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GLOBAL NUCLEAR LIABILITY INSURANCE AND CLAIMS GUIDE

Introduction

Power and energy supply is the backbone of every economy of this world. Despite the leaps made in technological advancement to cater to the ever-growing demand of power with the exponential increase of human population, we are falling short of the power supply. To provide an adequate amount of power, man has employed various resources from non-renewable to renewable; yet an equilibrium between demand and supply seems far-fetched. Most of the power today is derived from thermal plants which use coal as a primary resource. The recent years have witnessed a shift to clean energy for power generation, i.e. nuclear energy as an alternative to the conventional sources. However, power generation from nuclear reactors pose a more substantial threat of causing major mishaps and accidents which could potentially damage property, cause personal injury, and damage the environment on a magnanimous scale. The potential underlying risk has thrown a significantly challenging question before the political heads of the world – who will be liable for the damage caused by such a nuclear incident? Several nations have addressed the concept of nuclear liability insurance and compensatory claims made by the injured parties through legally binding international conventions or/and national laws which has been analysed in great length in this paper.

How is nuclear energy liability insurance structured?

The insurers found it challenging to resolve the problem of figuring out how to provide cover for the nuclear industry. To them the apparent catastrophic risk posed a high level of uncertainty, in addition to the multiple individual claims, should the nuclear accident occur, resulting in an objectionable accumulation and an undesirable exposure to insurers’ solvency margins. On one hand, in essence, it was clear that no individual insurer could cover the risk alone; and on the other hand it was obvious that since nuclear power is required to meet the world’s energy demands and that in order for it to continue doing so, individual operator liability had to be curtailed or capped to an absolute upper limit beyond which the risk needed to have consorted. The state would have to step in and accept responsibility as insurer of last resort, as with everything else in industrial societies.

While structuring insurance for nuclear reactors, the only factor which ought to be considered is the high potential perils associated with installation and operations of nuclear fission and fusion. This drastically differs from the risk associated to that of other industries of global sectors. The fundamentals of any nuclear liability insurance are:

I. Channelling of liability on the operators: The nuclear operators are liable for all damages caused by a nuclear incident notwithstanding fault liability.

II. Trans-border nationality: A nuclear energy disaster affects not only the country in which it is located but the surrounding states as well. Hence, national laws are augmented with international conventions which are needed to defend the cross-border inflictions of such disasters.
III. Limited liability: Limited civil liability concept has been incorporated by the international conventions on the basis which the national laws have been formulated, putting a maximum cap limit on the nuclear operators, beyond which the state will take up the liability. (Detailed explanation is provided in the latter part of this article)

Due to such high-risk and strict liability, the nuclear operators opt for third-party civil liability insurance which finds its root in either of the two forms:

I. National Insurance Pool:
To cover the potential liability of the nuclear industry, many insurers agreed to pool their resources for the associated high-potential risks. A pool is where a group of insurance companies jointly participate to a fixed percentage in the insurance of a particular risk or class of business. These are created in the circumstances involving risks which, in practicality, cannot be provided by any individual insurer on a stand-alone basis. In most countries, national insurance pools have been formed based on the requirements laid down by the federal laws (based on international conventions), pooling together insurance for the domestic nuclear operators.

II. Mutual Insurance Associations: The USA (the Nuclear Electric Insurance Limited) and Europe (the European Mutual Insurance for Nuclear Installations) have insurance associations which deal with the physical damage and liability in the event of a nuclear accident which is set up by the nuclear industry itself.

Principles or fundamentals governing Nuclear Liability Insurance:
In recognition of this exposure caused by nuclear accidents, the international conventions and nuclear liability insurance were formulated in the light of the seven fundamental principles:

I. Strict Liability:
The operator is directly and strictly liable for the damage caused by the nuclear incident. The aggrieved need not prove that the operator was negligent or at fault. Only the link between the damage caused and the nuclear incident needs to be demonstrated. The operator is liable for any damage resulting from a nuclear event at his installation, in principle irrespective of its cause.

II. Channelling liability to the operator (Exclusive liability): All liability arising from the damage caused by a nuclear accident is channelled to the operator, thereby protecting the rights of the public. The operator is exclusively liable for damage resulting from a nuclear incident. He is held liable to the exclusion of any other person, regardless of who caused the damage. Hence, the damage is charged to the operator himself and not the suppliers. The channeling of liability might seem unfair as it means that the operator could be liable even if a third party were negligent or at fault. The victim of a nuclear incident can only present his claim to the operator of the installation causing damage or his insurer. Furthermore, such exclusive liability brings certainty in insurance claims as the compensation settlements would be quick, and avoids costly and time-consuming claim procedures. Had the situation been otherwise, then insurers would have to hold separate pools or covers for every party involved in the nuclear reactor chain.

