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Nuclear Liability: A Continuing Impediment To Nuclear Commerce

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It has been over thirteen years since the 1986 events at Chernobyl demonstrated nuclear power plant accidents can have cross-border consequences. Yet, there still is not a unified international legal regime for liability associated with nuclear accidents at fixed facilities or during transport. Existing international conventions and many national laws still are inadequate, and continue to present an impediment to international nuclear commerce. Countries with a majority of the world's 425-plus operating nuclear power plants (including Canada, China, Japan, Korea, Russia, South Africa, Switzerland and the United States) are not yet parties to any nuclear liability convention.

This presentation outlines the concerns of international suppliers, and discusses possible solutions, including revisions to the 1963 Vienna Convention on Civil Liability for Nuclear Damage, and the new Convention on Supplementary Compensation for Nuclear Damage (CSC) adopted by the International Atomic Energy Agency (IAEA) in 1997. It provides a brief survey of the laws of selected countries (including the United States, China, Russia and Ukraine), and discusses the potential impacts of the 1999 Austrian nuclear liability law, which deviates from long-standing international nuclear liability standards.

Nuclear Liability Concerns

It is important to reiterate the fundamental factor that underlies the concerns of privately-owned contractors and suppliers: private (as distinguished from state-owned) companies have a fundamental obligation to protect the assets of their shareholders. Private companies are exposed to tort and other liabilities to the full extent of their assets. The greater the assets of a private company the greater its liability concerns are. Private companies ordinarily do not enjoy the immunities that governments and state-owned entities do. Company directors and officers even can be sued by shareholders for imprudent business decisions. Because of the large judgements and legal defence costs that unfortunately are a part of the American tort system, contractors and suppliers feel particularly vulnerable (especially to Bhopal-type lawsuits in US courts). Private companies simply cannot risk bankruptcy, particularly for one or two small contracts.¹

The issue of nuclear liability began receiving more international attention at the time of the Soviet Union's collapse. To eliminate the serious nuclear liability problem associated with Western nuclear safety assistance and co-

operation programmes and to better ensure protection of the public, former Soviet bloc countries were urged to adopt domestic legislation that channels nuclear liability to the plant operator, to provide for an adequate limitation on liability, and to become parties to the international nuclear liability conventions in force in most of Western Europe (i.e. the 1963 Vienna Convention and the 1988 Joint Protocol that links it with the 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy).

The nuclear liability conventions' common principles are channelling of liability to the installation operator, 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. These elements protect the public, and have come to be expected by responsible international nuclear suppliers.

Nuclear Liability Conventions

At the same time, the nuclear liability conventions unfortunately do not provide one comprehensive and unified international legal regime for nuclear accidents. In fact, as shown by a recent study, there is a labyrinth of international agreements on nuclear liability, the interrelations of which have become increasingly complicated.² 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, the 1963 Vienna Convention, the 1963 Brussels Supplementary Convention, the 1971 Maritime Carriage of Nuclear Material Convention, the 1988 Joint Protocol, the 1997 Protocol to Amend the Vienna Convention, and the 1997 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, for example, sixteen possible combinations that include the Paris Convention alone. These can all be combined with sixteen possible combinations that include the Vienna Convention. Additionally, there are the possible combinations between non-Vienna or non-Paris CSC states, and all the previous combinations. For instance, a party to the Paris Convention also could be a party to any or all of the Joint Protocol, the Maritime Convention and the CSC.

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 worldwide system, but so far has attracted a scattered membership of only 32 states (two-thirds of which have joined in the last 10 years, and includes such non-nuclear states as Cameroon, Niger, Peru, and Trinidad and Tobago). 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. The 1997 Vienna Protocol and particularly the CSC were designed to increase worldwide treaty membership, but the ratification process is a slow

one. For example, the 1960 Paris Convention did not enter into force until 1968; and the 1963 Vienna Convention did not enter into force until 1977. The Paris Convention countries have only begun to consider changes to that 1960 treaty and the continuing role, if any, of the Brussels Supplementary Convention.

