

**FIXING CIVIL LIABILITY FOR NUCLEAR DAMAGE- A  
STUDY WITH SPECIAL REFERENCE TO THE CIVIL  
LIABILITY FOR NUCLEAR DAMAGE ACT 2010**

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**By  
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**2022**

## **DECLARATION**

I hereby declare that the thesis entitled “**FIXING CIVIL LIABILITY FOR NUCLEAR DAMAGE- A STUDY WITH SPECIAL REFERENCE TO THE CIVIL LIABILITY FOR NUCLEAR DAMAGE ACT 2010**” is the outcome of the original work done by me under the guidance and supervision of **DR. SONIA K. DAS**, Associate Professor, Government Law College, Thrissur. This thesis has not been submitted either in part, or in whole, for any degree, diploma, associateship or any other title or recognition from any university/institution.

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This is to certify that all the corrections and modifications suggested by the Research Committee during the pre-submission seminar of the research work held at The National University of Advanced Legal Studies, Kalamassery, Ernakulam on has been incorporated by Smt.SUNITHA P.N. in her thesis entitled **“FIXING CIVIL LIABILITY FOR NUCLEAR DAMAGE- A STUDY WITH SPECIAL REFERENCE TO THE CIVIL LIABILITY FOR NUCLEAR DAMAGE ACT 2010”**.

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### **CERTIFICATE**

This is to certify that the thesis entitled **FIXING CIVIL LIABILITY FOR NUCLEAR DAMAGE - A STUDY WITH SPECIAL REFERENCE TO THE CIVIL LIABILITY FOR NUCLEAR DAMAGE ACT 2010** is a bonafide record of research carried out by Smt. SUNITHA P.N. under my guidance and supervision for the award of the degree of Doctor of Philosophy in Law under The National University of Advanced Legal Studies, Kalamassery, Ernakulam. The work has not been previously submitted to any university, institution or authority for the award of any degree, diploma or honour.

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## **PREFACE**

*The passing of Civil Liability for Nuclear Damage Act, 2010 (Nuclear liability Act) by the Lok Sabha after the 123 Agreement, which is described as a cornerstone of the new strategic partnership between India and America raise many questions. The agreement is widely considered as to help India to fulfill its soaring energy demands and boost U.S. and India into a strategic partnership. The unnecessary debate over the supplier's liability in the 'Nuclear liability Act' has limited the discussion over crucial aspects like deviation from principles of Convention on Supplementary Compensation (CSC); regulatory independence of Atomic Energy Regulatory Board (AERB); judicial review and independence and fixity of tenure of the authorities under the Nuclear Act. Currently, Environmentalists for Nuclear Energy, the World Nuclear Association (INLA) and NLA stand on the pro side of the issue, maintaining that nuclear energy and nuclear power plants are safe and sustainable. The con side has NIRS (Nuclear Information and Resource Service) and Greenpeace International arguing the dangers posed by nuclear power plants to the environment and people.*

*The researcher makes a humble effort to analyse those legal issues regarding civil liability, with a view to explore all matters with regard to formation of a strong Indian nuclear liability regime as well as in the universal scenario.*

*I would like to express my sincere gratitude to all those persons who helped and encouraged me in my study.*

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*Last, but not the least I tender my sincere gratitude to the Mother Nature who is the great equalizer and provider of peace for those who listen to her musical harmony.*

## LIST OF ABBREVIATIONS

AIR	-	All India Reporter
Am.U.Int'l L.Rev.	-	American University International Law Review
Art.	-	Article
ASEAN	-	Association of Southeast Asian Nations
ANI	-	American Nuclear Insurers
AEC	-	Atomic Energy Commission
CSC	-	Convention for Supplementary Compensation
CLNDA	-	Civil Liability for Nuclear Damage Act
CNS	-	Convention on Nuclear Safety
EMP	-	Electromagnetic Pulse
EEZ	-	Exclusive Economic Zone
EU	-	European Union
EUR	-	euro, the second most traded currency in world,
FANC/AFCN	-	Federal Agency for Nuclear Control
GWe	-	Gigawatt Electric
GIC Re	-	General Insurance Corporation of India
HC	-	High Court
Id.	-	Ibid
IPCC	-	Intergovernmental Panel on Climate Change
IRSN	-	Institute for Radiological Protection and Nuclear Safety
INLA	-	International Nuclear Law Association
INLEX	-	International Expert Group on Nuclear Liability
ICJ	-	International Court of Justice
IAEA	-	International Atomic Energy Agency
IEA	-	International Energy Agency
IPEC	-	Indian Point Energy Centre
ITER	-	International Thermonuclear Experimental Reactor
JPY	-	Japanese Yen
KWh	-	Kilowatt hour
KWe	-	Kilowatt electric
KNPP	-	Kudankulam Nuclear Power Plant

LIC	-	Life Insurance Corporation
Ltd.	-	Limited
MWe	-	Megawatt electric
No.	-	Number
NPP	-	Nuclear Power Plant
NPCIL	-	Nuclear Power Corporation of India Limited
NRC	-	Nuclear Regulatory Commission
NLA	-	Nuclear Law Association
NLCA	-	Canada's 'Nuclear Liability and Compensation Act 2014
OECD	-	The Organisation for Economic Co-operation and Development
PWR	-	pressurised water reactors
SCK•CEN	-	Nuclear Research Centre Studiecentrum voor Kernenergie
SDR	-	Special Drawing Rights
§	-	Section
SC	-	Supreme Court
SCC	-	Supreme Court Cases
TWh	-	Tetra watt hour
TEPCO	-	Tokyo Electric Power Company
UDHR	-	Universal Declaration of Human Rights
UNDP	-	United Nations Development Programme
UNO	-	United Nations Organisation
UN	-	United Nations
UOI	-	Union of India
UP	-	Uttar Pradesh
US	-	United States of America
UNEP	-	United Nations Environment Programme
UK	-	United Kingdom
WHO	-	World Health Organisation
WP	-	Writ Petition

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## CHAPTER I

### INTRODUCTION

**“When energy is scarce or expensive, people will suffer material deprivation and economic hardship”.**

**John P. Holdren<sup>1</sup>**

In a country, if the source of energy flops to regulate environmental and political costs, it may cause material hardship and economic distress. Whenever energy is insufficient or expensive, humankind may suffer material hardship and economic distress. It can even threaten the human prosperity there, in a rudimentary and common way. The ‘energy problem’ today is a mixture of many considerate problems such as the basic need for energy for all human beings is not satisfied till now; the available energy is highly expensive; and also its impact on environment is increasing day by day etc.<sup>2</sup> Sources of energy all over here can either be conventional like coal, oil, natural gas, nuclear materials etc. or be non-conventional like sunlight, wind, tide etc. As of now all the conventional energy sources are considered as governing dealers of many layers of environmental problems say global, regional and local. Globally, production of energy is facing the problems like pollution of

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<sup>1</sup> See , Holdren J., *Population and the Energy Problem* 12(3) POPULATION AND ENVIRONMENT 231-255 (1991) Last visited in <http://www.jstor.org/stable/27503199> on 3/01/2019

<sup>2</sup> *Id.*

air, soil, water, and ocean. It also causes climate change. The twenty times increase in global power consumption from 1850 onwards may be the major reason behind it<sup>3</sup>.

Similarly enervation of non-renewable conventional sources of energy causes certain other problems like scarcity of fuel due to increasing diminution of some best expedient oil and gas resources. Handling all these energy complications need significantly amplified use of most modern techniques in cultivating energy worldwide. This caused the increase in choice of more expensive and/or ecologically more troublesome power generating techniques. From the second half of twentieth century onwards the world had given a better preference to the use of 'nuclear power' instead of adopting any such complicated techniques. It is intended to decrease the environmental intrusions of other modern energy tools, and also to have a changeover for the coming years to have a less costly but probably more sustainable sources of energy. Due to their high amount of population and consequential burden on economy and resources, developing countries were reluctant to use nuclear power extremely highly in the beginning. The world aims 3 kilowatts of per capita rate of energy use as a measure of high standard of living, even if it is literally considered as very low. If so, a global population steadied at about ten billion may consume about 30 terawatts

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<sup>3</sup> *Id.* at 248

of energy, and a populace of fourteen billion may infer forty two terawatts, by relating it with the 13.2 terawatts energy use in 1990<sup>4</sup>.

The most recommended modern technology for sustainable supply of energy is of course the nuclear power generation. But the increasing connection in between atomic power sector and atomic armaments is a socio-political hazard<sup>5</sup>. Even then it was recommended by the Intergovernmental Panel for Climate Change (IPCC)<sup>6</sup>. According to them atomic energy is the crucial alleviation technology which is presently accessible in the market<sup>7</sup>.

The prospect of nuclear energy could go one or the other way, within this sphere either by getting acceptance to it or by parting it behind for other available choices of energy. Policies involving nuclear energy vary widely from region to region. Countries such as Japan are phasing out nuclear power completely due to their terrible experience with the Fukushima Daiichi disaster, and others like China just starting big

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<sup>4</sup> *Id.* at 252

<sup>5</sup> See generally, Elliot D., *Nuclear or Not? Does Nuclear Power Have a Place in Sustainable Energy Future?* Palgrave Macmillan: Houndmills, Basingstoke, UK, 2007. See also, Grimes, R.W. Nuttall, W.J., *Generating the option of a two-stage nuclear renaissance.* SCIENCE 2010, 329, 799–803

<sup>6</sup> Intergovernmental Panel on Climate Change (IPCC) is the United Nations body for assessing the science related to climate change. The IPCC was created to provide policymakers with regular scientific assessments on climate change, its implications and potential future risks, as well as to put forward adaptation and mitigation options. The main activity of the IPCC is the preparation of reports assessing the state of knowledge of climate change. These include assessment reports, special reports and methodology reports. To deliver this work programme, the IPCC holds meetings of its government representatives, convening as plenary sessions of the Panel or IPCC Working Groups to approve, adopt and accept reports. Plenary Sessions of the IPCC also determine the IPCC work programme, and other business including its budget and outlines of reports. The IPCC Bureau meets regularly to provide guidance to the Panel on scientific and technical aspects of its work.

<sup>7</sup> Intergovernmental Panel on Climate Change, “Summary for Policymakers- In Climate Change 2007: Mitigation”. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change; Metz, B., Davidson, O.R., Bosch, P.R., Dave, R., Meyer, L.A., Eds.; Cambridge University Press: Cambridge, UK and New York, NY, USA, 2007.

expansion so as to combat the overwhelming air pollution problem. The debate between fossil fuels, nuclear energy, nuclear plants, and renewable energy sources has been going on in one way or another since nuclear energy's start. There is no clear-cut solution, and it is unlikely that a unanimous or even majority, decision or opinion will ever be reached<sup>8</sup>. The data taken from International Energy Agency (IEA) from 1990 to 2008, the per capita energy consumption is increased by 10% whereas the increase of world population is around 27%<sup>9</sup>.

Since 2007, there is a slight change and downward trend in the annual generation of nuclear power. It had decreased 1.8% in 2009 to about 2558 TWh, and around 1.6% in 2011 into 2518 TWh, notwithstanding the upsurges in manufacture of nuclear energy in many of the nation globally, since all these upsurges were equalised by declines of nuclear power in Germany and Japan. Instead of the widely used commercial nuclear reactors some ideas are there to have nuclear fusion energy in forthcoming new reactors. Also there are numerous experiments on

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<sup>8</sup> See generally, James A. Lake, Ralph G. Bennett, John F. Kotek, *Next Generation Nuclear Power*, SCIENTIFIC AMERICAN on January 26, 2003.

<sup>9</sup> "2014 Key World Energy Statistics" (PDF), [www.iea.org](http://www.iea.org). IEA. 2014. pp. 6, 38. Last visited on 1 July 2015. In this period of time the regional use of energy also grew to a large extent: the Middle East increased by 170%, China by 146%, India by 91%, Africa by 70%, Latin America by 66%, the US by 20%, the EU-27 block by 7%, and world overall grew by 39%. In the year of 2008, the total worldwide primary energy consumption was 132,000 terawatt-hours (TWh). But in the year of 2012, the primary need of energy is increased to 158,000 TWh.

nuclear fusion reactors worldwide just like International Thermonuclear Experimental Reactor (ITER)<sup>10</sup>.

**Table: 1.1 Regional energy use and growth 1990–2008 (kWh/capita & TWh):** As the per capita use<sup>11</sup> of energy by this highly industrialised world is increasing, the universal energy claim continues to climb<sup>12</sup>.

Region	kWh/capita			Population (million)			Energy use (1,000 TWh)		
	1990	2008	Growth	1990	2008	Growth	1990	2008	Growth
US	89,021	87,216	−2%	250	305	22%	22.3	26.6	20%
<u>EU-28</u>	40,240	40,821	1%	473	499	5%	19.0	20.4	7%

<sup>10</sup> See, "2013 Key World Energy Statistics" (PDF), [www.iea.org](http://www.iea.org) IEA 2013. pp. 6, 24, 26, 28. Last visited on 1 July 2015

ITER ("The Way" in Latin) is one of the most ambitious energy projects in the world today. ITER-India is a special project under Institute for Plasma Research. It is governed by the Empowered Board, which is chaired by the Secretary, Department of Atomic Energy (DAE). India became a full seventh partner of ITER in December 2005. ITER-India, Institute for Plasma Research (IPR), located in Gandhinagar, western India, is the Indian Domestic Agency to design, build and deliver the Indian in-kind contribution to ITER.