III. Limitation of liability in Time:
This is an important concept because the injury caused by a nuclear incident may not manifest for several years. Ergo, a limitation period is intended to help the claimant where the consequences may not reveal for several years; thereby not divulging them of their right to seek damage, and at the same time it protects the rights of the operators and insurers by not exposing them of liability for an indefinite period.
For example, in the UK, the Nuclear Installations Act 1965 states that any claim made after 10 years (from the date of occurrence of the nuclear incident) but less than 30 years, will be made directly to the government instead of the insurer or the operator.

IV. Limitation of Liability in Time:
The amount of liability charged to an operator under the principle of strict and exclusive liability is capped to a limit to shelter them from the full risk amount. This concept is introduced to bring a balance or quid pro quo status against the strict and exclusive liability. Beyond the limit, the state covers the liability amount.

V. Insurance or other financial security:
Operators are obligated to carry financial security to cover their potential liability amount in the event of a nuclear incident. Usually, insurance pools tend to third-party claims. However, in certain situations, operators take the liability on themselves and cover the same by providing financial security in the form of government guarantees, bank guarantees, letters of credit, mutual fund, operators’ pooling etc.

VI. Jurisdiction:
Jurisdiction over claim actions lies exclusively with the courts of the country where the nuclear incident occurred. The courts of other contracting states will not be competent to hear the claims. Judgements made by the competent court will be recognized and enforced in other contracting countries. This principle is only useful when many states have ratified either the same convention or a bridging convention. Victims may, on first impressions, see it as an advantage to be entitled to sue all possible parties in different courts for nuclear damage. However, it is pertinent in the victims’ best interest to disburse compensation equitably.

VII. Applicable Law:
The applicable law is the national law of the competent court that has jurisdiction. The federal law must also be applied without discrimination on the grounds of nationality, domicile and residence. The applicable law principle helps prevent costly and lengthy arguments about which law applies, especially with regard to the complexities of the national and international rules surrounding the conflict of laws.

International Conventions:
A nuclear accident causing trans-boundary damage has led to the development of international conventions to ensure that victims have a readily available justice system.

I. Paris Convention:
The nuclear industries liability regime was founded in 1960 by the OECD’s Paris Convention. Which requires national legislation to be passed for it to be ratified. Although this convention recognizes strict and exclusive channeling of liability, it specifies certain exceptions, which rebuff the liability of the operator. Following are the exceptions:

i. For strict liability, when the nuclear incident is caused by-
1. armed conflict, civil war or act of terrorism; or
2. Grave natural disasters, the operator will be absolved from liability.

ii. For exclusive liability, provided here is that the operator will not be held liable for the installation of the reactor on the site when the accident is caused by the act or negligence of the suppliers. After the construction is done, liability is strictly channeled to the operator from the supplier.

iii. The operator is exempted from liability when the nuclear incident is caused due to the gross negligence of third party with the mala fide intention to cause damage.
"Government's first duty and highest obligation is public safety."
- Arnold Schwarzenegger

In the strictest sense, in the event of a nuclear incident, the operator is the one who faces the heat of all claims. The suppliers are not probed with such claims. However, the operator may have a recourse against the supplier only if such a recourse is expressly provided in the contract between them. If the supplier, due to his negligence or otherwise, has provided faulty equipment for the nuclear reactor, then on the basis of the expressed provision of the contract, the supplier will be exposed to claims from the operator.

I. Brussels Convention 1963:
The main purpose of the Brussels Convention was to increase the amount of funding to provide compensation to the victims of the nuclear incident where the amounts claimed exceed the operator’s liability under the Paris Convention. The Paris and Brussels Conventions set out a three-tier structure for liability limits:

i. Tier 1: the operator would be liable to pay compensation which is covered by insurance or other financial security;

ii. Tier 2: compensation is paid from the installation country’s public funds; and

iii. Tier 3: compensation from the public funds jointly contributed by all parties to the Brussels Convention.

II. Vienna Convention on Civil Liability 1963:
The Vienna Convention on Civil Liability is based on the modified version of ‘strict liability’, i.e. absolute liability; and unlike Paris and Brussels convention, it does not provide for any scope of exonerations from liability to the operator.

