circumstances permit them.
4. If the damage was caused simultaneously by a nuclear incident and another event not dependent on the nuclear incident, the nuclear damage shall be that part of the damage which was not demonstrably caused by the other event. The scope of the damage which cannot be categorised as nuclear damage shall be demonstrated by the operator.

1. For example Sections 415 to 450 of the Civil Code as amended by the latest regulations.

Section 27

Liability for nuclear damage

1. The person liable for nuclear damage caused by a nuclear incident shall be the operator.
2. The person liable for nuclear damage caused during the transportation of nuclear materials or radioactive waste shall be the carrier who applied for recognition as operator of a nuclear installation and, with the consent of the operator concerned, was recognised by the Authority as the operator.
3. If an operator operates a number of installations located on a territory for which a common on-site emergency plan has been approved, they shall be taken as a single nuclear installation for the purposes of liability for nuclear damage. More than one nuclear installation on one site, where the operators are different holders of authorisations [Section 4], may not, however, be taken as a single installation, even if these installations are technically linked together.

Section 28

Limitation of liability

1. An operator shall be liable for nuclear damage up to a total of two billion Slovak crowns.
2. Limitation of liability as in paragraph (1) above shall not include interest or costs acknowledged by a court in proceedings related to compensation for nuclear damage.

Section 29

Meeting of claims for compensation for nuclear damage

In meeting claims for compensation for nuclear damage, an operator shall proceed as follows:

Group I:

Justified claims made within 12 months of the occurrence of a nuclear incident shall be met within 60 days of the date the claim was made. Seventy percent of the sum specified in Section 28, paragraph (1) may be used to meet claims for compensation for damage. If the damage compensation claims exceed the sum that may be utilised for this group, compensation claims for damage to health and compensation for cases of death shall be met in full and other claims proportionately.

Group II:

Other claims made between 12 and 36 months after the occurrence of a nuclear incident shall be met within 60 days of the claim, and include claims which were met proportionately in Group I.

Group III:

When a period of 36 months has elapsed since the occurrence of a nuclear incident, individual claims for compensation for nuclear damage shall be met within 90 days of the claim, but only until the sum specified in Section 28, paragraph (1) is exhausted. These include claims which were met proportionately in Groups I and II.

Section 30

Financial cover for nuclear damage liability

1. An operator shall ensure that his liability for nuclear damage is covered by insurance or some other form of financial cover to the sum specified in Section 28, paragraph (1).

2. The cover for the liability of an operator for nuclear damage as in paragraph (1) above shall be in place for the duration of operation of the nuclear installation and at least ten years after a nuclear incident.
3. An exemption from nuclear damage liability cover 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.² Details of the maximum limits for such amounts shall be established by a generally-binding legal regulation to be issued by the Authority.

Implementation of the legislation

Based on the same Act No. 130/1998, the Slovak Nuclear Regulatory Authority (UJD) issues authorisations for operators of nuclear installations. Applicants for authorisation must submit to UJD all relevant documentation (based on Act No. 130/1998) including an insurance contract.

Since 1 January 1999, both sites which contain nuclear installations are insured up to the amount provided for in Section 28 of Act No. 130/1998 *i.e.* Slovakian koruny (SKK) 2 billion. Both sites have one operating organisation which is authorised as an operator.

2. Article 1, paragraph 2 of the Vienna Convention on Civil Liability for Nuclear Damage (publication of the Ministry of Foreign Affairs of the Slovak Republic No. 70/1996 Z.z.).

UKRAINE

Legislation of Ukraine

Volodymyr Shvytai

National Security and Defence Council of Ukraine

Yury Kot

Deputy Head of Legal Directorate, Ministry of Energy of Ukraine

Civil liability for nuclear damage in Ukraine is governed by the Law of Ukraine on the Use of Nuclear Energy and Radiation Protection of 8 February 1995. Section XIII of this Law sets out the principles of strict and limited liability of the operator of nuclear installations. At the present stage of development of the Ukrainian legislation, some of the norms of the international third party liability regime, such as the amount of limited liability, and the method of providing financial guarantees to cover such liability, have not yet been accepted. On 12 June 1996, Ukraine acceded to the Vienna Convention on Civil Liability for Nuclear Damage and it entered into force on 23 December 1997. The further implementation of the provisions governing civil liability for nuclear damage have been based on the Law of Ukraine on Introduction of Amendments to Certain Ukrainian Legislative in connection with the Accession of Ukraine to the Vienna Convention on Civil Liability for Nuclear Damage.