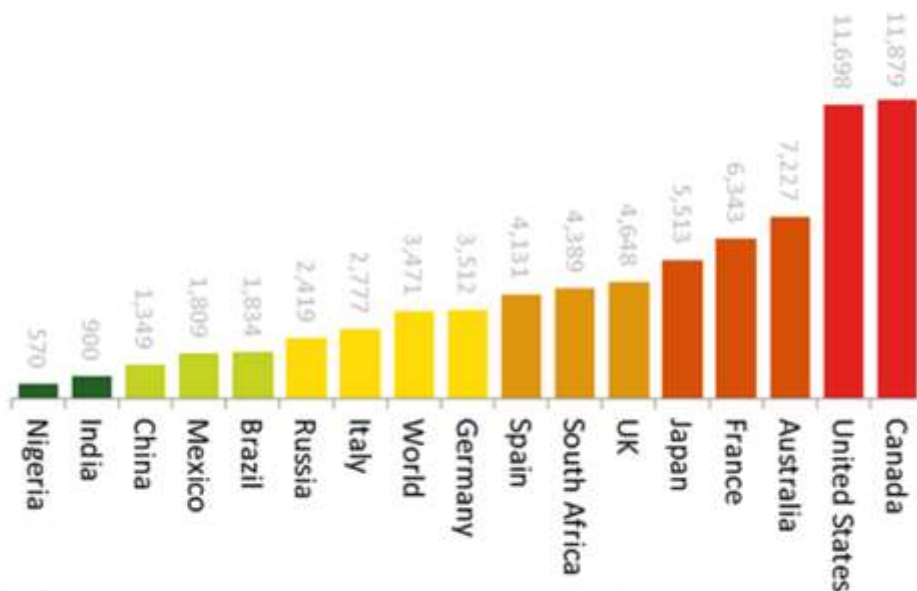
<sup>11</sup> Table 55, Regional energy use, 1990 and 2008 ( p. 48), in "Energy in Sweden – facts and figures 2010" (PDF), Swedish Energy Agency. Last visited on 14 October 2013. See also Energy in Sweden 2011), data from IEA Energy Balances of Non-OECD countries 2010. IEA/OECD, Population OECD/World Bank, Energy use = kWh/capita \* billion capita (population) = 1 TWh

Others: Mathematically calculated, includes e.g. countries in Asia and Australia. The use of energy varies between the "other countries": E.g. in Australia, Japan, or Canada energy is used more per capita than in Bangladesh or Burma.

<sup>12</sup> See generally, World Energy Council, *World Energy Scenarios 2019-Exploring Innovation Pathways to 2040*, In Collaboration with Accenture Strategy and the Paul Scherrer Institute. The World Energy Council is the principal impartial network of energy leaders and practitioners promoting an affordable, stable and environmentally sensitive energy system for the greatest benefit of all. Formed in 1923, the Council is the UN-accredited global energy body, representing the entire energy spectrum, with over 3,000 member organisations in over 90 countries, drawn from governments, private and state corporations, academia, NGOs and energy stakeholders.

China	8,839	18,608	111%	1,141	1,333	17%	10.1	24.8	146%
Latin America	11,281	14,421	28%	355	462	30%	4.0	6.7	66%
Africa	7,094	7,792	10%	634	984	55%	4.5	7.7	70%
India	4,419	6,280	42%	850	1,140	34%	3.8	7.2	91%
Others*	25,217	23,871	Nd	1,430	1,766	23%	36.1	42.2	17%
<u>The World</u>	<b>19,422</b>	<b>21,283</b>	<b>10%</b>	<b>5,265</b>	<b>6,688</b>	<b>27%</b>	<b>102.3</b>	<b>142.3</b>	<b>39%</b>

### Household Electricity Consumption (kWh/year)



Note: Figures are 2010 averages for electrified households

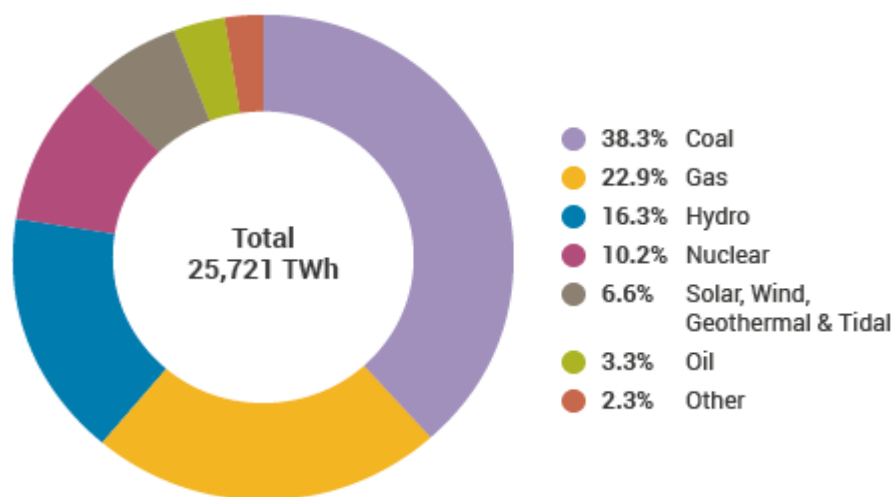
Source: Enerdata via World Energy Council



**Figure 1.1: Household electricity consumption of energy in various countries (2010)**



This is to depict the household electricity consumption of energy in various countries in the year 2010. World depends upon various sources for her power requirements. Following figure is the World Electricity Production from different Sources in 2019<sup>13</sup>.



Source: IEA Electricity Information 2019

**Figure1.2: Power production from different Sources (2019)**

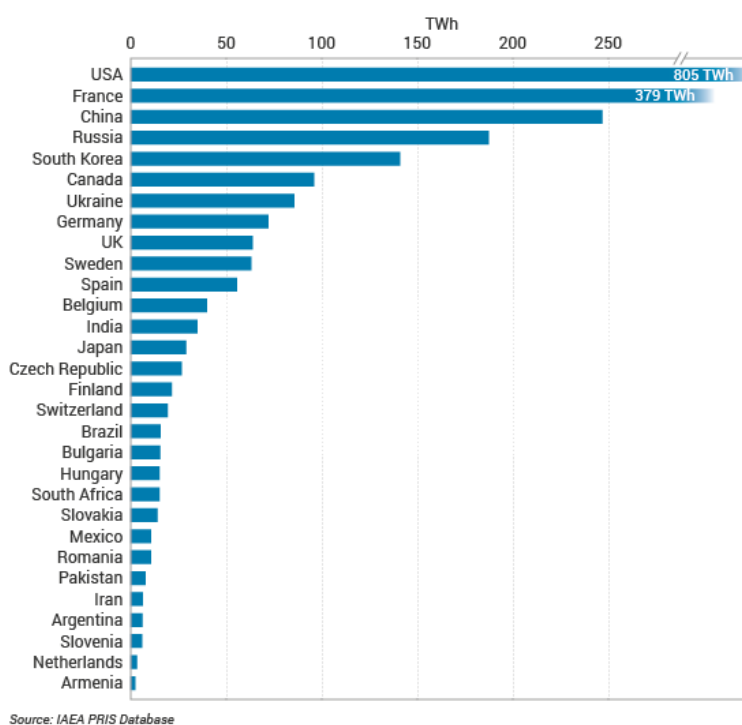
This figure is to depict break-up of the power production from different Sources in 2019. About 440 nuclear power reactors generate around 10% of the world's electricity. Now there are about 50 more nuclear reactors are under construction, which is nearly equal to 15% of present capacity<sup>14</sup>. 2563 TWh of electricity is produced in 2018 up from 2503 TWh in 2017 from various atomic power reactors. Global nuclear

<sup>13</sup> See, The News "A world in transformation: World Energy Outlook 2017" on 14 November 2017 in <https://www.iea.org/news/a-world-in-transformation-world-energy-outlook-2017>, The IEA is an organisation committed to shaping a secure and sustainable energy future for all

<sup>14</sup> See, M. V. Ramana, Antonette D'Sa, and Amulya K. N. Reddy *Economics of Nuclear Power from Heavy Water Reactors* Economic and Political Weekly 40, no. 17 (2005): 1763-773. Last visited on March 27, 2020 [www.jstor.org/stable/4416536](http://www.jstor.org/stable/4416536).

generation has risen consecutively for six years from 2012 and made an output of 217 TWh more energy than in 2012. There are about 220 research reactors operating in over 50 countries as getting used for research and training in addition to all commercial nuclear power plants. More and more reactors are under construction all over the world. Many new medical and industrial isotopes are produced by those reactors<sup>15</sup>.

**Nuclear Generation by different Countries in 2018**



**Figure 1.3: Rate of nuclear power generate on in the year 2018**

<sup>15</sup> *Id.* at 1767.

The rate of nuclear power generation by different countries in the year 2018 is as graphed above<sup>16</sup>.

However, it does seem that as a whole, atomic energy is taking progress instead of a back ward motion. Considering the strategies taken by every other states and the increased number of high power reactors all over the globe, for the time being it appears nuclear energy is here to stay for long<sup>17</sup>.

### **1.1. THE INDIAN SCENARIO**

After becoming a free democratic State in 1947, India established an Atomic Energy Commission (AEC) in the year 1948 itself for entering into a nuclear age<sup>18</sup>. In the year 2005, July 18<sup>th</sup> India agreed to separate its civil and military nuclear facilities into two by placing a joint statement with United States of America. By this India also agreed to place all its

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<sup>16</sup> See, De blasio, Nicola, and Richard Nephew, *Renewing nuclear power and technology Geopolitics, History, and International Relations* 10, no. 1 (2018): 119-47. Last visited on March 27, 2020 doi:10.2307/26803984.

<sup>17</sup> See, Keohane, Robert O., and Joseph S. Nye. *Power and Interdependence in the Information Age*, FOREIGN AFFAIRS 77, no. 5 (1998): 81-94. Last visited on March 27, 2020 doi: 10.23-07/20049052.

<sup>18</sup> Homi Bhabha was the first chairman of AEC. Later on the Department of Atomic Energy (DAE) was created under the Office of the Prime Minister Jawaharlal Nehru. Initially the AEC and DAE received international cooperation, and by 1963 India had two research reactors and four nuclear power reactors along with other conventional sources of energy. Inaccessibility to sufficient amount of energy was the major limitation on the economic growth of India, as a developing country at that time. There was only a very less quantity of per capita consumption of electricity in India. By having development in the economic status of a country, there will be an automatic increase in the claim for electricity and other forms of energy. Unfortunately India is still inept to come across with its increasing requirement of energy consumption. Still there is only insufficient supply of energy in most of the villages where people live in short of consistent and dependable energy supply. Atomic energy would endow India to run into certain experiments for attaining security of energy and environmental sustainability together. And it is truly attained the position as the fifth-largest source of electricity in India, followed after coal, gas, hydroelectricity and wind power. Due to this India would also be able to have some important improvements in its public as well as private sector business and productions.

civil nuclear facilities under the power of International Atomic Energy Agency (IAEA). The civil nuclear cooperation between these two countries was signed as the U.S.-India Civil Nuclear agreement, which is also known as the 123 agreement<sup>19</sup>. It is believed that the 123 Agreement between India and US might place a conclusion to the energy crisis in India. Also, it would give many opportunities for India to make a civil nuclear cooperation with America and certain other countries as equal partners. In the year of 2017, nuclear sector of India produced 3% of the nation's total electrical energy. India has attained a combined net capacity of 6.2 GWe from the 22 operable nuclear reactors here. As a part of its substantial infrastructure expansion programme, Indian government is dedicated to increase its nuclear power capacity. At the beginning of 2018 six reactors were under construction in India, with a combined capacity of 4.4 GWe. The government in 2010 set an ambitious target to possess 14.6 GWe nuclear capacities online by 2024. Many other states are now moving to the use of nuclear power like India. The capacity of nuclear reactors also has enhanced considerably by this time. Over the last forty

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<sup>19</sup> Section 123 of the U.S. Atomic Energy Act generally requires the conclusion of a peaceful nuclear cooperation agreement for significant transfers of nuclear material, equipment, or components from the United States to another nation. Moreover, such agreements commonly referred to as “123 Agreements,” facilitate cooperation in other areas, such as technical exchanges, scientific research, and safeguards discussions. In conjunction with other non-proliferation tools, particularly the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), 123 Agreements help to advance U.S. non-proliferation principles. They establish the legal framework for significant nuclear cooperation with other countries. In order for a country to enter into a 123 Agreement with the United States, that country must adhere to nuclear non-proliferation norms as stipulated in the 123 Agreement. The U.S. State Department is responsible for negotiating 123 Agreements, with the technical assistance and concurrence of DOE/NNSA and in consultation with the U.S. Nuclear Regulatory Commission.

years the proportion of reactors having high capacity factors has increased significantly<sup>20</sup>.

## **1.2. SIGNIFICANCE OF 123 AGREEMENT**

Government of India remains dedicated to the pursuit of a self-governing foreign policy as always towards nuclear power generation in India. This agreement between these two countries was made as an intentional promise between two equal partners. A 123 agreement is an agreement to create a co-operation which is a mandatory pre-condition to have civil nuclear agreements in between United States and any other State as it is provided in Section 123 of the ‘United States Atomic Energy Act of 1954’. Such a contract never upsets a country’s capability to establish a new free foreign policy. It states precisely that both the countries should develop co-operation regarding their civil nuclear energy sector founded on a reciprocal reverence for autonomy and self-esteem of each country’s inside activities. Apart from the backing given to India’s energy safety, the 123 agreement would also nurture the country’s ability to make a self-regulating foreign policy and to increase the self-containment<sup>21</sup>.

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<sup>20</sup> For example, 64% of reactors achieved a capacity factor above 80% in 2016, compared to 24% in 1976, whereas only 8% of reactors had a capacity factor lower than 50% in 2016, compared to 22% in 1976.

<sup>21</sup> See, RAJYA SABHA, “SUPPLEMENT TO THE SYNOPSIS OF DEBATES” (Proceedings other than Questions and Answers) Tuesday, December 12, 2006/Agrahayana 21, 1928 (Saka) Last visited in <http://164.100.47.5/newsynopsis1/englishsessionno/209/s12122006.htm> on 02-12-2020.

As per this agreement India agreed to follow the provisions of '123 agreement' alone and not to the Hyde Act<sup>22</sup>. The Hyde Act is the empowering statute which allows America to allocate a bilateral civil nuclear co-operation agreement with India. Since the foreign policy of India is determined solely by its general pleasure and sovereignty, it will never be bound by an enactment created by a foreign legislature. The provisions of the 123 agreement do not specify anything about the Hyde Act anywhere in it. The law given in the Hyde Act is nowhere incorporated in the 123 agreement. It contains only those essential terms and promises on the relationship between India and America<sup>23</sup>. In his statement made to Parliament on December 12, 2006, external affairs minister Shri. Pranab Mukherjee remarked<sup>24</sup>: "We have always maintained that the conduct of foreign policy determined solely by our national interests is our sovereign right. We have also been clear that our strategic programme remains outside the purview of these discussions.

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<sup>22</sup>See generally, 'The Indo-U.S. nuclear debate' from [www.gulfnews.com](http://www.gulfnews.com), Archived July 23, 2008, at the Wayback Machine. The **Henry J. Hyde United States-India Peaceful Atomic Energy Cooperation Act of 2006**, also known as the Hyde Act, is the U.S. domestic law that modifies the requirements of Section 123 of the U.S. Atomic Energy Act to permit nuclear cooperation with India and in particular to negotiate a 123 Agreement to operationalize the 2005 Joint Statement. As a domestic U.S. law, the Hyde Act is binding on the United States. The Hyde Act cannot be binding on India's sovereign decisions although it can be construed as prescriptive for future U.S. reactions. As per the Vienna Convention, an international agreement such as the 123 Agreement cannot be superseded by an internal law such as the Hyde Act.