III. Convention of Supplementary Compensation 1997:
After the Chernobyl Accident 1986, the International Atomic Energy Agency (IAEA)’s Vienna Convention on Supplementary Compensation (CSC) was adopted intending to provide a global liability regime and to supplement as the fund for liability. Any state can accede to the CSC Convention if it is not a party to either the Paris (1960) or Vienna (1963).

The CSC, adhering to the provision of the Paris and the Vienna convention, aims to increase the amount of compensation. It requires the state to make available 300 million Special Drawing Rights (SDRs) or above by making available requisite public funds. SDR is based on a basket of currencies, as defined by the International Monetary Fund, consisting of euro, Japanese yen, pound sterling and U.S. dollar. The basket of currencies is reviewed every five years. The US dollar equivalent of SDR is posted daily on the IMF official website. (As a sample of 125m SDR = USD 200m).

It prescribes a formula for the amount of contribution to be made by each contracting state based on the number of reactors at their site. The operator is required to furnish a list of nuclear reactors with the depository that holds the operator liable and provide a fund of insurance to supplement the compensation amount borne by the operator.

IV. 2004 Brussels and Paris Protocol:
The 1986 Chernobyl incident also led to the amendment of the Paris and Brussels Convention in 2004, which resulted in the inclusion of different types of losses or damages to the victims such as loss of economic interest by damage to the environment, loss of turnover from loss of crops, animals etc. The significant changes introduced in this Protocol are as follows:

i. Even though operators and the nuclear state have unlimited nuclear liability, the operator must maintain its corresponding financial security at a lower amount.

ii. Apart from the recognised reasons for claims, the victims can claim compensation for other wider range of losses such as
Nuclear energy is a baseload — meaning it’s power that you can run any time you want, day or night - and carbon-free.”

– John F Kennedy

1. Economic loss due to loss of property or personal injury or,
2. Loss of income due to damage to the environment

iii. Recognises trans-border claims by non-contracting states against the nuclear operator. This raises the issue that non-contracting claims may be raised before their local courts which may defeat the purpose of the convention unless the operator has assets or business presence in the non-contracting state.

iv. Time limitations have been set to file the claim by the victims of a nuclear incident. If the claim is for loss of life or injury to the person, then the claim has to be filed within a period 30 years and for any other damage, the period is set at 10 years.

All these conventions hold the operator severally and jointly liable and must be ratified by the contracting states to make an effective regulatory regime for nuclear civil liability.

Global Legislative Overview on Nuclear Liability Insurance:

I. United Kingdom:
The Nuclear Installations Act 1969 is the governing law of for Nuclear Liability in the UK. The Act embodies the global principles of nuclear liability insurance.

Strict and Exclusive Channeling of liability:
Primarily, it imposes strict liability on the operator or the nuclear licensee. Under, section 7 of the Act, liability ensues when the nuclear incident is caused:

i. Involving a nuclear matter only;

ii. It occurs at the nuclear site which has been licensed to the operator; and

iii. Occurs during the period of the operator’s responsibility.

Liability from radioactive emissions:
Under the Act, whenever waste is discharged from the nuclear site causing loss of life or injury to the person, even if a third party negligently discharged it, the operator will be held liable. If the operator (or a party working under its control) did not bring a radioactive source onto the site and the operator was unaware of its presence, the operator would not be held liable for the damage caused by the radioactive source. However, the operator would be strictly liable for the emission taking place on the site once the operator is made aware of the presence of the ionizing radiations. Under the ambit of strict liability, any property of the supplier or any third party property on the operator’s site will be deemed to be the operator’s property and thereby making the operator liable for the nuclear incident.

Financial Burden on Operator:
Furthermore, the operators must have the provision, either by insurance or by some other means, for sufficient funds to be available at all times to ensure that any claims which have been established against the operator are satisfied. As per the Act, the maximum liability of the operator would be 140 million Euros. However, in 2016 under the Nuclear Installations (Liability For Damage) Order 2016 significant changes were introduced:

i. Increase in the maximum amount of compensation payable from £140 million to €1.2 billion

ii. The operator’s liability will be extended to include three new categories of damage:

1. reinstatement of the impaired environment;
2. loss of income derived from the environment; and

iii. Cost of preventative measures presented by an actual or a grave or imminent threat of a nuclear incident.