This list of legislative acts provides evidence of the existing nuclear third party liability regime in Ukraine at present. Let me draw your attention to the principal characteristics of the Ukrainian regime in this respect.

The operator's liability, which is strict, is limited to a sum equivalent to 50 million SDRs per nuclear incident. In respect of the conditions governing claims for indemnification of nuclear damage, they comply with the provisions of the Vienna Convention with the exception of the absence of a prescription period in respect of death or personal injury (therefore unlimited in time).

Besides this, it is necessary to note that Ukraine's accession to the Vienna Convention and the adoption of laws introducing amendments to the Ukrainian legislation led to the termination of the Cabinet of Minister's practice of issuing guarantees (except the case of issuing guarantees to persons not subject to the nuclear liability regime established by the Vienna Convention and the Ukrainian legislation, which case will be analysed below). The issue of such guarantees was based on the following documents:

- Resolution No. 148 on Granting Guarantees to Release Foreign Legal Entities from Civil Liability for Nuclear Damage, dated 26 May 1995, issued by the Verkhovna Rada, the supreme legislative body of Ukraine.
- Resolution No. 773, The Order for Granting Guarantees to Release Foreign Legal Entities from Civil Liability for Nuclear Damage, dated 13 September 1995 and issued by the Cabinet of Ministers of Ukraine.

The above-mentioned Resolutions regulated issues in relation to the granting of guarantees to release foreign entities from civil liability for nuclear damage before the existing legislative and regulatory framework was established. Once Ukraine became a party to the Vienna Convention, the issue of releasing foreign suppliers from liability for nuclear damage is considered to be governed by the Ukrainian legislation. Therefore, the question of the release from liability for nuclear damage of suppliers of works, goods and services to the nuclear facilities in Ukraine is regulated by both the Vienna Convention and the Ukrainian legislation. However, it is necessary to emphasise that the guarantees issued by the Cabinet of Ministers of Ukraine in some cases (depending on the validity time clauses in guarantees) are still valid.

Therefore, taking into account that Ukraine receives international grants, and in these cases the selection of the provider of goods and services in the field of nuclear energy is subject to the rules of the grant-provider *i.e.* to those clauses which form part of the grant (for example, the EBRD [project of safety improvement of the third unit of the Chernobyl NPP] or "The Chernobyl Sarcophagus Fund [the project of transforming of the sarcophagus into an environmentally safe element]), situations arise where entities from states not party to the regime of the Vienna Convention perform work or services or supply goods. In such cases, Ukraine applies the provisions of the above-mentioned Regulations of the Verkhovna Rada and the Cabinet of Ministers on the issue of guarantees, limiting their validity in time until such entities are subject to the general international regime of liability for nuclear damage.

Problems of Application (Law Implementation)

During the development of the procedures to ensure financial guarantees for indemnification of nuclear damage caused by the operator, Ukrainian legal experts faced a number of problems as such procedures had not yet been applied in the legal and insurance regimes in Ukraine.

There are 14 nuclear power units in operation at 5 NPPs along with the Sarcophagus Facility. The operator's functions in all these nuclear facilities are carried out by the National Nuclear Energy Generating Company, NNEGC, *Energoatom* which were delegated by Resolution No. 1268 dated 17 October 1996 of the Cabinet of Ministers of Ukraine, and appointed the operator of nuclear facilities by Resolution No. 830 dated 8 June 1998 of the Cabinet of Ministers of Ukraine.

It is necessary to mention the problems associated with the application of provisions for performance of the operator's functions as stated in the Ukrainian legislation, *i.e.* the Laws of Ukraine on the Use of Nuclear Energy and Radiation Protection and on Insurance. The legislation does not provide for procedures of performance of the operator's functions. Especially with regard to the financial guarantees of the liability for nuclear damage (except for general insurance).