<sup>23</sup>The US Administration committed in the July 18 Joint Statement to adjust its laws that otherwise prohibited civil nuclear energy co-operation with India. Also, the separation plan announced by Prime Minister Singh and President Bush on March 2, 2006, and further elaborated on May 11, 2006, would place 8 power reactors under inspection, bringing the total up to 14 out of a possible 22 under inspection. Several fuel fabrication and spent fuel storage facilities were declared, as well as 3 heavy water plants that were described as "safeguards-irrelevant."

<sup>24</sup>See *supra* note 21.

We will not allow external scrutiny or interference with the strategic programme”.

According to the assertions made by American Government till now, its domestic law enables U.S. to fulfil the obligations contracted with India in the ‘July 18 and March 2 Joint Statements’. It is believed that the major provisions of the Hyde Act are merely optional<sup>25</sup>.

### **1.2.1. The 123 Agreement: Salient features**

The salient features of this agreement could be summarised as follows<sup>26</sup>:-

- i. The 123 Agreement could be a significantly beneficial step towards India’s energy security. An attempt to develop many other power manufacturing techniques, having no or less amount of anxieties regarding sustainable development is necessary. Among them atomic power is a rational selection and could be a bigger support to India’s total power manufacturing. The current contribution of global nuclear sector covers only 3% of the total. India has a determined agenda to upsurge the capacity to generate atomic power up to 20,000 MWe and to have twice of it by next decade.

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<sup>25</sup> See generally, Caron, David D. *Liability for Transnational Pollution Arising from Offshore Oil Development: A Methodological Approach*. ECOLOGY LAW QUARTERLY 10, NO. 4 (1983): 641-83. Last visited on March 18, 2021 in <http://www.jstor.org/stable/24112643>

<sup>26</sup> See, Sasikumar, Karthika, *India's Emergence as a "Responsible" Nuclear Power*. INTERNATIONAL JOURNAL 62, NO. 4 (2007): 825-44. Last visited on March 18, 2021 in <http://www.jstor.org/stable/40204339>

India has indigenous techniques using its own Uranium resources.

The 123 agreement adds extra capacity rapidly, to aid India to attain this target as soon as possible.

- ii. According to this 123 agreement, India can have civil nuclear co-operation with certain other countries. Countries like France and Russia already had discussions with India in order to have bilateral co-operation agreements intending to make civil nuclear energy. If the Nuclear Supply Groups accept any exclusion in their Strategies all these agreements will become working properly.
- iii. By this 123 agreement India attains a special status called “State possessing advanced nuclear technology”.
- iv. The civil nuclear energy co-operation according to 123 agreement covers all nuclear reactors and all aspects of nuclear fuel cycle associated to it. It also includes enrichment reprocessing etc.
- v. It offers the scope for co-operation in areas like nuclear trade, transportation and all such transactions.
- vi. The agreement also contains all the supply assurances of March 2, 2006, and their connection to safety net in all time. It also includes the provisions for remedial actions to address the troubles of supply of fuel.



- vii. Over the lifetime of India's reactors this agreement provides a deliberate standby of reactor fuel to safeguard in case of a trouble of getting it.
- viii. It delivers some IAEA provisions for protection of transported nuclear goods.
- ix. It does not have a section to instruct scrutiny of India's atomic armaments or any such unprotected nuclear programme in India.
- x. Unsafeguarded facilities of both the countries will not be affected by this agreement. It will not hinder or intrude into any military nuclear programme or any other programme independent of this agreement.
- xi. A 123 agreement gives former approval for reprocessing and transportation of nuclear fuel and other subsidiary products to make it effective and shall create a new facility to reprocess the nuclear fuel available.
- xii. This bilateral agreement would not disturb India's existing or future capacity to have atomic experiments of any nature.

Consequently an agreement on civil nuclear co-operation has attained between India and America and the text of certain administrative arrangements to execute a 123 agreement of September 2008 were also concluded. Thus it permits commercial negotiations for making new nuclear power projects having transnational association in India. And it

also comprehends some substantial commercial clean energy prospects and the civil nuclear indulgent of 2005-2008<sup>27</sup>.

As a part of Indian Prime Minister's visit to America in 2014, a contact group was established to facilitate the implementation of the obligation according to India-U.S. civil nuclear co-operation agreement. According to the contentions made by the Indian contact group, the country's opinions regarding the compatibility of the 'Convention on Supplementary Compensation for Nuclear Damage' (CSC) and the 'Civil Liability for Nuclear Damage (CLND) Act' were made convinced to international suppliers. India's ratification instrument on Convention on Supplementary Compensation was dropped to IAEA on 4<sup>th</sup> February 2016 grounded on the promise made by this contact group<sup>28</sup>.

### **1.3. THE GREEN ECONOMICS OF THE USE OF NUCLEAR POWER**

Green economics is demarcated as a "policy to produce an upgraded public safety and welfare along with social justice and impartiality, by decreasing environmental risks and ecological scarcities in a significant

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<sup>27</sup> *Id.* at 840.

<sup>28</sup> See, UNEP, UWI, *Green Economy: Scoping Study Synthesis Report Barbados United Nations Environment Programme*, Government of Barbados, 2012.

Last visited in  
<https://sustainabledevelopment.un.org/index.php?page=view&type=400&nr=675&menu=35> on 27  
March -2020

rate” (UNEP 2010)<sup>29</sup>. Specifically, a green economy is regarded as a socially inclusive development from aspects of quality of life beyond income, environmentally benign production and consumption patterns and the efficient use of natural resources<sup>30</sup>.

The lowest carbon generating method of electricity production is from nuclear energy. In comparison with other renewable sources of energy, the total life cycle emission of nuclear energy is equivalent to the emission from others per certain units of electricity production. The production of roughly 64 gigatonnes of carbon dioxide equivalent greenhouse gases is being prevented, by the nuclear power commercialisation from the 1970s. It is roughly equal to the amount of poisonous effluents that may have formed by the combustion of conventional carbon fuels in the conventional thermal reactors to generate an equal quantity of power<sup>31</sup>.

#### **1.4. REPERCUSSIONS AFTER A NUCLEAR INCIDENT**

‘Nuclear incident’ means any occurrence or series of occurrences having the same origin which causes nuclear damage or, but only with regard to preventive measures, creates a grave and imminent threat of causing such

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<sup>29</sup> *Id.*

<sup>30</sup> The World Nuclear Industry Status Report 2014, Las visited in : <https://www.worldnuclearreport.org/-2014-.html> on April 10, 2015.

<sup>31</sup> The International Energy Agency (IEA; French: Agence internationale de l'énergie) is a Paris-based autonomous intergovernmental organization established in the framework of the Organisation for Economic Co-operation and Development (OECD) in 1974 in the wake of the 1973 oil crisis.

damage<sup>32</sup>. Nuclear power generation is never ever portrayed as a risk-free venture in its whole way. All these repercussions of nuclear power could be classified generally into two broad kinds,

- a. The externalities of a safely working power plant', and
- b. The problems after occurrence of an accident in a power plant'.

#### **1.4.1. The major Hazards of a nuclear incident**

A nuclear incident is always associated with the following major complications.

##### ***1.4.1.1. It is unpredictable:***

The extent, nature, and time of arrival of these hazards are difficult to predict. The geographical dispersion of hazard effects is going to be defined by the following facts<sup>33</sup>:

- Size of the device. More distant effects may be caused by a more powerful blast.
- Nature of the surface beneath the explosion. Flat areas are more vulnerable to blast effects.

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<sup>32</sup>See, the full text of 'Convention for Supplementary Compensation'. Last visited on January 26, 2022 in <https://www.iaea.org/publications/documents/treaties/convention-supplementary-compensation-nuclear-damage>.

Article I (i) "Nuclear incident" means 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

<sup>33</sup> See, Christy, Robert F. *Risks Associated with Nuclear Power*. Bulletin of the American Academy of Arts and Sciences 34, no. 4 (1981): 10-23.p.17. Last visited on February 14, 2020 doi:10, 2307/3823310

- Existing environmental condition. The time of arrival of fallout may be affected by the wind speed and its direction. Precipitation may wash fallout from the atmosphere.

An actual blast if happened will release immense amounts of energy and causes the formation of an electromagnetic spectrum, within the surroundings. The environment of the explosion determines, how much energy is distributed to the blast and how much to radiation.

#### ***1.4.1.2. It is unseen***

Nuclear radiation cannot be seen, smelled, or otherwise detected by normal senses<sup>34</sup>. This makes radiological emergencies different from other types of emergencies, such as floods or hurricanes.

#### ***1.4.1.3. Radioactive Fallout from Nuclear Accident or Blast***

Blasts that occur near the earth's surface create much greater amounts of fallout than blasts that occur at higher altitudes. This is often because the tremendous heat produced from a nuclear blast causes an up-draft of air that forms the familiar mushroom. Fallout from a nuclear explosion could even be carried by wind currents for several miles if the right conditions exist. Even if individuals are not close enough to the nuclear blast to be

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<sup>34</sup> See generally, Fetter, Steven A., and Kosta Tsipis., *Catastrophic Releases of Radioactivity*, SCIENTIFIC AMERICAN 244, no. 4 (1981): 41-47. Last visited on February 14, 2020, in [www.jstor.org/stable/24964373](http://www.jstor.org/stable/24964373)

affected by the direct impacts, they will be affected by radioactive fallout<sup>35</sup>.

Exposure to dangerous radiation is the potential danger from a nuclear accident in a reactor. Not only an influence plant, but any nuclear device may cause Radiation Exposure. A nuclear device is often anything from a weapon on a missile to a little portable nuclear device transported by a personal. In case of an explosion in a nuclear reactor, apart from destructive radioactive rays it may cause blinding light, high thermal radiation, and secondary fires. Exposure could result from the discharge of fabric from a nuclear plant into the environment, usually characterized by a plume (cloud-like formation) of radioactive gases and particles. The after effect of a complete meltdown in a reactor, where the uranium core melts through the outer shell, is a major wide spread health hazard due to the dangerous upsurge of radiation released. The main hazards to people within the vicinity of the plume are radiation exposure to the body from the cloud and particles deposited on the lowest, inhalation of radioactive materials, and ingestion of radioactive materials. Atoms whose nuclei are unstable will emit radiations and known as radioactive materials. An unstable atom gives off its excess energy as harmful radiations until it becomes stable. The longer a person is exposed to radiation, the greater is

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<sup>35</sup> See generally, Weil, George L. *Hazards of Nuclear Power Plants*. SCIENCE 121, no. 3140 (1955): 315-17. Last visited on February 14, 2020, in [www.jstor.org/stable/1681958](http://www.jstor.org/stable/1681958)

the effect. Death or serious illness is the result of a high exposure to radiation<sup>36</sup>.

#### ***1.4.1.4. Electromagnetic Pulse (EMP)***

A nuclear incident in or above the earth's atmosphere can create an electromagnetic pulse (EMP), a high-density electrical field. An EMP acts kind of a stroke of lightning but is stronger, faster, and shorter. Electronic devices like communication systems, computers, electrical appliances and automobile or aircraft ignition system connected to power sources or antennas could be damaged seriously by an EMP. Even the explosions of small portable nuclear devices are often potentially deadly. The radiation effects could be detected only by radiation monitoring devices. This makes radiological emergencies different from other kinds of emergencies, like floods or hurricanes. Monitoring can project the fallout arrival times, which may be announced through official warning channels. However, any increase in surface build-up of gritty dust and dirt should be a warning for taking protective measures<sup>37</sup>.

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<sup>36</sup> See generally, YABLOKOV, ALEXEY V.; NESTERENKO, VASSILY B.; NESTERENKO, ALEXEY; SHERMAN-NEVINGER, CONSULTING EDITOR, JEANETTE D, CHERNOBYL: CONSEQUENCES OF THE CATASTROPHE FOR PEOPLE AND THE ENVIRONMENT. Boston, MA: Blackwell Publishing for the Annals of the New York Academy of Sciences. (2009), ISBN 978-1-57331-757-3, Last visited on 11 June 2016,

<sup>37</sup> See *supra* note 34, at 46.

### **1.4.2. Environmental pollution**

It is the major problem linked with all these currently available nuclear power sources. Considering the present technologies available, the main stage in which nuclear power causes pollution is the mining of Uranium. There exist strip mines as well as underground mines from which uranium ore is taken. The mining and processing of uranium ore cause substantial damage to the environment of that place in total<sup>38</sup>. Almost all the NPPs are situated adjacent to the water bodies in order to have easy access to a large amount of cooling water required. A huge quantity of water, around 476500 gallons per minute is required as coolant for a typical 1GW NPP. All this hot water would be discharged back to the aquatic life due to thermal pollution<sup>39</sup>.

### **1.4.3. Nuclear insecurity**

It is another alarming problem attached to nuclear power sector. No matter how small is the probability, every NPP is bearing the risk of a real and finite accident. There are many examples of disasters or near miss of huge disasters on the pathway of nuclear energy. Compared to the age old power plants all over the world, new reactors are designed all most in a risk free nature. Even then the accident records show a hidden

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<sup>38</sup> See generally, Antunes, S.C.; Pereira, R.; Marques, S.M.; Castro, B.B.; Gonçalves, F. *Impaired microbial activity caused by metal pollution: A field study in a deactivated uranium mining area*. SCI. TOTAL ENVIRON. 2011, 410, 87–95.

<sup>39</sup> See generally, Lochbaum, D. *Got Water? Union of Concerned Scientists: Cambridge, MA, USA, 2007*



threat towards this accepted assumption as the case in Fukushima Daichi melt down<sup>40</sup>. It was caused by another natural disaster of tsunami which obviously was unexpected. Contamination of water by radioactive iodine was found even 220 kms away from the accident spot of Fukushima<sup>41</sup>. But fortunately it did not end up with the formation of a new national sacrifice zone, having high levels of contamination. A high level of contamination is adequate for emptying a place to certify it as a ‘national sacrifice zone’<sup>42</sup>. Danger issues along with an NPP comprise of probable tragedies in the reactor site in the course of certain other mishaps. Also carelessness, pitiable project and design, manufacturing defects, terrorism<sup>43</sup> etc. may cause the exponentiation of threat probable with atomic power process during domestic and transnational conflicts<sup>44</sup>.

#### 1.4.4. Persistence for generations

The storage of nuclear waste with safety and security for an enormously long term is a problem which is unresolved till date and it is a big challenge for authorities. As the fuel is put in an NPP, it will not get

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<sup>40</sup> See generally, Sovacool, B., *Contesting the Future of Nuclear Power: A Critical Global Assessment of Atomic Energy*; World Scientific: Hackensack, NJ, USA, 2011.