Beginning in 1994, the United States Government put forward at the IAEA what now is known as the Convention on Supplementary Compensation for Nuclear Damage. The CSC was designed to be a new free-standing convention linking countries with strong nuclear liability systems. It would distribute the economic burden among several countries through a system of contributions by the member states in the unlikely event there were another catastrophic nuclear accident. Significantly, it allows the United States to keep in place its earlier and slightly different Price-Anderson Act system (which utilises economic channelling instead of legal channelling of liability to the plant operator, as under the Paris and Vienna Conventions).

The United States and Ukraine became the first two countries to sign the CSC on 29 September 1997. It now has been signed by thirteen countries, and ratified by Romania and Morocco. We hope it will be ratified by the United States and others in the near future. Being in treaty relations is the long-term solution to the international nuclear liability issue, because it would ensure, among other things, that all claims would be heard in a single competent court of the country where the nuclear incident occurred.

1997 saw significant changes in the Vienna Convention and the introduction of the new CSC. 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. These provisions, which were incorporated into the CSC, are not in the Paris Convention. Additionally, there are discrepancies between the 1997 Conventions and the current Paris Convention in the areas of geographical scope and court jurisdiction.

As I indicated, 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 are not covered by any nuclear liability convention, but may be covered by domestic legislation or other international agreements (e.g. the Law of the Sea Convention). As examples, I will review briefly the domestic nuclear liability legislation of five states not party to any international nuclear liability convention: the United States, Japan, the Russian Federation, the People's Republic of China, and Austria (whose new nuclear liability law further complicates the labyrinth described).³

United States

While it has about one-fourth of the world's nuclear power plants (103 operating reactors), the United States is not yet a party to any 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 is usually referred to as “economic channelling” of liability. It works similarly to the “legal channelling” of liability to the installation operator under the international conventions and domestic laws of many other countries (whereby claims for compensation are legally confined to one entity, instead of confining not the claims but merely the payment of compensation to one entity). The US liability limit (the highest in the world) now is about US\$9.4 billion for nuclear power plants and associated shipments, and about US\$9.89 billion for US Department of Energy facilities and associated shipments. Substantive tort law generally is left to the 50 states (except for large accidents, defined as “extraordinary nuclear occurrences”).

Japan

Japan is another example of a state with a large nuclear power program (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, installation operator liability is exclusive and absolute. Under amendments adopted by the Diet in May 1999, a power plant operator must provide financial security of 60 billion yen (US\$520 million) as of 1 January 2000. The Japanese 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.

Russian Federation

While the Russian Federation has a large nuclear power programme (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 commerce, for example in light of the fact 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. Meanwhile, rival factions in the Russian government and Duma have been advocating different approaches. Russia has entered into certain 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 liability protection for entities doing work under certain nuclear safety assistance programmes, but there are substantial questions about their enforceability. Many Western contractors have not been willing to do nuclear work in Russia without more sufficient liability protection.

People's Republic of China

The People's Republic of China is a country that plans to develop a larger nuclear power programme (three operating reactors now, with others under construction or planned). China is not a party to any nuclear liability convention (although it recently has joined other nuclear conventions, such as the Conventions on Nuclear Safety and on Early Notification of a Nuclear Accident). China's nuclear liability regime now is contained 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). The liability limit is 30 million RMB (about US\$36 million). I have been participating in discussions with Chinese authorities about the adoption of a more comprehensive nuclear liability regime by the National People's Congress.

Ukraine

Over the last few years, Ukraine (which has 14 operating reactors) has carefully considered and acted upon the issue of nuclear liability. This has been facilitated by the fact that Ukraine and the G-7 in early 1996 established a special Joint Task Force on Ukrainian Nuclear Legislation (JTF). As its only private sector member, I have been able to bring contractors' specific concerns to the JTF's attention. Ukraine's first domestic nuclear liability law was adopted in February 1995 as part of a framework law that regulates all activities in the area of the peaceful use of nuclear energy. The nuclear liability provisions were revised in 1996 and 1997. The amendments were made by the Rada to optimise harmonisation with the 1963 Vienna Convention after Ukraine's accession in 1996.

