



INTERNATIONAL PERSPECTIVE TO VICTIM COMPENSATION FOR NUCLEAR CIVIL INCIDENT

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Introduction

Starting from the construction of first nuclear power plant, there have been constant concern regarding the possible effects of a nuclear accident and who would be liable to pay compensation to the victims in such a serious situation. A specific legal framework for third party nuclear liability was required to ensure adequate compensation for damage to persons and property resulting from a nuclear accident and also to encourage the industry to develop nuclear technology and assume responsibility without being exposed to an uncertain and potentially ruinous liability burden. Significant attention needed at the international and national levels on fostering strong programmes to achieve safety, security and safeguards at the high level. Notwithstanding best efforts to achieve a high level of safety, the possibility remains that accidents may occur within a nuclear installation or during the transportation of nuclear substances to or from a nuclear installation. As the experiences shows from the accidents that occurred at Three Mile Island (United States) in 1979, Chernobyl (former USSR) in 1986, and Fukushima Daiichi (Japan) in 2011, severe accidents can have varying and potentially far-reaching consequences affecting people, property and environment.

The concept of nuclear liability regime owes its origin to the Brookhaven Report. This report for the first time in the history assesses the risks associated with civilian nuclear power and made a possible predication on the probable consequences of any nuclear incident. In 1957, the U.S. Atomic Energy Commission (USAEC) ordered a study of the possible consequences of a nuclear accident at a medium-sized (200 MW) nuclear reactor sited near (about 30 miles from) a medium-sized city. The resulting study known as Brookhaven Report, found that property damages could run as high as \$7 billion (in 1957 dollar), mostly due to radioactive contamination of land, building, food and water. It also documented the thousands of deaths

(immediate and delayed) that could be expected from such an accident and the large numbers of defective children that would result both immediately and many years later. After this report, the United States Congress proceeded to have hearing into the question of nuclear insurance and later passed Price Anderson Act, 1957 limiting the liability of a nuclear reactor operator covered by private insurer and the government. This report was the starting point of present nuclear liability law.

The insurance sector has been dealing with the issues of how best to provide cover for the emerging nuclear industry and how to provide protection for the populations without exposing their solvency margins to the potentially catastrophic losses that could arise from widespread radioactive contamination. Due to the reason of their nature and size, large nuclear risks have been beyond the resources of any one national market, leave aside an individual insurer. Traditional insurance mechanisms were not suited to cover nuclear risks. While channelling of all nuclear liability to the operator has emerged as a fundamental principle by either legal or economic channelling, rapid compensation and provisions of maximum capacity demand the assurance that only one insurance policy must respond to all claims arising from a nuclear incident in order to avoid the costly and time-consuming investigation and possible litigation on the question of who is ultimately liable for damages.

The risks presented by the nuclear industry are low-frequency but high-cost events. On the one hand, they demand a deployment of capacity by the insurance market that is greater than in any other sphere of industrial activity but on the other hand, “these low frequency and high intensity risks” which are few in number present an unbalanced equation. Countries around the world have their own nuclear liability regimes in place either by becoming a part of the international conventions or by designing their own frameworks. In India, the Civil Liability for Nuclear damages Act, 2010 brings the country’s nuclear liability provisions broadly into line with international standards, making operators liable for any nuclear accident, but without protecting third party suppliers as there is a provision of right to recourse available to the operator from the supplier.

International framework regarding nuclear liability

The development of the nuclear liability regimes stemmed in part from the viewpoint that ordinary rules of tort law, while appropriate for conventional risks, could hamper rather than help victims of nuclear damage in obtaining adequate compensation in a timely manner. Tort law requires that the victim identifies the person(s) responsible for the accident: i.e. proves

which of the many potential parties involved in a nuclear accident (operator, designer, constructor, supplier etc.) is legally liable and proves its fault (i.e. its intentional or negligent failure to exercise the prescribed standard of care). Given the potential technical complexities of such a task, litigants could be subject to a costly and time-consuming legal procedure before the courts. In case of transboundary damage, the question of the applicable law and competent court, as well as the question of the recognition and enforceability of court decisions may arise if the concerned states (i.e. the states where the accident or the damage occurred) do not have treaty relations which address these questions.