<sup>41</sup> See generally, Lavelle, M. A *Search for Answers*; *National Geographic News*, Washington D.C., USA, 2011.

<sup>42</sup> See generally, Kuletz, V., *Invisible Spaces, Violent Places: Cold War Nuclear and Militarised Landscapes. In Violent Environments*; Peluso, N.L., Watts, M., Eds.; Cornell University Press: Ithaca, NY, USA, 2001.

See also, Hooks, G.Smith C.L. *The Treadmill of Destruction: National Sacrifice Areas and Native Americans*. AM. SOCIOLOGICAL REV. 2004, 69, 558–575.

<sup>43</sup> See, Behrens, C.; Holt, M., *Nuclear Power Plants: Vulnerability to Terrorist Attack; Report for Congress*, Order Code RS21131; Congressional Research Service: Washington D.C., USA, 2005.

<sup>44</sup> See, Ramberg, B., *Nuclear plants—Military hostages?* BULL. AT. SCI. 1936, 43, 3–17.

exhausted in it. It is not like the burning of fossil fuels or other conventional fuels. The waste generated in a reactor will have the same quantity as the fuel introduced into it many years back and also it will have 6-8 million times more of its initial radioactivity. Even more radioactive by-products are resulted by the nuclear fission and it is not spent as coal or natural gas does. Those spent fuel rests tremendously burning for centuries. Nuclear waste continues as a menace to wellbeing of people, aquatic life, and also to the atmosphere for many more centuries<sup>45</sup>. Since the half-life of nuclear waste material comes within the range of ~25,000 years, the waste containment problem will extend up to the long storage period of spent fuel rods. It will also affect even on the decommissioning, the building, and equipment and therefore the close land<sup>46</sup> etc

#### **1.4.5. Social as well as pecuniary consequences**

Apart from these greater risks there are some other well recognized social as well as pecuniary consequences like decreased house values within the vicinity of both nuclear plants and nuclear waste repositories. Finally, there are future externalities that are very difficult to quantify. These externalities include: human health effects, biodiversity loss, land degradation, diverse social costs, etc. For example, the metal walls of a

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<sup>45</sup> *Id.* at 7

<sup>46</sup> *Id.* at 15

nuclear vessel become radioactive and thus when decommissioned they are buried for several generations. In addition, the nuclear fuels themselves are irreversibly transmuted<sup>47</sup>. This effectively depletes the reserve of base elements available on Earth and will cause an elemental diversity problem, the value of which might be trivial or enormous and is about impossible to calculate or predict<sup>48</sup>.

Even though the biggest issues right now about nuclear power are pollution by radioactive-waste, nuclear safety, environmental justice, and the costs of nuclear energy, NPPs also create massive volumes of radioactive by-products, mainly in the form of used fuel. Since there is no environmentally responsible solution exists yet, the waste depositories currently in use at most reactor sites are allocated for an uncertain period of time.

#### **1.4.6. Risks involved in the extraction process of uranium**

As atomic power needs tons of fossil fuels in order to extract and process uranium. Thus uranium mining is actually one among the extremely dirty processes that are not apparent immediately<sup>49</sup>. More than 25,000 pounds of harmful radioactive materials are produced within the span of mining

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<sup>47</sup> See generally, Deutch, J.M.; Forsberg, C.W.; Kadak, A.C.; Kazimi, M.S.; Moniz, E.J.; Ansolabehere, J.E.; Du, Y.; Pierpoint, L. Update of the MIT 2003 *Future of Nuclear Power: An Interdisciplinary MIT Study*; Massachusetts Institute of Technology: Cambridge, MA, USA, 2009. [Google Scholar]

<sup>48</sup> See, Clark D.E, Nieves, L.A, *An interregional hedonic analysis of noxious impacts on local wages and property values*. J. Environ. ECONOMICS MANAGEMENT, 1994, 27, 235–253

<sup>49</sup> See, Abbott, D. *Is nuclear power globally scalable?* Proc. IEEE 2011, 99, 1611–1617

and processing of every pound of “enriched” uranium that goes into a reactor. Actually this waste is emerged out in the form of rocks, dust, and uranium tailings that are primarily dumped on the bottom or in ponds located at or near mines and mills. In the US and in most other parts of the earth, uranium mines, mills, and enrichment plants are disproportionately located in the habitats of indigenous communities. Many of these communities suffer from birth defects, cancer, immune deficiencies, etc. as a result of contamination from uranium and its by-products<sup>50</sup>. There are no stern conservational criteria controlling the clearance or clean-up of uranium mines and grinding locations in many countries including India. A number of uranium mines have simply been given up due to this<sup>51</sup>. After that waste materials are created by the operation of nuclear reactors. Thus contaminated components and contaminated water may regularly be released into the environment when nuclear reactors are operating. There are also things like radioactive laundry facilities, which have routinely released radioactivity into the environment, where the uniforms that the workers wear are laundered. Also of note are the enormous strain by nuclear energy on water supply via consumption and pollution<sup>52</sup>. Nuclear power plants consume more

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<sup>50</sup> See, Liu, Jie, and Fangxin Wei, *Waste Management Strategy for the Nuclear Energy Cycle: Evidence from Coastal Nuclear Power Plants*. *Journal of Coastal Research*, 2019, 73-77. Last visited on March 27, 2020 doi:10.2307/26853905

<sup>51</sup> *Id.* at 75

<sup>52</sup> See, NIRS, *Nuclear Energy Frequently Asked Questions* available in <https://www.nirs.org/mission/> Last visited on 27-03-2020

water than the other quite power plants. For example, the state of New York is trying to close the last two reactors at the Indian Point Nuclear Power Plant. These are things to be taken into account about the environmental impact of nuclear power. At the same time, as is evident, the nuclear energy pros and cons are heavily stacked on both sides. Without new innovations in nuclear technology to sway the balance, one cannot expect the debate over the future of nuclear power plants to stop<sup>53</sup>.

#### **1.4.7. Enormous amount of Heat as by-product**

Nuclear power plants use the heat generated from fission during a contained environment to convert water to steam, which powers generators to supply electricity. It is the by-product of fission that makes the most important hazard<sup>54</sup>. Numerous problems follow parallel to it when this heated water is released to an aquatic ecosystem near to the reactor.

### **1.5. ECONOMIC COSTS OF A NUCLEAR ACCIDENT**

Calculations of the civil liability of nuclear disasters have been started from the mid-seventies including the possibility of accident imposts. In 2011, subsequent to the Fukushima-Daiichi accident, the German

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<sup>53</sup> *Id.*

<sup>54</sup> *See generally*, "NUCLEAR SECURITY RECOMMENDATIONS ON PHYSICAL PROTECTION OF NUCLEAR MATERIALS AND NUCLEAR FACILITIES," INFCIRC/225/Revision 5, IAEA Nuclear Security Series No. 13, International Atomic Energy Agency, Vienna, 2011, [www.seoulnss.go.kr](http://www.seoulnss.go.kr).

Renewable Energy Foundation accomplished an assessment of the satisfactory insurance premium that the nuclear power industry would need to pay to cover the risk of accident fully. This work also revised certain existing calculations<sup>55</sup>. The D’Haeseleer report for the European commission likewise delivers a complete appraisal of works that evaluate the peripheral liability of nuclear accidents. Lastly, the Indian Point Energy Centre (IPEC) issued in 2013 a study regarding the cost of stark and key mishaps in which other studies were reviewed<sup>56</sup>. Actually there are two problems regarding the calculation of cost of nuclear damage. The first is assessing the cost of nuclear accidents using the figures derived from past events is not a robust method. As it fails to account for safety enhancements, progress in mitigation technologies, and learning from past catastrophes; it can drive cost assessments upwards, provide

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<sup>55</sup> See, M. V. Ramana. Twenty Years after Chernobyl: Debates and Lessons. *ECONOMIC AND POLITICAL WEEKLY* 41, no. 18 (2006): 1743-747. Last visited on March 28, 2020, in [www.jstor.org/stable/4418166](http://www.jstor.org/stable/4418166). See also, Nuclear Energy Agency, *Methodologies for Assessing the Economic Consequences of Nuclear Reactor Accidents* (OECD, Paris, 2000)

<sup>56</sup> Indian Point Energy Centre (IPEC) is a three-unit nuclear power plant station located in Buchanan, New York, just south of Peekskill. It sits on the east bank of the Hudson River, about 36 miles (58 km) north of Midtown Manhattan. The plant generates over 2,000 megawatts (MWe) of electrical power. For reference, the record peak energy consumption of New York City and Westchester County (the Con Edison Service Territory) was set during a seven-day heat wave on July 19, 2013, at 13,322 megawatts. Electrical energy consumption varies greatly with time of day and season. The plant is owned and operated by Entergy Nuclear Northeast, a subsidiary of Entergy Corporation, and includes two operating Westinghouse pressurized water reactors—designated "Indian Point 2" and "Indian Point 3"—which Entergy bought from Consolidated Edison and the New York Power Authority respectively. The facility also contains the permanently shut-down Indian Point Unit 1 reactor. As of 2015, the number of permanent jobs at the Buchanan plant is approximately 1,000. The original 40-year operating licenses for units 2 and 3 expired in September 2013 and December 2015, respectively. Entergy had applied for license extensions and the Nuclear Regulatory Commission (NRC) was moving toward granting a twenty-year extension for each reactor. However, after pressure from local environmental groups and New York governor Andrew Cuomo, it was announced that the plant is scheduled to be shut down by 2021. Local groups had cited increasingly frequent issues with the aging units, on-going environmental releases, and the proximity of the plant to New York City

pessimistic numbers and entail overinvestments in safety or an unbalanced electricity technology mix. Secondly all these assessments are focusing only on *ex ante* policy making and *ex post* compensations. The cost assessments should also be used in order to improve mitigation policies. Even it is not supposed to snatch the questions of possibility of such misfortunes, the table below only presents the studies that assess the cost of nuclear accidents before weighting<sup>57</sup>.

There may not have any table to show this economics without having high absurdities. There is an assessment of the cost of nuclear accidents at roughly €10 billion<sup>58</sup>, and also another which state this cost as more than a trillion Euros<sup>59</sup>. As of now it can be observed that not all studies calculate the same cost. Some of them focus only on the impairment to the people, like health and food costs, whereas others attempt the assessment of the net influence of the accident on the economy<sup>60</sup>. Also, there is little consensus as to certain cost sections which signifies the peak portion of the total cost.

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<sup>57</sup> See generally, Kessides, Ioannis N. *Nuclear Power and Sustainable Energy Policy: Promises and Perils*. The World Bank Research Observer 25, no. 2 (2010): 323-62.

Last visited on March 28, 2020, [www.jstor.org/stable/40891378](http://www.jstor.org/stable/40891378)

<sup>58</sup> See, A. Rabl, V.A. Rabl, *External costs of nuclear: greater or less than the alternatives?* Energy Policy 57, 575–584 (2013)

<sup>59</sup> *Id.* at 580

<sup>60</sup> *Id.* at 582

**Table 1.2: A review of existing assessments of the cost of nuclear accidents**

The following table contains certain assessments regarding the cost of nuclear accidents<sup>61</sup>

	Year	Health cost	Food cost	Loss of land, production and cost of mitigation actions	On-site cost	Image cost	Fleet cost	Cost of a nuclear accident (b€)
WASH 1400	1975	x	x	x	–	–	–	14
CRAC-2	1982	x	x	x	–	–	–	314
Hohmeyer	1988	1370	–	–	–	–	–	1370
Ottinger	1990	629	38	–	–	–	–	667
Ewers-Rennings 1	1991	2740	38	828	–	–	–	3606
Ewers-Rennings 2	1992	7815.6	307.4	179.1	–	–	–	8302
ExternE	1995	74.3		37,9	–	–	–	112.2

<sup>61</sup> See generally, Bizet R., Lévêque F. *The Economic Assessment of the Cost of Nuclear Accidents*.79-96 In: Ahn J., Guarnieri F., Furuta K. (eds) RESILIENCE: A NEW PARADIGM OF NUCLEAR SAFETY. (2017) Springer, Last visited on January 26, 2022 in Cham. [https://doi.org/10.1007/978-3-319-58768-4\\_7](https://doi.org/10.1007/978-3-319-58768-4_7).



Eeckhoudt	2000	10.85	6.162	0.098	–	–	–	342
German Renewable Energy Federation	2011	x	x	x	–	–	–	5900
Rabl-Low	2012	10	5	100	50	–	–	165
Rabl-Central	2012	18.8	75	250	78	–	–	354
Rabl-High	2012	50	50	1000	290	–	–	1390
IRSN-severe	2013	0	9	11	10	50	44	124
IRSN-major	2013	27	14	110	28	180	88	447

\*\*\* “x” signifies that the cost section is at least partly assessed, “–” signifies that the cost section is not assessed

The comparison between the “IRSN-major”<sup>62</sup> and the assessment from the German Renewable Energy Federation<sup>63</sup> embodies this observation: even though it only assesses health, food and production costs, the

<sup>62</sup>See *supra* note 58. The IRSN is France’s technical support organization for the Nuclear Safety Authority (ASN). The IRSN describes a Direct Containment Heating accident, which consists in a direct heating of gases within the containment vessel.

<sup>63</sup>See *supra*, note 58 at.86

German study calculates a total cost ten times superior to the IRSN figure, which accounts for a larger panel of consequences. Thus the economic consequences of a nuclear accident remain incalculable. The potential for a nuclear disaster imposes risk related costs to essentially everyone in the world—both currently living and those in the future<sup>64</sup>. Actually more research is required to get a better understanding about the suspicions over different possibilities of calculations and other methodologies to help legislators to take decision.

## **1.6. THE ADVANTAGES AND DISADVANTAGES OF EXISTING NUCLEAR LIABILITY REGIME**

Existing nuclear liability regimes are significant as they warrant that the potential victims will be compensated promptly and efficiently after a nuclear accident. So it is important to peruse their recommendations and the benefits of all these nuclear liability conventions, in particular<sup>65</sup>:

### **1.6.1. Advantages:**

Advantages of nuclear liability conventions can be summarised shortly in the following points.

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<sup>64</sup> See *supra*, note 58 at.87

<sup>65</sup> See generally, Ben McRae, The Compensation Convention: Path to a Global Regime for Dealing with Legal Liability and Compensation for Nuclear Damage, 61 NUCLEAR LAW BULLETIN 25, 33 (1998).