Jurisdiction:
The Act reflects the position in the Paris Convention that jurisdiction for claims of compensation lie with the courts of the contracting country where the nuclear
incident occurred, and no UK court should interfere in such matters or act as a hindrance at the time of enforcing awards from foreign courts. The UK courts have taken a significant stand under the act to provide compensation to victims of the nuclear incident. In the landmark judgement in *Merlin and Another v. British Nuclear Fuel Plc.* [1990] 2 QB 557, the claimants tried to use the statutory tort claims provided under this Act to claim future risk of personal injury that may be caused to their children due to exposure to radiation from nuclear matters that was released into the Irish Sea. The Court rejected their claim and said that the compensation is awarded only for proven physical injury and not for possible future injury.

Additionally, in another landmark judgement, in the case of *Blue Circle Industries v. Ministry of Défense* [1999] 2 Ch 289, the claimant (Blue Circle) was awarded compensation for all damages caused by the leakage of plutonium from the nuclear site that mingled with the topsoil of the property, making it unfit for agricultural purposes and reducing its economic value. The amount awarded was equivalent to the consequential losses to bring status quo for the claimant.

**II. The United Arab Emirates:**

UAE is a signatory to the CSC Convention and has ratified it by passing the Federal Law No. 4 of 2012 concerning civil liability for nuclear damage (Nuclear Liability Law). The objective of the law (Article 2 of the Nuclear Liability Law) is to determine the scope of liability and compensation for nuclear damage and the amount of financial security to be maintained by the operator.

**Liability and financial security:**

The Nuclear Liability Law imposes strict and absolute liability (Article 4 of the Nuclear Liability Law) on the operator for causing nuclear damage and sets the maximum liability amount as 450 million SRDs (US $694 millions), which is 50% higher than the minimum stated by the 1997 Convention. In case the liability exceeds the maximum limit, the state has taken the responsibility to pay the compensation (Article 5 of the Nuclear Liability Law). Additionally, if for some reason the operator is unable to get any insurance coverage from local or international sources for whatsoever reasons, the state may decide to cover the entire insurance up to the aforementioned prescribed liability limit (Article 8 of the Nuclear Liability Law).

**Exemption from Liability:**

Article 7 of the Nuclear Liability Law states that if the operator proves that the nuclear damage resulted wholly or partly either from:

i. the gross negligence of the person suffering the damage; or

ii. from an act or omission of such person done with intent to cause damage;

the court may relieve the operator wholly or partly from the obligation to pay compensation in respect of the damage suffered by such person.

**Jurisdiction:**

Only the Federal Court of the Emirate of Abu Dhabi has exclusive jurisdiction over actions and claims raised by victims under this law (Article 12).

**Competent Authority:**

The Federal Authority for Nuclear Regulation (FANR) is the competent authority to govern and set the limits for nuclear liability for the operators; assess the financial security provided by them; issues rules regarding the application of this Law (Article 13 of the Nuclear Liability Law).

**Losses covered under the Decree-Law:**

Claims can be raised by the victims of the nuclear incident for the following losses:

i. Loss of life or any personal injury;
ii. Loss of or damage to property;

iii. Economic loss arising from loss or damage not covered above;

iv. The costs of measures of reinstatement of impaired environment;

v. Loss of income deriving from an economic interest in the use or enjoyment of the environment;

vi. The costs of preventive measures, and further loss or damage caused by such measures; and

vii. Any other economic loss, other than injury caused by the impairment of the environment.

**Limitation of Time:**

Article 10 of the Nuclear Liability Law states that the rights for claiming compensation of any person who suffered nuclear damage shall expire if an action is not brought within three years from the date on which the person suffering damage had knowledge, or ought reasonably to have had knowledge of the damage and of the operator liable. However, it also acknowledges and grants additional time period limitations set by the 1997 Convention.

**III. The United States of America:**

The USA is not a party to any international nuclear liability convention except Convention on Supplementary Convention. Additionally, the USA is the first nation which comes up with the specific legislation, the Price-Anderson Act 1957 which was enacted to cover liability claims of members of the public for personal injury, loss of life and property damage caused by a nuclear incident.

In essence, the claim covers liability for the following damages:

i. Bodily injury, sickness, disease or loss of life;

ii. Property damage or loss; and

iii. Loss of foreseeable living expenses from said property. Even though the USA is not a part of Paris and Brussels conventions, it has pointedly adopted its principles. The legislation introduced a cap on the total amount of liability each nuclear power plant licensee faced in the event of an accident which has, increased the insurance pool to more than $13 billion. The American Nuclear Insurers is the only nuclear insurance pool in America wherein the operators have to pay an average annual premium of $1million for onsite liability and $450 million for off-site liability for a single-unit reactor site, with a discounted rate for additional reactors in the same site.