Pursuant to Article 6 of the Law of Ukraine on Insurance, the insurance of the nuclear operator's liability for nuclear damage is considered the obligatory type of financial security. In the meantime, the Law does not provide the procedure and conditions for such insurance nor does it completely or partially cover liability by insurance. Therefore, based on the Laws of Ukraine on the Use of Nuclear Energy and Radiation Protection and on Insurance, the operator ensures the financing of his liability for nuclear damage either partly through insurance and the rest by other financial means, or else entirely by insurance. The same Article of the Law on Insurance provides that the procedure and conditions governing insurance of liability for nuclear damage should be set out in a special law. No such law exists to date. However, the development of a draft Law on Liability for Nuclear Damage is underway, and we believe that this instrument will resolve problems associated with the implementation of these measures.

Recognising the extreme importance of the given institution and the necessity to have financial cover for the operator's liability, and in order to fulfil the legislative provisions in respect of other means of financial security, a number of the following actions are being carried out in order to identify other possibility of financial security.

First, the essential financial cover can be obtained by producing guarantees of financial cover of liability for nuclear damage issued by the Government of Ukraine. Secondly, we are considering the possibility of creating a special insurance fund. If such a fund is established, its funding shall come from contributions paid by electricity generators in accordance with the quantity of electric energy supplied. Thirdly, one other variation in terms of obtaining the essential means to ensure the financial cover is the issue of securities by NNEGC *Energoatom*. In this case, the issue of bonds is under consideration. Fourthly, if the law on establishment of NNEGC *Energoatom* as a corporate and share-holding company is passed, a part of shares will probably be deposited at the National Bank of Ukraine in order to cover liability for nuclear damage.

The other important problem faced by Ukrainian lawyers in the establishment of the nuclear liability regime is the creation of procedures to ensure the just and equitable distribution of compensation, available within the limits of the operator's liability, between the victims of a nuclear accident. The attempt to settle this problem is pursued by Ukrainian specialists in co-operation with the Joint Task Force on Nuclear Legislation in Ukraine, in the context of the draft law on nuclear insurance and third party liability for nuclear damage.

In respect of the perspectives of nuclear insurance in Ukraine, the Nuclear Insurance Pool of Ukraine was registered on 16 January 1997. However, the Pool is experiencing difficulties due to the complex economic situation in the nuclear sector, lacunae in the legal framework and problems of establishment and development of the Ukrainian insurance market.

**STATUS OF INTERNATIONAL CONVENTIONS ON
NUCLEAR THIRD PARTY LIABILITY
as at 20 October 1999**

**Paris Convention on Third Party Liability in the Field of Nuclear Energy
of 29 July 1960, as amended by the Additional Protocol of 28 January 1964
and by the Protocol of 16 November 1982**

Entry into force : 1 April 1968

State	Date of ratification/accession
Belgium	3 August 1966
Denmark	4 September 1974
Finland (acc.)	16 June 1972
France	9 March 1966
Germany	30 September 1975
Greece	12 May 1970
Italy	17 September 1975
Netherlands	28 December 1979
Norway	2 July 1973
Portugal	29 September 1977
Spain	31 October 1961
Sweden	1 April 1968
Turkey	10 October 1961
United Kingdom	23 February 1966

Brussels Convention of 31 January 1963 Supplementary to the Paris Convention, as amended by the Additional Protocol of 28 January 1964 and by the Protocol of 16 November 1982
Entry into force: 4 December 1974

State	Date of ratification/accession
Belgium	20 August 1985
Denmark	4 September 1974
Finland (acc.)	14 January 1977
France	30 March 1966
Germany	1 October 1975
Italy	3 February 1976
Netherlands	28 September 1979
Norway	7 July 1973
Spain	27 July 1966
Sweden	3 April 1968
United Kingdom	24 March 1966