### ***1.6.1.1. No sovereign immunity***

According to all international nuclear liability conventions, the resistance of Sovereign immunity could not be invoked with respect to the liability of a State owned NPP producing electrical energy for the public or a research reactor intended for scientific research or the manufacture of medical radioisotopes. Under domestic legislation, the attitudes will be uncertain and sometimes a State may be entitled to invoke the defence of Sovereign immunity in such disputes. This must be addressed properly<sup>66</sup>.

### ***1.6.1.2. Product channelling***

Generally the place where the nuclear incident had occurred and extraordinarily the place where the relevant nuclear installation is situated will be the place of jurisdiction, conclusively according to the international nuclear liability conventions. By this jurisdiction is absolutely conferred to the law courts at anyone place only. But domestic rulings normally do not provide this type of procedural channelling to permit the victim/plaintiff to select between the courts of the respondent's domicile and the courts where the nuclear damage took place or the place where harm was happened in between the transportation of radioactive substances. However this may offer option to choose and prima facie look as if as a benefit for victims, it does not practically allow the

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<sup>66</sup> *Id.*

accumulation of all measures and all accessible assets at one place and in the hands of one distributing authority. Whereas the above said procedural channelling fortifies a fair and equal treatment of all potential victims as far as possible. It is thus beneficial for everyone who suffers damage. This procedural channelling could be achieved only according to an international convention system which could synchronize the jurisdiction of law courts of various States. National law on its own is unable to recognize this channelling effect due to its binding effect only for its own courts alone and not the courts of other States<sup>67</sup>.

### ***1.6.1.3. No need of selection of National Law***

Actually the selection and reference of an applicable national law in the happening of an accident is unnecessary for victims, if they are a part of any one of the international liability convention. It is for the reason that these conventions deliver those substantive liability rules expressly without any confusion to victims or concerned courts. Always it is needed as a first step to select the applicable national law, if we stand outside the scope of the convention system. The outcome of this choice may not be always anticipated with confidence. Always these relevant rules may grant the courts a substantial freedom of choice. And partially the victims are authorized to select for either the law of the country where the

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<sup>67</sup> See generally, Lee, Maria. *Civil liability of the nuclear industry*. JOURNAL OF ENVIRONMENTAL LAW 12, no. 3 (2000): 317–32. Last visited on January 26, 2022 in <http://www.jstor.org/stable/44251668>.

accident has happened or of in the nation where the injury was affected. The essentiality of determining the applicable law and its substantive content costs a lot of money and time. Furthermore, from time to time the valid law might be much less constructive than the convention regime<sup>68</sup>.

#### ***1.6.1.4. Mutual obligation of countries to enforce the judgements of courts***

The response and implementation of pronouncements are protected under the prevailing nuclear liability conventions. All the convention states are liable to recognize and enforce the decision of a law court of any other convention state. Since such recognition and enforcement conditions are different in different states, it is better to harmonize the national law with the international conventions<sup>69</sup>.

#### ***1.6.1.5. Creation of structure of strict liability***

The conventional system creates a structure of strict liability, according to the substantive rules on liability for nuclear damage. It channels this liability to the operator. It provides both uniform rules for the nature of reimbursable damage and the limits of liability by certain maximum amounts of damages. It fortifies their imbursement by compelling the operator to continue insurance coverage and some other financial

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<sup>68</sup> *Id.*

<sup>69</sup> *Id.*

security. Thus a liability regime broadens the resources obtainable for reparation by making the contracting parties obliged to it. Also there are many resolutions under the different national laws. Some states deliver even greater limits of liability. Many others track the standard of the convention regime only to some extent. There are still others who follow and provide for fault liability only<sup>70</sup>.

#### ***1.6.1.6. Uniform liability structure***

Practically, the more significant part of a liability regime is to ensure the payment of an adjudicated compensation and a contribution by the operator of a NPP to the victim. The main benefit of all these nuclear liability conventions is to fetch a uniform liability scheme which is able to protect the victims effectively. The convention regime circumvents the condition that mere luck decides whether a national law is as equally constructive as any convention regime put on to victims, or whether a much less favourable national law is applicable. Currently the later state of affairs will be the much more possible incident<sup>71</sup>.

#### **1.6.2. Disadvantages**

Disadvantages of existing nuclear liability conventions can be summarised shortly in the following points<sup>72</sup>:

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<sup>70</sup> *Id.*

<sup>71</sup> *Id.*

### ***1.6.2.1. Jurisdiction lacks clarity***

As a necessary corollary of the procedural channelling in the international regime of liability conventions, sufferers of an international nuclear misfortune may habitually be compelled to litigate in a foreign State, due to the special jurisdiction of the courts of that State<sup>72</sup>.

### ***1.6.2.2. States are free to set limits***

States are free to set the limits on the amounts of liability according to all international nuclear liability conventions. Countries like Japan, the USA, Switzerland and South Africa are not even a signatory to any of these conventions. But their prescribed amount of civil nuclear liability is higher in quantity than the amounts mandated under these conventions<sup>73</sup>.

### ***1.6.2.3. Channelling of liability to operator***

Almost all legal regimes transfer third party liability for nuclear accidents exclusively towards the operator of a nuclear plant. This is called “channelling” and implies that the operator of a nuclear installation is exclusively liable for damages, either legally or economically. Irrespective of their possible contribution, none of the other players – suppliers of nuclear material or fuel, transporters of nuclear material or fuel to and from the nuclear power plant, subcontractors, test operators,

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<sup>72</sup> *Id.*

<sup>73</sup> *Id.*

consultants, nuclear plant designers and constructors – bears any responsibility towards third parties in the event of a nuclear accident. Thus this constraint would definitely upset those people who might have compensated by the responsible third party<sup>74</sup>.

#### ***1.6.2.4. Unexhausted coverage of nuclear damage***

All types of nuclear damage are not being covered under these conventions. Example is the exclusion of military installations<sup>75</sup>. The text of the Paris Convention or Vienna Convention does not mention compensation for preventive or protective measures or for damage to the environment. However, the possible way then to get compensation for the costs of protective measures for environment, where an accident has occurred could be done only under national law.

#### ***1.6.2.5. No universal application of nuclear liability treaties***

All the prevailing nuclear liability treaties are not in force universally. It really seems disappointing and blocks the formation of a strictly even nuclear liability regime. This drawback could be reduced by insisting a larger participation to any one of these nuclear liability conventions. Mainly the suggested convention now is the CSC and Joint protocol. By

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<sup>74</sup> *Id.*

<sup>75</sup> *Id.*



this adaptation it is possible to unite both the Paris and Vienna conventions<sup>76</sup>.

By harmonizing the benefits and weaknesses of these nuclear liability conventions there can be substantial change in the liability and protect the victims in a better way compared to most of these domestic nuclear liability laws. There are provisions like recognition, enforcement of judgement, procedural channelling, free transferability of payable sum, accountability for damage caused by nuclear reactors having state as operator, donations of other countries to reparation funds etc. Domestic laws are not able to attain these benefits very easily<sup>77</sup>.

### **1.7. NEED FOR A MORE EFFECTIVE NUCLEAR LIABILITY REGIME**

The nuclear power industry from its beginning in 1950's, is very much controversial in many respects. Many public interrogations are being raised up in contradiction of the current nuclear liability regime. The main areas of conflict is based on two subjects say the 'adequacy of compensation' and on the 'issue of supplier liability'<sup>78</sup>. May be it is the

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<sup>76</sup> See generally, Johnson, Larry D., *International atomic energy agency: diplomatic conference to adopt a protocol to amend the Vienna convention on civil liability for nuclear damage and to adopt a convention on supplementary funding*. 1454-91, *International Legal Materials*, vol. 36, no. 6, AMERICAN SOCIETY OF INTERNATIONAL LAW, 1997, Last visited on January 26, 2022 in <http://www.jstor.org/stable/20698739>.

<sup>77</sup> *Id.*

<sup>78</sup> See, Rogner, H.-Holger., *Nuclear power and sustainable development*. *JOURNAL OF INTERNATIONAL AFFAIRS* 64, no. 1 (2010): 137-63. Last visited on March 29, 2020 in [www.jstor.org/stable/24385190](http://www.jstor.org/stable/24385190).

same case for many other conventional energy sources also. But nuclear energy has its specifically distinctive benefits and drawbacks. It is a sustainable energy source. Actually the consumption of other non-renewable sources is not very sustainable in nature. But the fuel required by nuclear power plants to preserve nuclear fission can be costly to produce and hazardous to handle<sup>79</sup>. Neither the conventional sources nor the atomic reactors are risk-free, ecologically safe, and restorative for living beings and their surroundings. All around 11% of the electricity consumed worldwide is produced from the 450 NPPs existing here now<sup>80</sup>. In countries like France, Slovakia and Lithuania, the whole source of energy is nuclear in nature. America also creates majority of their energy from atomic fission. They are using other sources also simultaneously due to their large requirements and size of the country<sup>81</sup>. The prevailing liability conventions include the Vienna Convention on Civil Liability for Nuclear Damage and the Protocol to amend it, the Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention and the Convention on Supplementary Compensation for Nuclear Damage. The Convention on Supplementary Compensation (CSC) aims

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<sup>79</sup> See, Joshua M. Pearce, *Limitations of Nuclear Power as a Sustainable Energy Source* department of Materials Science & Engineering and Department of Electrical & Computer Engineering, Michigan Technological University, 601 M&M Building, 1400 Townsend Drive, Houghton, MI 49931-1295, USA. Sustainability 2012, 4(6), 1173-1187; <https://doi.org/10.3390/su4061173>

<sup>80</sup> *Id.*

<sup>81</sup> See, Tanter, Richard., *After Fukushima: A Survey of Corruption in the Global Nuclear Power Industry*. Asian Perspective 37, no. 4 (2013): 475-500. Last visited on March 29, 2020 in [www.jstor.org/stable/42704842](http://www.jstor.org/stable/42704842).

at establishing a minimum national compensation amount and at further increasing the amount of compensation through public funds to be made available by the Contracting Parties should the national amount be insufficient to compensate the damage caused by a nuclear incident. The strength of present liability regime could be identified from the following table of countries and the conventions to which they are parties.

**Table 1.3: Nuclear power states and liability conventions to which they are party**

This table is to provide an idea regarding the existing condition of nuclear power countries and connected liability conventions<sup>82</sup>.

COUNTRIES	CONVENTIONS PARTY TO
Argentina	VC; RVC; CSC; (JP)
Armenia	VC;
Belgium	PC; CSC; (RPC); (RBSC); (JP)
Brazil	VC
Bulgaria	VC; JP
Canada	CSC
Czech Republic	VC; JP; (CSC); (RPC)
Finland	PC; BSC; JP; (RPC); (RBSC)
France	PC; BSC; JP; (RPC); (RBSC)
Germany	PC; BSC; JP; (RPC); (RBSC)
Hungary	VC; JP
India	CSC

<sup>82</sup> OECD Nuclear Energy Agency, 'Nuclear Operators' Third Party Liability Amounts and Financial Security Limits', updated February 2019.

Japan	CSC
Kazakhstan	VC, RVC
Lithuania	VC; RVC; JP; (CSC)
Mexico	VC
Netherlands	PC; BSC; JP; (RPC); (RBSC)
Romania	VC; JP; RVC; CSC
Russia	VC
Slovakia	VC; JP
Slovenia	PC; BSC; JP; (RPC); (RBSC)
Spain	PC; BSC; (RPC); RBSC; (VC); (JP)
Sweden	PC; BSC; JP; (RPC); (RBSC)
Switzerland	PC; RPC; BSC; RBSC; (JP)
Ukraine	VC; JP; (RVC); (CSC)
UK	PC; BSC; (RPC); (RBSC); (VC); (JP)
UAE	RVC; JP; CSC
USA	CSC

PC = Paris Convention (PC). RPC = 2004 Revised Paris Convention, not yet in force. BSC = Brussels Supplementary Convention. RBSC = 2004 Revised Brussels Supplementary Convention, not yet in force.

VC = Vienna Convention. RVC = 1997 Revised Vienna Convention (in force 2003)<sup>[11]</sup><sub>SEP.</sub>

JP = 1988 Joint Protocol. CSC = Convention on Supplementary Compensation for Nuclear Damage, in force from 15 April 2015.

() = signed but not yet ratified.

Countries like China, Pakistan, Korea, South Africa and Iran have not ratified any of the liability conventions yet.

To get a more commanding type of worldwide liability regime, the following things are essential in this new era for adequately controlling the nuclear power sector.

### 1.7.1. Regulating the environmentally unfavourable things

The civil nuclear liability law must have appropriate sections to regulate the possible environmentally unfavourable things in nuclear power sector<sup>83</sup>. These sustainability-focused conservational and regulatory methods could maintain a collective base and common stage for regulating both nuclear liability and environmental jurisprudence. These liability conventions are extremely exposed to the evaluation of risk management and insurance policies like many other ‘low-probability and high-consequence risk industries’. For example, sectors like aviation, oil/gas, nuclear undertakings, chemicals, etc. which seems more common<sup>84</sup>.

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<sup>83</sup> See, Rosner, Robert, Robert L. Gallucci, Amir Shahkarami, Mark T. Peters, and Steven E. Miller. *Prospects & Challenges for the Nuclear Future: After Fukushima*. Bulletin of the American Academy of Arts and Sciences 65, no. 1 (2011): 63-73. Last visited on March 29, 2020, in [www.jstor.org/stable/23352362](http://www.jstor.org/stable/23352362).

<sup>84</sup> Civil Liability for Nuclear Damage: Advantages and Disadvantages of Joining the International Nuclear Liability Regime A paper by the International Expert Group on Nuclear Liability (INLEX) There is a set of international conventions which are designed to provide compensation for damage arising from nuclear incidents. These conventions, which form an international nuclear liability regime, include: the Convention on Third Party Liability in the Field of Nuclear Energy of 29 July 1960 (Paris Convention); the Convention Supplementary to the Paris Convention of 1963 (Brussels Supplementary Convention, BSC); and the Convention on Civil Liability for Nuclear Damage of 1963 (Vienna Convention). All these conventions have been amended by protocols.. There is also the Convention on Supplementary Compensation for Nuclear Damage of 12 September 1997 (CSC), which was developed as an umbrella for the other international liability conventions and to provide the basis for a global nuclear liability regime that could attract broad adherence from countries with and without nuclear power plants. As yet, the number of States that have ratified or implemented one of these conventions is still limited; and the CSC is not yet in force. Moreover, only about one half of all nuclear power plants are located in States which are contracting parties to one of the nuclear liability conventions.

### **1.7.2. Indispensable for the development of civil nuclear sector and its public reception**

The already existing nuclear liability principles are now being changed a lot in the background of Fukushima Daichi accident and the new entry into force of new countries such as India, the UAE, and Vietnam etc. in the international space of nuclear energy. This scenario also increases some additional problems and encounters<sup>85</sup>. It is obvious that a strong ‘nuclear liability regime’ is crucial for the improvement of civil nuclear sector and its public reception.