As amended in December 1997, the Ukrainian law now provides for legal channelling of liability for nuclear damage to the operator, which liability is termed as "absolute," i.e. regardless of fault. The December 1997 law set the limitation on the operator's liability at 50 million Special Drawing Rights (SDRs) (about US\$70 million), notwithstanding recommendations for a higher amount. Consideration is expected to be given to increasing the amount at the time Ukraine decides whether to ratify the revised 1997 Vienna Convention, which it signed in September 1997. The Chernobyl Shelter Implementation Plan (SIP) presents special nuclear liability concerns. The Ukrainian authorities have issued a separate "Nuclear Guarantee" for Chernobyl SIP work based on the principles of the Vienna Convention and Ukraine's domestic legislation. It covers nuclear liability associated with the "Shelter Object" outside Vienna Convention countries.

Austria

Austria has recently created a new complication that could have as yet undetermined impacts on international nuclear commerce, particularly if emulated by other countries. 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 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 simple 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. 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 and Slovakia, whose nuclear power plants prompted the new law).

Need for Greater Harmonisation

Harmonising nuclear liability protection and applying it to additional international commerce 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 commerce. The conventions protect the public, harmonise legislation in the participating countries, and promote the safer use of nuclear energy. American and other Western contractors have become accustomed to the nuclear liability conventions' common principles.

In the last ten years, Armenia, Belarus, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Moldova, Poland, Romania, Slovakia, Slovenia and Ukraine have acceded to the 1963 Vienna Convention. Important nuclear states absent from this list are Russia (as mentioned above) and Kazakhstan. Romania became the first to ratify the 1997 Protocol to Amend the Vienna Convention in December 1998 and the CSC in March 1999. Morocco became the second to ratify both in July. However, note that some of the listed states have not adopted domestic implementing legislation or established limitations of liability at levels much beyond the US\$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 at the IAEA over five years. Since then, the Paris Convention members have had five more sessions of their own. Instead of spending the next several years debating technical

modifications to the 1960 Paris Convention, its member states should simply prepare a revision that would bring the Paris Convention into full conformity with the 1997 Vienna Convention and the CSC. The 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 considering 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 join the new Vienna Convention and CSC. Either alternative would 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. Unfortunately, neither is likely to happen.

Yet, further delay in implementing a truly international nuclear liability regime is contrary to everyone's interests: 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 1988 Joint Protocol would have a similar effect, it would not include the United States and thus about one-fourth of the world's nuclear power plants. It would therefore not ensure coverage of damages as fully as the CSC and the 1997 Vienna Protocol would.

Conclusion

In conclusion, it remains difficult to grasp and predict all the nuances of liability associated with international nuclear commerce. Without greater adherence to the new Vienna Convention and the CSC, liability potentially associated with international nuclear commerce is likely to be a labyrinth of statutes and treaties not yet interpreted by the courts. I therefore urge Uranium Institute members and others to support the prompt ratification of these Conventions by their governments.

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1. In the case of any international nuclear project, determining whether to accept a contract requires weighing such factors as the nuclear and non-nuclear risks associated with the particular proposed contractual activity: the comprehensiveness of the domestic nuclear liability legislation, if any, of the state(s) involved (especially including the liability limit and whether there is a state guarantee of the operator's financial responsibility); the amount of money to be made under the contract; the contractor's level of control, supervision and involvement; the presence of other contractors and the extent of their assets; the type(s) of nuclear materials involved; the proximity of the facility to population centres, water courses, and national borders; the potential for claims outside states party to the Paris or Vienna Convention; etc. In other words, work should be done only after diligent consideration of the potential nuclear and other risks.
 2. For a comprehensive discussion of the interrelationship of the conventions, see: NLJT Horbach (ed), *Contemporary Developments in Nuclear Energy Law: Harmonising Legislation in CEEC/NIS*, Kluwer Law International (ISBN 90-

411-9719-2), p43-85, 1999. See also: OF Brown & NLJT Horbach, *Liability for International Nuclear Transport: An Overview*, International Symposium on Reform of Civil Nuclear Liability, Budapest, June 1999.

3. Given the complexities involved, this paper should not be construed or relied upon as legal advice or legal opinion on any specific facts or circumstances, or as to how liability for actual nuclear incidents would be handled.