Notwithstanding the above mentioned concerns, some countries consider that the ordinary rules of tort law could put victims in a more favourable position and have not adhere to any of the nuclear liability regimes, mainly because under the ordinary rules of tort law there are some issues such as: the liability of the entity proven to be responsible would be unlimited; the victims may bring a claim against any entity that may consider liable for the accident, as long as they can prove the casual link between such entities' fault or negligence and the accident. Such an approach could significantly increase the financial capacity to compensate the victims if several entities are considered liable; under international conventions that addresses determination of the competent tribunal, victims may submit their claim before the court of their residence.

The foundation of present international conventions on civil nuclear liability taken into account these considerations as well as other aspects of the potential exceptional risks involved in nuclear energy production. The main principles common to the international conventions, which are also reflected in most national nuclear liability laws globally, are mentioned below:

1. Strict liability of nuclear operator
2. Exclusive liability of the operator of a nuclear installation
3. Compensation without discrimination based on nationality, domicile or residence
4. Mandatory financial coverage of the operator's liability
5. Exclusive jurisdiction (only courts of the state in which the nuclear accident occurs have jurisdiction)
6. Limitation of liability in amount and in time

Governments have long recognized the risk of a nuclear accident causing trans-boundary damage. This led to the development of international framework to ensure that access to

justice was readily available for victims outside of a country in which the accident occurs, so far as the countries are party to the relevant conventions. The number of different international instruments and their arrangements often give rise to confusion. Many of the major instruments, outlined below, have been amended several times and not all countries party to the earlier version have ratified the latter. The result is patchwork quilt of countries and conventions and work towards harmonization of these regimes is ongoing.

Before 1997, the international liability regime was embodied primarily in two instruments:

1. The IAEA's Vienna Convention on Civil Liability for Nuclear damage for 1963 (entered into force in 1977).
2. The Organisation for Economic Co-operation and Development (OECDs) Paris Convention on Thirds Party Liability in the Field of Nuclear Energy of 1960 (entered into force in 1968 and was bolstered by the Brussels Supplementary Convention in 1963).

These Conventions were linked by the Joint Protocol adopted in 1988 to bring together the geographical scope of the two. They are based on the concept of civil law and adhere to the principles outlined above. Specifically they include the following provisions:

1. Liability is channelled exclusively to the operator of a nuclear installation;
2. Liability of the operator is absolute, i.e. the operator is held liable irrespective of fault, except for "acts of armed conflict, hostilities, civil war or insurrection";
3. Liability of the operator is limited in amount. Under the Vienna Convention the upper ceiling for operator liability is not fixed but it may be limited by legislation in each State. The lower limit may not be less than US\$ 5 million. Under the 1960 Paris Convention, liability is limited to not more than 15 million Special Drawing Rights (SDR- about US\$ 23 million) and not less than SDR 5 million;
4. Liability is limited in time. Generally, compensation rights are extinguished under both conventions if an action is not brought within ten years. Additionally, States may not limit the operator's liability to less than two years under the 1960 Paris Convention, or three years under 1963 Vienna Convention, from the time when the damage is discovered;
5. The operator must maintain insurance or other financial security for an amount corresponding to his liability or the limit set by the Installation State, beyond this level the Installation State can provide public funds but can also have recourse to the operator;

6. Jurisdiction over actions lies exclusively with the court of the Contracting Party in whose territory the nuclear incident occurred;
7. Non-discrimination of victims on the ground of nationality, domicile or residence;
8. Definition of nuclear damage covers property, health and loss of life but does not make provision for environmental damage, preventive measures and economic loss. This greatly reduces the total number of possible claimants but increases the level of compensation available to the remainder.

The 1963 Brussels supplementary convention created a system of three tiers to provide for damages. Parties of the Brussels convention must also be parties to the Paris convention which provide for the first tier of funds via the nuclear operator's liability. Tier two requires the state to pay the difference between the operator's liability (which is set under national law) and SDR 175 million. Tier three calls upon all parties to the convention to supply up to SDR 125 million. The maximum total amount available for compensation is therefore SDR 300 million.