### **1.7.3. Increases the international cooperation**

A strong liability regime will demand a boundless deal of cooperation among nations, international institutions, regulators and the nuclear industry. Regional initiatives would sometimes simplify and demonstrate the worldwide liability regime through their efforts. Bearing in mind the important problems seen in emerging a worldwide nuclear liability regime, many of the nations target on regional cooperation and arrangements as example within this sphere of international nuclear liability. The EU’s initiative for European nuclear liability law is an unavoidable example<sup>86</sup>. Developing countries in South Asia as well as the ASEAN region have an inherent common curiosity in articulating and

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<sup>85</sup> See generally, JACK SPENCER, CONGRESS MUST IMPLEMENT CSC TREATY TO REINVIGORATE U.S. NUCLEAR INDUSTRY, The Heritage Foundation, October 9, 2007

<sup>86</sup> *Id.*

firming up a regional nuclear liability framework. Thus it's getting very much relaxed to realise such a frame with a minor goal of attaining consistency and inevitability by studying a regime in the vicinity as against the entire world<sup>87</sup>.

#### **1.7.4. Ensure a sufficiently high level of reimbursement to each victim**

Normally a worthwhile nuclear liability regime would give an adequately high level of recompense to each victim from an easily available fund. Actually the whole nuclear industry is responsible to share the burden of this liability along with the operator state. The nuclear industry, together with the Supplier community have to take an advance fund by generating a judicious donation to towards the liability regime within suitable constraints that do not disappoint those private sector entrepreneurs from enduring its vital role inside this nuclear power industry<sup>88</sup>.

Insufficient reimbursement of each and every victim of a nuclear accident or the lack of assistance in case of a trans-boundary incident etc. may be caused by the weakness of liability frameworks. In order to seek a balance between the promotion of the nuclear industry and ensuring adequate compensation in the occurrence of an event, the normal view of liability frameworks must shift. The platform from which an improved

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<sup>87</sup> See, Dickerson, John H. *Limited Liability for Nuclear Accidents: Duke Power Co. v. Carolina Environmental Study Group, Inc.* ECOLOGY LAW QUARTERLY 8, no. 1 (1979): 163-85. Accessed March 29-2020 [www.jstor.org/stable/24112567](http://www.jstor.org/stable/24112567).

<sup>88</sup> *Id.* at 182

and effective liability regime could be evolved is the prevailing international conventions and domestic approaches, particularly the CSC. By having a well-organized and useful civil nuclear liability framework in each country, it would be definitely possible to increase the tolerability of atomic energy all over the world<sup>89</sup>.

### **1.8. THE NEW INTERNATIONAL REGIME: FRESH HOPES**

Nuclear policies comprising civil nuclear sector fluctuate passionately from country to country. Convention for Supplementary Compensation (CSC) provides a lot of expectations in between these fluctuating policies. It is a convention in which member states contribute to create a world pool of funds. It is habitually reinforced with donations from the nuclear industry, including the supplier community. CSC proposes to complement other civil nuclear liability structures, such as the Paris and Vienna Conventions<sup>90</sup>. A liability regime that provides for max recompense must be hailed, and hence CSC appears to be a step in the proper direction.

The present-day strategies of the U.S. and France in this regard is a positive step towards the confidence of the CSC structure and may have a categorically worthy start line to give us a future model through which suppliers, operators, and states could be able to make up a close vicinity

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<sup>89</sup> *Id.* at 183

<sup>90</sup> *See supra*, note 77 at 1485.



to contribute fund to compensate nuclear accidents. The International Atomic Energy Agency desires to consider, providing INLEX (International Expert Group on Nuclear Liability) with some rappers of orientation on a reassessment of the normal principles of international nuclear liability. It might contain certain local preparations and an increase of sources of reserves that are accessible in order to handle a nuclear incident. The prototypes embraced by nuclear industry, as a result of the U.S. attitude of seeking backdated pooling of resources from nuclear suppliers, operators and states could organize a prevailing construction with respect to which an imminent nuclear liability regime might be erected<sup>91</sup>.

### **1.9. THE ‘CIVIL LIABILITY FOR NUCLEAR DAMAGE ACT 2010.**

The Civil Liability for Nuclear Damage Act 2010 (CLNDA 2010) in India introduces a new model of civil nuclear liability law. Its provisions raise a major issue of supplier liability. Sometimes if Russia and France decide to proceed according to CLNDA 2010 of India that would set a new precedent regarding the tolerability of supplier liability which may essentially change the existing commercial practices in the field of civil

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<sup>91</sup> See, NOOR AZURA ZUHAIKRAH BTE ABDUL AZIZ, THE FUTURE OF NUCLEAR SECURITY IN SOUTHEAST ASIA: COMMITMENTS AND ACTIONS IAEA Nuclear Security Essay Competition, and is Last visited on January 26,2022 in <https://www.iaea.org/sites/default/files/16/10/097.pdf>

nuclear liability. Wider acceptance of the concept of supplier liability may have noteworthy effect on the process formulation of domestic nuclear liability law of different countries like Vietnam and all, which is already undergoing. Predominantly in light of the occurrence of accident at Fukushima, other states such as Malaysia and Indonesia etc. in the Association of Southeast Asian Nations (ASEAN) region also have a chance to deliberate to adopt the CLNDA model. Ultimately the Japanese taxpayer would have to bear a part of the liability apart from the large portion of it fell to the government. Indian civil society had engaged a solid part in emphasizing the attitude taken by Indian legislature in articulating its liability law. It is not unbelievable that this facet of supplier liability would have such a public interest and public discourse of countries having their own liability laws, and would put stress on governments to intensely consider this novel aspect<sup>92</sup>.

The presently existing novel aspect of supplier liability could be excluded from the scope of an international liability regime, only if the whole nuclear industry is ready to play a robust role in donating towards a compensation fund made available for nuclear accidents. So a liability convention through which the reserves for compensating nuclear accidents are collected from all layers of nuclear industry like states, operators, and suppliers would be more effective than any other

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<sup>92</sup> *Id.* at 73

prevailing liability regimes. Selecting this would be a strong step towards constructing a well-organized and reasonable nuclear liability regime<sup>93</sup>.

### **1.10. SIGNIFICANCE OF THE STUDY**

The Civil Liability for Nuclear Damage Act of India has been a matter of serious discussion and controversy since its enactment in 2010. Even though there is channeling liability to the operator, this ‘Indian civil nuclear liability regime’ includes issues like capping the liability and transferring the final responsibility to compensate the victims to the government. Also the operator has been given a right of recourse against the supplier if the ‘nuclear incident’ has resulted as a consequence of the equipment or material with patent defects or latent defects or substandard services supplied by the supplier. It is undeniably an extensive deviation from the international best practices. But such a leave-taking is more than justified in international market as it makes suppliers accountable in nuclear commerce and minimizes the risks of discharging supplier from all their liabilities<sup>94</sup>.

Anxieties about the matter of suppliers’ responsibility specified in the said Act have apparently discouraged both domestic and international suppliers of nuclear power plant (NPP) from arriving into agreements to

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<sup>93</sup> See generally, Abdulla, Ahmed, and M. Granger Morgan, *Nuclear Power for the Developing World* 55-61, *ISSUES IN SCIENCE AND TECHNOLOGY* 31, no. 2 (2015): Last visited on March 29, 2020 in [www.jstor.org/stable/43315082](http://www.jstor.org/stable/43315082)

<sup>94</sup> *Id.*

supply nuclear power reactors and other components for forthcoming projects. Understanding that the consequent bottleneck may disrupt India's determined atomic energy development strategies, State has been keen-sighted numerous strategies and legal options to fix this problem. The most important solution to solve the said impasse was the interactions of India with America so as to convince them about the potential bulk use of atomic power here to secure the energy needs of India according to its elevated expectations<sup>95</sup>.

Since a review of India's civil nuclear liability legislation is not at all possible due to political and policy related issues, the only way towards a tangible solution or corrective action is to work out another formula, subject to the satisfaction of all parties concerned. The endeavour to smoothen the provisions regarding supplier liability by the enabling rules and regulations also has no conclusive effect on those predominant uncertainties<sup>96</sup>. Now it seems the supplier liability provisions are being excessively demonised without considering the obligation of government to defend the interest of the public, prior to the expansion of country's nuclear energy sector. Liberal hard work to find out a possible solution to

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<sup>95</sup> *See generally*, NATHAN SWARTZ, THE IMPACT OF THE CONVENTION ON SUPPLEMENTARY COMPENSATION FOR NUCLEAR DAMAGE Published by Penn Law: Legal Scholarship Repository, 2017.

<sup>96</sup> *See generally*, MOHIT ABRAHAM, NUCLEAR LIABILITY: A KEY COMPONENT OF THE PUBLIC POLICY DECISION TO DEPLOY NUCLEAR ENERGY IN SOUTHEAST ASIA, International Law and Nuclear Liability. American academy of Arts and Science, available online in <https://www.amacad.org/publication/nuclear-liability-key-component-public-policy-decision-deploy-nuclear-energy-southeast/section/5>

this problem may solve this problem with a new political resolve and innovative policy options.

This study is to examine some options and fresh approaches towards the concept of civil liability for nuclear damage, by giving more prominence to the Indian law, whereas the Indian Act actually offers a practically possible prototype for civil nuclear liability law. This would look as if as a new best practice for the universal nuclear commerce<sup>97</sup>.

### **1.11. RESEARCH PROBLEM**

A 123 agreement was reached upon by United States of America and the Republic of India in 2008 and is known as the ‘U.S.-India Civil Nuclear cooperation Agreement’. The Civil Liability for Nuclear Damage Act 2010, of India was interpreted to justify that it is in conformity with the provisions of Convention for Supplementary Compensation (CSC) 1997. India signed the international document CSC in October 2010 but hesitated to ratify it for a long time. This Convention has been in force since 4<sup>th</sup> May 2016 onwards, 90 days after the deposition of instrument of ratification by India. Long after all these; it is true that this pact did not lead to India’s setting up of foreign-built nuclear reactors, based on it till now. There are certain problems even within the international legal framework on international nuclear liability and needs the possibility of

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<sup>97</sup> *Id.*

regional cooperation as a way to address the trans-boundary nuclear incidents. Methods of compensation should be structured to ensure availability of higher compensation for victims in the event of a nuclear incident. The supplier liability mechanism introduced by India under the CLND Act 2010 and the consequent commercial impact of it on India's international nuclear energy trade is a utilitarian research.

### **1.12. RESEARCH QUESTIONS**

- Whether the much debated 'supplier liability' and 'limited liability' provisions in CLND Act 2010 is legally and practically possible to adhere or not?
- Whether the provision for trans-boundary liability for nuclear damage is included in CLND Act 2010?
- Is there any alternate solution to overcome the complex situation aroused in India due to these debated sections of CLND Act 2010, without amending the Act?
- What are the international obligations India has through CSC, and how it affects the present scenario?

### **1.13. OBJECTIVES OF THIS STUDY**

The following are the objectives of this research.

- To understand the theoretical and jurisprudential perspective of civil liability
- To analyse the judicial development of the concept of civil liability in India.
- To apprehend the concept of nuclear liability.
- To understand and acknowledge the need of civil liability for Trans-boundary nuclear incidents.
- To analyse the provisions of existing International Conventions to regulate the civil liability for nuclear damages, giving preference to Convention for Supplementary Compensation (CSC).
- To critically analyse the CLND Act 2010 and rules.
- To scrutinise the constitutionality of Civil Liability for Nuclear Damage Act, 2010 and the Civil Liability for Nuclear Damage Rules, 2011.
- To compare the CLND Act with Nuclear liability Laws of some important countries under CSC.
- To study the compliance of the CLND Act and Rules with India's international legal obligations.

- To find out suggestions for ethical implementation of nuclear policy to pave way towards justice.

#### **1.14. SCOPE OF THE STUDY**

In 2010, it was necessary to pass the Civil Liability for Nuclear Damage Act which is additionally referred to as Nuclear Liability Act, to facilitate nuclear power in India by attracting U.S. private companies involved in nuclear commerce. Nuclear Liability Act is to define the financial and legal liabilities upon the involved groups, manufacturers, operators and government just in case a nuclear accident occurs. The suppliers and builders in this case are going to be the U.S. private companies and thus the operator is getting to be the Indian government controlled Nuclear Power Corporation of India Limited (NPCIL). Fixing civil liability for nuclear damage under law of nations may be a must for defeating violations of right laws by means of a company crime or accident within the field of atomic energy. Civil liability for Nuclear Damage Act 2010 is an Act to supply for civil liability for nuclear damage and speedy reparation to the sufferers of an accident in civil nuclear sector by applying a 'no- fault liability regime' channelling the liability to the operator. This study seeks to explore the concept of civil liability of multinational corporations also as State, in violations of international human rights law by an accident or wilful act of a world corporation



providing a summary of the various legal issues raised by this idea and scope of its implementation in India after the said Act.

### **1.15. HYPOTHESIS**

The civil liability provisions in the CLND Act 2010 for nuclear damage are not in tune with the international civil nuclear liability treaties which India has ratified. The theories upon which the global policy regarding civil nuclear liability is based are not ample to include the Indian Act.

### **1.16. METHODOLOGY OF THE STUDY**

The methodology adopted for this study is purely doctrinal. The major international conventions on civil nuclear liability, the CLND Act 2010 and the Rules of India, important judgements and other literature regarding this subject are the source of information in this study.

### **1.17. LIMITATION OF THE STUDY**

This study is limited only to Indian perspective and Indian interests relating to Nuclear Liability Law.

### **1.18. CHAPTER SCHEMA**

This study contains eight chapters altogether. The first Chapter gives an introduction to the whole study. The concept of civil liability for nuclear damages and its jurisprudential facet is explained in the second chapter.

The third chapter discusses the trend of Indian Judiciary in deciding the tortious liability of State presently and its impact on nuclear power sector. Fourth Chapter is to examine the civil liability for environmental and trans-boundary nuclear damage including tortious liability for it. Chapter V deals with the international conventions for fixing civil liability for nuclear damage and the gradual development of a global nuclear liability regime. Sixth Chapter is a comparative analysis of domestic nuclear Acts of some other countries. Seventh one is a critical analysis of the present scenario of law of civil liability for nuclear damage in India and its comparison with other countries. The last and final chapter summarises the Conclusions and suggestions.