In the event a nuclear accident causes damages in excess of $450 million, each licensee would contribute, on a pro rata basis to the tune of maximum $121.255 million per reactor. Furthermore, the law confers the power to the district courts to determine the compensation to be paid by the operators or licensees in a situation exceeding the maximum cap. The law offers a two-tier insurance pool. Post-assessment of the compensatory amount, if both the tier levelled pools are exhausted, Congress is committed in providing the additional disaster relief.

“Nuclear energy is not going away, and we will need to make reasoned decisions about whether it can, and how it should, fit into your twenty-first-century world.”

– James W. Feldman
IV. Japan
Similar to the USA, Japan has also refrained from signing any of the other conventions except for the CSC Convention. Japan has enacted two legislations in this area:

i. The Law on Compensation for Nuclear Damage; and

ii. The Law on Contract for Liability Insurance for Nuclear Damage.

Under this legislative regime, the operator is strictly/absolutely and exclusively liable for any damage caused by a nuclear accident or incident for which a corresponding financial security of approximately USD 1.2 billion is provided as security. Interestingly, emulating the USA legislative principles, the government protects the interest of the operators and absolves them of any liability by providing the compensation itself in the following circumstances:

i. Damage results from a grave natural disaster of an exceptional character; and

ii. in any case where liability is unlimited.

As of today, the insurance pool for nuclear liability in Japan has crossed more than US $62 billion, especially after the damage and destruction caused by the Fukushima Daiichi accident in 2011.

The Japanese Court in Tokyo awarded a compensation of USD 34 billion to the evacuees due to the triple meltdown at the Fukushima Daiichi Nuclear Plant in 2017.

V. India:
India formulated the Nuclear Damage Act of 2010 (CNLD Act) which was enacted to provide for civil liability for damage caused by a nuclear accident and prompt compensation to the victims of a nuclear incident. It austerely imposes strict liability and exclusively channels the liability on the operator through a no-fault liability regime directing liability to the operator. The CNLD Act further establishes a National Nuclear Damage Claims Commission to handle and assess the claims of the victims.

However, the Act was shrouded with significant resistance from the International Nuclear Corporation due to its sections 6 and 17, which gave the operator the right to recourse making the suppliers liable for material that is defective or latent which causes the nuclear incident. Naturally, fearing potential risks, most nuclear suppliers refrained from transferring nuclear fuel to India alleging a severe violation of the CSC Convention requirements. Hence, the Indian Government was compelled to issue a clarification stating that the CSC does not restrict in any manner the contents of the contract between the operator and the supplier including the basis for recourse agreed by the operator and supplier. Therefore, given the above, in so far as the reference to the supplier in Section 17 of the Act is concerned, it would conform with and not in contradiction. Its operationalisation will be through contract conditions agreed to by the operator and the supplier.
China is not a party to any international liability convention but is an active member of the global insurance pooling system, which covers both first-party risks and third-party liability once fuel is loaded into a reactor. The Chinese federal law concerning the nuclear liability of the operators is broadly based on the principles of international conventions. The liability limit of the insurance pool, though self-claimed by the country to be at par with international standards, was recorded to be merely US $44 million. Beyond this, the state offered the indemnity of up to US $118 million. It is reported that China is in talks with Russia to enter into an agreement for setting up a reinsurance arrangement; which seems more symbolic than substantial in reality.

**Conclusion:**

In conclusion, it could be summarized that UAE, India, and other countries require nuclear energy to sustain the ever-growing demand for power for personal and industrial consumption; and hence, is the key to the expansion of every state. Having said so, it is pertinent that each country should either be a signatory to either of the Conventions or enact their own legislation to address the claims arising from a nuclear incident.

Even though UAE, India, and other countries have engineered a definitive structure to provide compensation to the victims in case a nuclear accident, there is still some scope for improvement; considering the high potential of risk associated with nuclear activities and the intensity of damage it causes. The maximum amount of liability ought to be kept at a higher rate to incorporate not only the actual physical damage incurred by the victims but, as well as, the future damage that may occur due to exposure to nuclear radiations or accident.

To know more about nuclear liability insurance and claims visit STA Law firm.