The Vienna Convention has been amended once in 1997, while the Paris convention and associated Brussels convention have been amended three times; in 1964, 1982, 2004, though the latest amendment has not yet been ratified by enough countries to pass into force. In 1997 governments took a significant step forward in improving the liability regime for nuclear damage when delegates from over 80 States adopted a Protocol to Amend the Vienna Convention. The amended IAEA Vienna Convention sets the possible limit of the operator's liability at not less than 300 million (SDRs) and entered into force in 2003 but with few members. It also broadens the definition of nuclear damage (to include the concept of environmental damage and preventive measures), extends the geographical scope of the Convention, and extends the period during which claims may be brought for loss of life and personal injury. It also provides for jurisdiction of coastal states over actions incurring nuclear damage during transport.

There was no change in the liability caps provided for under either 1964 Paris or Brussels amendments or the 1982 Paris amendment. However, under the 1982 Brussels amendment, the second tier of finance was raised to the difference between the operator's liability and SDR 175 million, while the third tier called upon all contracting countries to contribute up to SDR 125 million so that the total amount currency available is SDR 300 million.

In 2004, contracting parties to the OECDs Paris (and Brussels) Convention signed Amending Protocols which brought the Paris Convention more into line with the IAEA Conventions amended or adopted in 1997. The principle objective of the amendments was to provide more compensation to more people for a wider scope of nuclear damage. They also shifted more of the onus of insurance on to operator. The definition of nuclear damage is broadened to include environmental damage and economic costs, and the scope of application is widened. Moreover the 2004 amendment removed the requirement for a State to restrict the maximum liability of an operator, allowing for the first time states with a policy preference for unlimited liability to join the convention. These Paris/Brussels amendments are expected to be ratified by the contracting parties once they have consulted with stakeholders and then drafted the necessary amending legislation.

In 1997 IAEA parties adopted a Convention on Supplementary Compensation for Nuclear Damage (CSC). This defines additional amounts to be provided through contributions by States Parties collectively on the basis of installed nuclear capacity and a UN rate of assessment, basically at 300 SDRs per MW thermal. The CSC- not yet in force- is an instrument to which all States may adhere regardless of whether they are parties of any existing nuclear liability convention or have nuclear installation on their territories, though in case where they are not party to either Paris or Vienna they must still implement national laws consistent with an annex to the CSC. Jurisdiction of claims is to courts in the country concerned, as with other conventions.

In order to pass into force the CSC must be ratified by five countries with a minimum of 400 GW thermal of installed nuclear capacity. Seventeen countries have signed it, including India, Canada, Czech Republic, Ukraine, but many have not yet ratified it. Japan ratified it on 15th January 2015. The CSC is set to enter into force on the 90th day after date of ratification by at least five States who have a minimum of 400,000 units of installed nuclear capacity. The USA, Argentina and Romania are the only contributors to this total before its ratification by Japan. Ratification of CSC by Japan is very important as this step results into the CSC came into force on 15th April 2015.

Complexities in international conventions on nuclear civil liability

The Chernobyl accident in 1986 was an eye opener to the need of a viable and more effective international nuclear liability and compensation regime. The Chernobyl nuclear disaster is widely considered to have been the worst nuclear power accident in the history, and is one of

the only two classified as a level 7 event on the International Nuclear Event Scale (the other being the Fukushima Daiichi disaster in 2011). The battle to contain the contamination and avert a greater catastrophe ultimately involved over 500,000 workers and costs an estimate 18 billion Rubbles. The official Soviet casualty count of 31 deaths has been disputed and long-term effects such as cancer and deformities are still being accounted for. Various efforts have been made nationally, regionally and internationally as evident in the amendments and creation of newer nuclear liability regimes. After the Chernobyl accident in 1986, the IAEA initiated work on all aspects of nuclear liability with a view to improve the basic Conventions and establishing a comprehensive liability regime. In 1988, as a result of joint efforts by the IAEA and OECD/NEA (Nuclear Energy Agency), the Joint Protocol relating to the application of the Vienna Convention and Paris Convention was adopted. Parties to the Joint protocol are treated as if they are parties to both conventions. If an accident takes place in a country bound by the Paris Convention which causes damage in a country bound by the Vienna Convention, then victims in the latter are subject to compensation as per the Paris Convention. The reverse is also true. Generally, no country can be a party to both conventions because the exact details are not consistent, leading to potential conflict of law in the case of international transport of nuclear material. It entered into force in 1992.