## CHAPTER 2

### CIVIL LIABILITY- JURISPRUDENTIAL PERSPECTIVE

**“Liability or responsibility is the bond of necessity that exists between the wrongdoer and the remedy of the wrong.”**

**-Salmond<sup>1</sup>**

The legal responsibility for one’s actions, in particular the responsibility to compensate a harmed person, by those actions is called Liability. Liability can be divided into many, based on certain principles. They are civil and criminal liability, remedial and penal liability and limited and unlimited liability etc<sup>2</sup>. Civil liability arises due to civil proceedings whose purpose is the enforcement of certain civil rights claimed by the plaintiff against the defendant<sup>3</sup>.

A number of liability principles were conceptualised and new concepts which are applicable to different types of tortious circumstances and other civil grievances have been derived and discussed instinctively in different legal systems<sup>4</sup>.

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<sup>1</sup> See, SALMOND, JOHN W. (JOHN WILLIAM), SIR, 1862-1924. SALMOND ON JURISPRUDENCE. London :Sweet & Maxwell, 1966.

<sup>2</sup> See, HYLTON, KEITH, TORT LAW: A MODERN PERSPECTIVE (2016). *Books*. 87. Last visited on January 26, 2022 in <https://scholarship.law.bu.edu/books/87>

<sup>3</sup> *Id.*

<sup>4</sup> See generally, Benjamin Zipursky, *Rights, Wrongs, and Recourse in the Law of Torts*, 51 VAND. L. REV. 1 (1998) at: [https://ir.lawnet.fordham.edu/faculty\\_scholarship/840](https://ir.lawnet.fordham.edu/faculty_scholarship/840).

Rights, wrongs, and recourse form the conceptual core of the law of torts. On the side of rights and wrongs, a domain of legal norms asserts that people are not to be treated in certain ways.

Even though the Civil law legal system and Common law legal system had resulted in the formation of principles of civil liability in their own sphere separately, both of them came to the same conclusions simultaneously and spontaneously regarding this<sup>5</sup>.

## 2.1. CONCEPT OF LIABILITY IN CIVIL LAW LEGAL SYSTEM

Originally the modern definition of civil liability is derived from the remarkable statement of law given at Art.1383 of the most renowned French Civil Code of 1804 as<sup>6</sup>:

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On the recourse side, a system of rules empowers those who have been treated in the ways the law prohibits to seek redress, through the state, against those who have mistreated them. Efficiency, corrective justice, deterrence, and compensation may each have a role to play in explaining why we classify some conduct as mistreatment and not others, and why we permit recourse on certain occasions and in certain forms. But without adequate conceptions of rights, wrongs, and recourse as our framework, we cannot make sense of the basic structure of tort law.

<sup>5</sup> See generally, Clare Connellan, Elizabeth Oger Gross and Angelica Andre white & case LLP, *Compensatory Damages Principles in Civil and Common Law Jurisdictions-Requirements, Underlying Principles and Limits*, 'Global Arbitration Review's *The Guide to Damages in International Arbitration*'-Second Edition, Part-I

While there are differences in the approach to compensatory damages in common- and civil-law jurisdictions, or among those jurisdictions, they often lead to similar results, albeit through different paths, so much so that arbitrators, but also national judges and commentators, have identified and applied international principles applicable to damages, such as the duty to mitigate, particularly in international arbitration.

<sup>6</sup> French civil code of 1804 is the first modern organized body of law governing France.

It also known as the Code Napoleon or Code Civil enacted by Napoléon I in 1804. In 1800, Napoléon appointed a commission of four persons to undertake the task of compiling the Napoleonic Code. Their efforts, along with those of J. J. Cambacérès, were instrumental in the preparation of the final draft. The Napoleonic Code assimilated the private law of France, which were the law governing transactions and relationships between individuals. The Napoleonic Code is a revised version of the Roman law or Civil Law, which predominated in Europe, with numerous French modifications, some of which were based on the Germanic law that had been in effect in northern France. Napoléon applied the code to the territories he governed namely, some of the German states, the Low Countries, and Northern Italy. It was extremely influential in Spain and, eventually, in Latin America as well as in all other European nations except England, where the Common Law prevailed. It was the harbinger, in France and abroad, of codifications of other areas of law, such as Criminal Law, Civil Procedure, and Commercial Law. The Napoleonic Code served as the prototype for subsequent codes during the nineteenth century in twenty-four countries; the province of Québec and the state of Louisiana have derived a substantial portion of their laws from it. The major provisions of the French Civil Code on tortious responsibility are:

Art. 1382: Any act of a person which causes damage to another makes him by whose fault the damage occurred liable to make reparation for the damage.

Art. 1383: Everyone is liable for the damage he causes not only by his acts, but also by his negligence or imprudence.

"Everyone is liable for the damage he causes not only by his acts, but also by his negligence or imprudence."

At the same time, the German Civil Code of 1900 at Art. 823 also established the definition of this civil liability as given below<sup>7</sup>:

"A person who, wilfully or negligently, unlawfully injures the life, body, health, freedom, property or other right of another is bound to compensate him for any damage arising therefrom."

Thus both these civil law legal system had depicted 'responsibility to compensate' as something which is closely related to an 'illegal act or wilful negligence' of the party<sup>8</sup>.

## **2.2. CONCEPT OF LIABILITY IN COMMON LAW LEGAL SYSTEM**

Civil liability principles based on the fault of a tortfeasor were developed in common law legal system also in a similar manner through precedents. A scrupulous means for the resolution of disputes is supposed to be one of the social purposes of the law. It is to offer a solace so as the wounded parties do not take the burden of perseverance of troubles into their own

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Art. 1384: A person is liable not only for the damage he causes by his own act, but also for that caused by the acts of persons for whom he is responsible or of things that he has under his care. [Other parts of Article 1384 hold parents liable for damage caused by their children, employers liable for damage caused by their employees, and artisans liable for damage caused by their apprentices. Parents and artisans escape liability if they "can prove that they could not have prevented the act that gives rise to this liability."]

<sup>7</sup> Germany is another civil law country in which a codified civil liability law was existed in parallel.

<sup>8</sup> See generally, W.VAN GERVEN, J.LEVER,P.LAROUCHE, CASES MATERIALS AND TEXT ON NATIONAL SUPRANATIONAL AND INTERNATIONAL TORT LAW 60-62( Hart Publishing 2000).

French law is then governed by the principle of full compensation (reparation integrale).The idea is to make compensation match the harm as completely as possible which can be difficult, especially in terms of non-material harm.

hands. Factually, just after the development of a system of third party dispute settlement by a ruler or by the courts, isolated personal settlement of revenge was no longer necessary<sup>9</sup>. A tort, in common law jurisdiction, is a civil wrong<sup>10</sup> other than breach of contract that causes a claimant to suffer loss or harm, resulting in legal liability for the person who commits the tortious act. It can include intentional infliction of emotional distress, negligence, financial losses, injuries, invasion of privacy, and many other things.

### 2.3. TORTIOUS LIABILITY-VARIOUS FACETS

Deterrence or the prevention of accidents caused by negligence or intention, by imposing heavy liability may be considered as the most important function of liability law<sup>11</sup>. The word 'tort' stems from Old French via the Norman Conquest and Latin via the Roman Empire.<sup>12</sup> If the operator does not have to pay the costs of the damage caused by his activity, then he will have little reason to exercise the safety controls necessary to prevent an accident. This will be true especially if the safety measures themselves are expensive. Inversely, if operator is liable for the

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<sup>9</sup> See generally, Michael G. Faure, *Alternative Compensation Mechanisms as Remedies for Uninsurability of Liability*, Vol. 29, No. 3 (July 2004) 455-489 Source: The Geneva Papers on Risk and Insurance. Issues and Practice Published by: Palgrave Macmillan Journals Stable URL: <http://www.jstor.org/stable/41952774> Last visited on 29-04-2017 06:47 UTC.

<sup>10</sup> See, Glanville Williams, *Providing grounds for lawsuit*, 9 LEARNING THE LAW. Eleventh Edition. Stevens. 1982.

<sup>11</sup> See generally, David F. Cavers, *Improving Financial Protection of the Public against the Hazards of Nuclear Power*, 644-688 H L R, Vol. 77, No. 4 (Feb., 1964), Published by: The Harvard Law Review Association. Stable URL: <http://www.jstor.org/stable/1339137>. Last visited: 29-04-2017 06:33 UTC

<sup>12</sup> See, HUGHES-DAVIES AND NATHAN TAMBLYN, TIMON (2020). 'TORT LAW'.1-19. Oxon: Routledge.

impairment produced to a next person, he would have an encouragement to take the extreme probable caution<sup>13</sup>. But liability in a tortious condition may occasionally comprise many dissimilar factors<sup>14</sup>. It is necessary to examine those factors to understand the possibilities and scope of all types of liabilities to be considered in a tortious action for liability. The theories expanded naturally and fit into many circumstances<sup>15</sup>. It mainly consists of:

- i. Fault based liability<sup>16</sup>;
- ii. Joint liability<sup>17</sup>
- iii. Vicarious liability<sup>18</sup>
- iv. Liability to/for Third Parties<sup>19</sup>
- v. Plaintiff/victim Liability<sup>20</sup> and

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<sup>13</sup>*Id.*

The strongest justification for holding the operator to strict liability as a part of the Price-Anderson scheme assuring it financial protection is the sheer fairness of such a rule.

<sup>14</sup> For example, a person may become liable to several different victims if they have injured a group of people. Or several different persons can be held liable for the injuries of a single victim, such as when a person is attacked by a group. It is even possible for the victim themselves to incur liability, for example if they contributed to their own injury apart from the actions of the wrongdoer

<sup>15</sup> See *supra* note 12.

<sup>16</sup> Fault based liability is a type of liability in which the plaintiff must prove that the defendant's conduct was either negligent or intentional; fault based liability is the opposite of strict liability.

<sup>17</sup> Joint liability denotes the obligation of two or more joint tortfeasors to be responsible for satisfying a liability.

<sup>18</sup> It is the responsibility of any third party having the "right, ability or duty to control" the activities of a violator. It can be distinguished from contributory liability, another form of secondary liability, which is rooted in the tort theory because, unlike contributory infringement, knowledge is not an element of vicarious liability.

See generally, *Rligious Tech.Centre v. Netcom online Comm.*, 907 F.Supp.1361(N.D.Cal 1995). Last visited on 6 september 2017.

<sup>19</sup> Strict liability is a standard of liability under which a person is legally responsible for the consequences flowing from an activity even in the absence of fault or intention on the part of the defendant.

vi. Product liability based on strict and absolute liability<sup>21</sup>.

This is not an exclusive list of all the existing types of liabilities, but only an unpretentious list of various expansions of tortious liabilities which are theoretically connected to nuclear liability regime.

### **2.3.1 Fault based liability**

The magnitude and the standard of a person's duty of care were meaningfully summed up by Lord Atkin in the revolutionary decision of *Donoghue v. Stevenson*<sup>22</sup>, as he held:

But acts or omissions which any moral code would censure cannot in a practical world be treated so as to give a right to every person injured by them to demand relief. The rule that you are to love your neighbour becomes, in law, you must not injure your neighbour; and should bare sensible precaution to circumvent the acts or omissions which you can judiciously expect would be likely to harm your fellow citizen. Who, then, in law, is my neighbour? The answer seems to be 'persons who are so closely and directly affected by my act' that I ought reasonably to have them in contemplation as being so affected when I am

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<sup>20</sup> Product liability is the area of law in which manufacturers, distributors, suppliers, retailers, and others who make products available to the public are held responsible for the injuries those products cause. Although the word product has broad connotations, product liability as a area of law is traditionally limited to products in the form of tangible personal property. See Restatement of Torts: Products liability, (Third) § 19

<sup>21</sup> Absolute liability is strict liability without any exception. That liability standard has been laid down by the Indian Supreme Court in *M.C. Mehtha v. Union of India* (Oleum gas leak case). This meant that the defaulter could be held liable for even third party errors when public was at a realistic risk.

<sup>22</sup> (1932) UKHL100, (1932) SC(HL)31



directing my mind to the acts and omissions which are called into question.

Concisely, fault based liability means the addition of liability towards a person who is the reason for harm deliberately or carelessly. Negligence happens as and when the actor has performed something in breach of his duty to take care.

### **2.3.2. Joint Liability**

Joint liability is applicable where many persons are made liable for a tort against somebody<sup>23</sup>. They are alleged to be “jointly liable” for the damage. Sometimes if more than one person is tangled in an unlawful action, all of them would not essentially be joint tort-feasors. However they can either be independent tort-feasors or joint tort-feasor. So, to become treated like joint tort-feasors; their performances must have a common intention to do that harm<sup>24</sup>. A determined act with a common completion by more than one person alone can make joint tort-feasors and not a mere similarity of act performed by a group of independent individuals<sup>25</sup>. Conceptual togetherness can be considered as the key characteristic of joint tort-feasors, if somebody has planned an action with another and afterwards happened to omit it, both of them would

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<sup>23</sup> See generally, E..P.J. *Joint and Several Liability for Hazardous Waste Releases under Superfund* , 1157-1195. (Virginia Law Review,vol.68.no.5,1982) JSTOR,www.jstor.org/stable/1072890. Accessed on 11 Jan. 2020

<sup>24</sup> *Id.* at 1164.

<sup>25</sup> *Id.* at 1168.

certainly become joint tort-feasors. It is due to their common intention or prior meeting of mind<sup>26</sup>.

The amount of compensation will be decided as per the rules for that particular jurisdiction and with reference to each tort-feasors separate degree of liability. For example, some relationships like principal and agent, master and servant, partners of a firm etc. are subjected to the presumption of their joint liability for the harm due to a wrongful act by one or the other. Thus the obligation of joint tort-feasors could be joint or several. Which means the claimant can sue any one of them or some of them according to his choice<sup>27</sup>. But as per the principles existing, the release of any of them from their liability shall release all the others. The reason for it is the assumption that, the action is indivisible to parts. This rule is applicable whether the release is under a judgment, accord or satisfaction<sup>28</sup>. The rules of joint liability in India also seem same eventhough there is no statutory enactment in this regard<sup>29</sup>.

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<sup>26</sup> *Id.* at 1190.

<sup>27</sup> *See generally*, William M. Landes and Richard A. Posner, *Joint and Multiple Tortfeasors: An Economic Analysis*. THE JOURNAL OF LEGAL STUDIES VOL. 9, NO. 3 (Jun., 1980) 517-555. (The University of Chicago Press for The University of Chicago Law School) <https://www.jstor.org/stable/724003>.

<sup>28</sup> *Id.* at 554.