**Vienna Convention on Civil Liability for Nuclear Damage
of 21 May 1963**

Entry into force 12 November 1977

State	Date of ratification/ accession/succession
Argentina	25 April 1967
Armenia (acc.)	24 August 1993
Belarus	9 February 1998
Bolivia (acc.)	10 April 1968
Bosnia & Herzegovina (succ.)	30 June 1998 (notif.) 1 March 1992 (effect)
Brazil (acc.)	26 March 1993
Bulgaria (acc.)	24 August 1994
Cameroon (acc.)	6 March 1964
Chile	23 November 1989
Croatia (succ.)	29 September 1992 (notif.) 8 October 1991 (effect)
Cuba	25 October 1965
Czech Republic	24 March 1994
Egypt	5 November 1965
Estonia (acc.)	9 May 1994
Hungary (acc.)	28 July 1989
Latvia (acc.)	15 March 1995
Lebanon	17 April 1997
Lithuania (acc.)	15 September 1992
FYR of Macedonia (succ.)	8 April 1994 (notif.) 8 September 1991 (effect)
Mexico (acc.)	25 April 1989
Moldova, Rep. Of (acc.)	7 May 1998
Niger (acc.)	24 July 1979
Peru (acc.)	26 August 1980
Philippines	15 November 1965
Poland (acc.)	23 January 1990
Romania (acc.)	29 December 1992
Slovakia (acc.)	7 March 1995
Slovenia (succ.)	7 July 1992 (notif.) 25 June 1991 (effect)
Trinidad and Tobago (acc.)	31 January 1966
Ukraine (acc.)	20 September 1996
Uruguay (acc.)	13 April 1999
Yugoslavia	12 August 1977

**Joint Protocol relating to the Application of the Vienna Convention
and the Paris Convention, of 21 September 1988**

Entry into force: 27 April 1992

State	Date of ratification/ accession/succession
Bulgaria	24 August 1994
Cameroon	28 October 1994
Chile	23 November 1989
Croatia (acc.)	10 May 1994
Czech Republic (acc.)	24 March 1994
Denmark	26 May 1989
Egypt	10 August 1989
Estonia (acc.)	9 May 1994
Finland	3 October 1994
Hungary	26 March 1990
Italy	31 July 1991
Latvia (acc.)	15 March 1995
Lithuania (acc.)	20 September 1993
Netherlands	1 August 1991
Norway	11 March 1991
Poland (acc.)	23 January 1990
Romania (acc.)	29 December 1992
Slovakia (acc.)	7 March 1995
Slovenia (acc.)	27 January 1995
Sweden	27 January 1992

**Convention relating to Civil Liability in the Field of Maritime Carriage of
Nuclear Material, of 17 December 1971**

Entry into force: 15 July 1975

State	Date of ratification/accession
Argentina (acc.)	18 May 1981
Belgium	15 June 1989
Denmark	4 September 1974
Finland	6 June 1991
France	2 February 1973
Gabon (acc.)	21 January 1982
Germany	1 October 1975
Italy	21 July 1980
Liberia (acc.)	17 February 1981
Netherlands	1 August 1991
Norway	16 April 1975
Spain (acc.)	21 May 1974
Sweden	22 November 1974
Yemen (acc.)	6 March 1979

**Protocol to Amend the Vienna Convention on Civil Liability for Nuclear
Damage, of 29 September 1997**

*“Shall enter into force three months after the date of deposit of the fifth
instrument of ratification, acceptance or approval” (Article 21.1)*

State	Date of signature/ratification
Argentina	19 December 1997
Belarus	14 September 1998
Czech Republic	18 June 1998
Hungary	29 September 1997
Indonesia	6 October 1997
Italy	26 January 1998
Lebanon	30 September 1997
Lithuania	30 September 1997
Morocco	Signed 29 September 1997 Ratified 6 July 1999
Peru	4 June 1998
Philippines	10 March 1998
Poland	3 October 1997
Romania	Signed 30 September 1997 Ratified 29 December 1998
Ukraine	29 September 1997

**Convention on Supplementary Compensation for Nuclear Damage
of 29 September 1997**

“Shall come into force on the ninetieth day following the date on which at least 5 States with a minimum of 400 000 units of installed nuclear capacity have deposited an instrument referred to in Article XVII” (Article XX.1)

State	Date of signature/ratification
Argentina	19 December 1997
Australia	1 October 1997
Czech Republic	18 June 1998
Indonesia	6 October 1997
Italy	26 January 1998
Lebanon	30 September 1997
Lithuania	30 September 1997
Morocco	Signed 29 September 1997 Ratified 6 July 1999
Peru	4 June 1998
Philippines	10 March 1998
Romania	Signed 30 September 1997 Ratified 2 March 1999
Ukraine	29 September 1997
USA	29 September 1997

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