The Paris Convention 1960 (PC), Brussels Supplementary Convention 1963 (BSC) and the Vienna Convention 1963 are the first generation nuclear liability agreements. The PC and BSC enjoy same regional/geographical applicability and same OECD origin, while VC is a product of IAEA which has worldwide geographical scope. They are applicable to different geographical scope and also there are slightly differences in damages covered, coverage of damages in non-contracting states (NCS) and coverage of nuclear incident on high seas.

The first generational nuclear liability regime has limited geographical coverage and does not expressly cover damages in NCS. The two conventions are actually independent of each other and are not connected by any other treaty. This means that a party to PC would regard a party to VC as a NCS, therefore, would not provide compensation as stipulated under PC in event of an accident which happens in PC state but causes damages in VC state, unless otherwise provided by the national law of the PC state in whose territory the nuclear installation of the liable operator is situated. The same situation is applicable to contracting state (CS) of VC through not binding on CS.

A complicated situation above mentioned was the order. The complexity created by this discord was being managed until exposed by the Chernobyl incident. After Chernobyl, it became apparent and compelling to have a link between the two conventions to give the regime a wider scope of coverage since the two conventions are similar. The Joint Protocol of 1988 is an attempt to solve this problem, although many major nuclear states were yet to be party to any of these conventions.

At that time there was no first-hand experience of how huge the effects of nuclear damage could be like. So the liability conventions provided for a minimum liability amount of 5 million SDR or USD depending on the convention. Interestingly, PC provides for maximum operator's liability amount of 15 million SDR (though later increased). PC even went further to give CS discretion to increase or decrease this maximum amount provided it is not less than 5 million SDR. Such maximum provision is not available under VC.

However, the BSC was introduced to improve on the shortcomings of PC. The main aim of BSC was actually to increase the compensation amount for nuclear damages. This is evident in the provision of compensation amount of 300 million SDR per incident. BSC also provides for three supplementary steps (tiers) to ensure appropriate compensation. The VC's 5 million USD minimum compensation amount was not improved until the introduction of the new VC in 1997.

On the other side, there is much similarity amongst PC, BSC and VC on limitation of time for bringing a claim which is pegged at 10 years from the date of occurrence of nuclear incident. But the period is too short. The occurrence of Chernobyl incident and the lessons learnt have vindicated the point of time. Chernobyl incident revealed how inefficient the limited time and amount was. This led to increment in limitation of time and amount as would see in later conventions.

The 1997 Convention on Supplementary Compensation (CSC) is global in scope, in the sense that it opens door to all states; nuclear states, non-nuclear states, legally channelling regime and economic channelling regime. So, PC states, VC states and Annex states (Annex states are states who are neither party to PC or VC) can be member of CSC. This gives states neither party to Pc nor VC an opportunity to be part of liability regime without being members of the two.

However, although CSC is meant to be a global regime, its scope for purposes of coverage is limited to territory of contracting states and also limited to nuclear incident in civil nuclear

installations. The coverable damages under CSC are personal injury, property damage, environmental damage, cost of preventive measures and economic loss. But the definition of these damages is to be determined by the law of the competent court. Article III(1)(a)(i) of CSC mandates states to ensure availability of minimum liability amount of 300 million SDR (1st tier) under their individual national laws. An additional amount of 300 million SDR under International fund, which the member states contribute, is also made available to supplement the compensation under the state's national law (2nd tier). Furthermore, one-half of the International funds would be reserved exclusively for trans-boundary damages, i.e. damages outside the installation state of the liable operator (3rd tier). This provision would be of great interest to the neighbouring and transit states.

Conclusion

After the Chernobyl nuclear incident the response of international nuclear community is comprehensive; improving two outdated international regimes, linking them together and adopting a new one – all in the hope of enhancing the situation of victims of a nuclear accident. Considerable more money will be available to compensate a larger number of victims and that more money will be easily available. But their acceptance is not widespread, at least not yet. There are some countries which are not ready to adhere to any of these conventions for a variety of political and legal reasons. Some countries may simply take the view that the conventions are too regional in scope, or that their countries are geographically too remote for them to be of real value. This could well be the case for certain Asian and African countries who might wish to explore the idea of concluding bilateral or multilateral regional agreements with their neighbouring countries, whether generating nuclear energy or not.

The global nuclear liability and victim compensation regime is not achievable only by simply establishing and improving international liability instruments – continuous committed efforts are needed to attract as many states as possible to adhere to them. This can best be achieved through international cooperation with strong and committed support of all the countries.

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