<sup>29</sup> *See*, JUSTICE G.P. SINGH, THE LAW OF TORTS, RATAN LAL & DHIRAJ LAL 2-3 updated 26<sup>th</sup> edition 2013. It is on this reasoning that the principles of the English statute, the Law Reform (Contributory Negligence) Act, 1945, have been applied in India although there is still no corresponding Act enacted by Parliament in India

### 2.3.3. Vicarious Liability

In certain occasions a superior person to another will be held liable for the actions of their subordinates is called vicarious liability<sup>30</sup>. Like, an employer will become liable for the tort done by his employee during their work shift. Theoretically the act of a servant is believed to be that of his master's as well<sup>31</sup>.

The foundation of this principle is mostly on these two maxims<sup>32</sup>:

- *Respondent superior* which literally means that, 'let the principal be held responsible' and
- *Qui facit per alium facit per se* which means 'He who acts through another does the act himself'.

The components of vicarious liability are<sup>33</sup>:

- (1) A relationship of a certain kind must be there in between the person who committed the wrong and the person who is liable for

<sup>30</sup> See generally, Bigelow, Melville M., Benjamin H. Lowry, Alexander Durbin Lauer, and Patrick C. B. O'Donovan, *Department of Torts. Dickson v. Waldron. Supreme Court of Indiana* 448-56 The American Law Register and Review 42, no. 6 (1894) Last visited on January 16, 2020. doi:10.2307/3305644.

<sup>31</sup> *Id.* at 455.

<sup>32</sup> *Id.* at 456.

<sup>33</sup> See generally, SWAIN, W., A HISTORICAL EXAMINATION OF VICARIOUS LIABILITY: A "VERITABLE UPAS TREE"? 640-661 (The Cambridge Law Journal 2019), 78(3),. doi:10.1017/S0008197319000680

Vicarious liability was, and it remains, curiously unsatisfactory. After a period of stability from the Middle Ages into the early modern period in the late seventeenth into the early eighteenth century, the existing law of vicarious liability began to be challenged. The mid-nineteenth century saw another reappraisal coinciding with the rise of notions of fault. The period that follows, from the late nineteenth century until after the Second World War period has not attracted much comment. One key debate in this period and earlier which provides a useful lens to examine the doctrine was whether vicarious liability should be properly characterised as a master's or servant's tort theory. The history of the doctrine during this period goes some way to explaining why the modern law remains incoherent.

it. It might be in the nature of master and servant, principal and agent, parent and child etc.

(2) The wrongful act must have a close connection with this relationship in a particular way.

(3) The tort has been committed within the course of the employment.

It is believed that, a servant who is an agent of his master is subjected to the control and supervision of that person, with respect to the modus in which the work is to be done. But an independent contractor is not considered to be under any such control. A contractor undertakes to do certain work in his own risk. He is well aware of the manner in which the work is to be done. He is his own master and exercises his own discretion. An independent contractor is one “who undertakes to produce a given result, but so that in the actual execution of the work, he is not under the order or control of the person for whom he does it, and may use his own discretion in things not specified beforehand.”<sup>34</sup>

Lord Pearce, commenting on the rationale behind vicarious liability observed in *Imperial Chemical Industries Ltd. v. Shatwell*<sup>35</sup> as follows<sup>36</sup>:-

<sup>34</sup> See generally, POLLOCK ON TORTS 6( 15th ed) adopted by McKardie, J. in *Performing Right Society Ltd. v Mitchell, etc. Ltd.*, (1924) 1 K.B. 762, 767-768.

<sup>35</sup> (1965) AC 656.

<sup>36</sup> See, Giliker, Paula, *Rough Justice in an Unjust World* 269-79 *The Modern Law Review* 65, no. 2 (2002): Accessed January 17, 2020. [www.jstor.org/stable/1097641](http://www.jstor.org/stable/1097641).

See also, *Dharangadhara Chemical Works Ltd. v State of Saurashtra*, 1957 AIR 264, 1957 SCR 152.

In this case, a bench of J.Bhagwati and J. Natwarlal H also in the Supreme Court of India laid down that the existence of the master to supervise and control the execution of the work done by the servant is a test which is based on the first impression and that the nature of control of

The doctrine of vicarious liability has not grown from any very clear, logical or judicial principle, but from social convenience and rough justice. The master having presumably for his own benefit, employed the servant, and being better able to make good any damage which may occasionally result from the arrangement, is answerable to the planet at large for all torts committed by his servant within the scope of employment.

According to Salmond a master is not only liable to those wrongful acts of his servant which he has authorised him to do, but he is also liable if the mode of doing that act is wrongful. If at the time of accident, the servant was not acting within the scope of his master's employment but acting for his own self, the master will not be liable in that case<sup>37</sup>.

Even then, if the servant while working for his master has done the wrongful act for his selfish interest, benefit or amusement, then the master will not be liable for the consequences of servant's such acts<sup>38</sup>.

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work that is to be performed or the procedure of the work may vary from business to business and the precise definition of it is not possible and it is not necessary to prove the principal employer's control over the work that his or her employee is doing and the test of control is not necessarily universally applicable as there are many contracts in which the principal employer has no control in the manner in which the work will be done.

<sup>37</sup> See, SALMOND J, SALMOND ON TORTS 8-15 (London: Steven and Haynes 1907).

<sup>38</sup> The decision of the House of Lords in *Lister and others v Hesley Hall Ltd* [2002] 1 AC 215 restated the test to determine when an employer will be held vicariously liable for the wrongs of an employee. The case arose out of the sexual assault of a resident of a care home by the manager of the home. This decision is clearly correct as there can be no logical means of distinguishing between the legal categories of an employee's wrongdoing. As with the other cases considered above, the decision represents a further extension to vicarious liability generally, and it is impossible to say that it will or will not affect the licensed trade more than any other trade or profession. Certainly, as regards door stewards there is always scope for harassment in relation to customers. However, it is clear that whether a statutory provision will give rise to vicarious liability depends upon the wording of the

In a welfare State, it must also be ensured that the State's executive power should not run away from the 'law' and should be limited by the law it makes, since accountability should be the essence of modern law<sup>39</sup>.

#### **2.3.4. Liability to/for Third Parties**

Occasionally an individual may have liability for wrongs sustained by a third party, apart from the instance of application of traditional doctrine of vicarious liability. It relates to a form of primary liability based upon the personal fault of the perpetrator. This means, a third party may also have tortious liability. Otherwise, now and then a third person may also have a chance to become liable to the main parties in a contract<sup>40</sup>.

As a case, a landlord often has a duty not only to ensure that their tenants are free from harm on the premises, but also that third party visitors are safe as well<sup>41</sup>. An example of one illustrated case to understand the traditional trends of a common law court while addressing a third party liability issue is described below.

The issue during this illustration was, whether an engineer who had contracted to style a "replacement" for a bridge had knowledgeable obligation to "improve" the bridge after it failed and third-party motorists

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provision in question. In consequence, it is difficult to predict the extent to which vicarious liability has been extended without having a specific factual situation and a particular statute to consider.

<sup>39</sup> See , Léon Duguit, *The Law and the State*, 1-185 H LR Vol. 31, No. 1 (Nov., 1917), Stable URL: <https://www.jstor.org/stable/1327671>. Last visited on : 17-01-2020 02:28 UTC

<sup>40</sup> See, William M. Landes and Richard A. Posner *Supra* note. 27, at 586.

<sup>41</sup> See generally, Cunningham, Charles W., *The Duty of a Landlord to Exercise Reasonable Care in the Selection and Retention of Tenants*. 725-65 S LR 30, no. 4 (1978):. Last visited on January 17, 2020. doi:10.2307/1228321.

were killed. In other words, the planning professional have an independent obligation to travel beyond replacing the bridge, because the contract stipulated? During this case, there was a contract that prescribed the duty of care that the planning professional agreed to meet: “the degree of skill and diligence normally employed by professional engineers or consultants performing an equivalent or similar services.” These contract obligations trumped the quality of care that might exist absent during a contract: “the use of an equivalent degree of knowledge, skill and skill as an ordinarily careful professional would exercise under similar circumstances.” While these standards look similar, they differ because one recognizes the restrictions that the parties agreed to in their contract limit the engineer’s duty to others. Because the contract specifically required replacement — and not redesign — of the bridge, the engineer couldn't be held responsible for failing to travel beyond the contractual scope of duty.

The engineer could be found susceptible to third parties if he had been negligent in performing services concerning the replacement of the bridge — that was within the scope of what the engineer had agreed to try to. Moreover, the engineer could have assumed additional liability by voluntarily attempting to enhance the bridge and delivering a poor or defective product. A design professional’s obligations to 3rd parties are further limited by the “economic loss doctrine,” which applies to claims

that do not involve physical harm. This doctrine prevents a celebration from pursuing a claim for economic or commercial losses arising from an alleged breach of a requirement of care if the planning professional's contract precludes recovery of consequential or tort-based damages. Put simply, the contract's limitation of damages can pre-empt economic loss liability even in cases where knowledgeable did not meet the duty of care<sup>42</sup>.

Whether the breach of the duty has "proximately caused" the damage is another query rises in case if there is a duty of care is existing while a third party has grieved reparations<sup>43</sup>. Here, many courts look at what the professional has contractually agreed to do. If injury results from something reasonably within that contractually defined responsibility, a design professional can be seen to proximately cause the damage that flow from the designer's failure to competently perform those duties<sup>44</sup>. In summary, a design professional's contract serves to confine and to define the designer's obligations not just to his own client, but also to third parties with whom the designer does not have a contractual relationship. As long as the design professional has contract to do and does that work

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<sup>42</sup> *Id.* at 740.

<sup>43</sup> See generally, Benjamin Zipursky, *Rights, Wrongs, and Recourse in the Law of Torts*, 51 Vand. L. Rev. 1 (1998) Last visited at: [https://ir.lawnet.fordham.edu/faculty\\_scholarship/840](https://ir.lawnet.fordham.edu/faculty_scholarship/840)

<sup>44</sup> See, Gerhard Wagner, *Tort law and liability insurance*, The Geneva Papers on Risk and Insurance. Issues and Practice 277-292, Vol. 31, No. 2, Special Issue on Law and Economics and International Liability Regimes (Palgrave Macmillan Journals, April 2006), <https://www.jstor.org/stable/41949236>.



professionally, the designer cannot be obligated to go beyond that contract. Even if this case demonstrates the general rule of a supplier's liability towards a third party, this will not be true always<sup>45</sup>.

The verdict given in a well-known case, *Winterbottom v. Wright*<sup>46</sup> was a conventional one about the application of the doctrine of 'Privity of contract'. Depending upon this principle the third party liability of the seller of goods was decided in favour of the respondent. This may be the most misjudged precedent based on which many cases were decided wrongly<sup>47</sup>.

According to Dean Prosser, the decision went no farther than to hold that no action could be maintained on the contract itself; but it was universally misinterpreted, and certain dicta of the judges were taken to mean that there could be no action even in tort, and even if the chattel had been in a defective condition when it was supplied. Springing from this decision, there developed a general rule which prevailed until quite recent years that the original seller of goods was not liable for damages caused by their defects to anyone except his immediate buyer<sup>48</sup>.

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<sup>45</sup> See , L. F. E. Goldie, *Liability for Damage and the Progressive Development of International Law*, The International and Comparative Law Quarterly, Vol. 14, No. 4 (Oct., 1965), pp.1189-1264. Cambridge University Press on behalf of the British Institute of International and Comparative Law. Stable URL:<http://www.jstor.org/stable/757329>, Accessed: 29-04-2017 06:35 UTC

<sup>46</sup> (1842) 10 M. & W. 109; 152 E.R. 402 (Exch.).

<sup>47</sup> See , Cunningham, Charles W. *Supra* note 41, at 734.

<sup>48</sup> See, Cunningham, Charles W. *Supra* note 41, at 735,  
See also, PROSSER, TORTS 673-674 (1951),

The principle of law of torts related to the doctrine of “imminent danger to the public” has been expanded in the famous verdict of *MacPherson v. Buick motor company*<sup>49</sup>.

In this case the defendant manufactured automobiles, and purchased its wheels from a reputable wheel manufacturer. The plaintiff bought his car from a retail dealer, and was injured when one among the wheels proved defective and collapsed. The defendant had did not inspect this wheel and was found responsible for this negligence. The court acknowledged that an automobile was of such a nature that if it had been not carefully made, it'd almost certainly cause injury to someone of the overall public that's anyone who might purchase it from the retailer and people who could be riding with him, or with whom he might collide due to the defect. The court then said: "We hold, then, that the principle of *Thomas v. Winchester*<sup>50</sup> isn't limited to poisons, explosives, and things of like nature, to things which in their normal operation are implements of destruction. If the character of a thing is such it's reasonably sure to place life and limb in peril when negligently made, it's then a thing of danger. Its nature gives warning of the results to be expected. If to the element of danger there's added knowledge that the thing are getting to be used by persons apart from the purchaser, and used without new tests, then, regardless of

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<sup>49</sup> 217 N.Y.382,111 N.E 1050 (1916).

<sup>50</sup> *Id.* at.1053.

contract, the manufacturer of this thing of danger is under a requirement to make it carefully<sup>51</sup>.

Through a number of subsequent cases the law has undergone an actual development<sup>52</sup>. Tort liability to a third party cannot be avoided by hiding behind a contract when one enters into a contract in which the breach of it is apprehensive with actual possibility of danger to several innocent members of the public. The producer of an inherently dangerous substance has an extra duty to take care. As per the fundamental concept of justice, a tort-feasor must be liable to the hurt person. The law of liability should always to ensure it. This norm was found appropriate not only in food and beverages cases, but its dicta is assumed the extension of the doctrine to any industry, provided of course that the necessary element of wide possibility of danger is present in it<sup>53</sup>. Universally this principle prevailed as a rule of common law courts. And the impression

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<sup>51</sup> *Id.* at 1054.

<sup>52</sup> Tort Liability to Third Parties Arising from Breach of Contract - Otis Elevator Company v. Embert, 14 Md. L. Rev. 77 (1954). Available at: <http://digitalcommons.law.umaryland.edu/mlr/vol14/iss1/7>. This article is to analyse some of the cases and to determine the basis on which third party liability in tort actually rests, with particular emphasis on the development of the Maryland law in this respect. The major case laws referred for this purpose were

- I. Otis elevator company v. Embert, 198 Md.585,84A.2d 876(1951).
- II. Thomas v. Winchester, 6 N.Y.(2 selden)397,57 Am.Dec.455(1852)
- III. State, use of Hart love v. Fox & Son, 9 Md. 514, 29 A. 601 (1894).
- IV. Flaccomio v. Eysink, - 129 Md. 367, 100 A. 510 (1916).
- V. Goldman and Freiman Bottling Co.,Inc. v. Sindell, 40 Md. 488, 117 A. 866 (1922).
- VI. Anderson v. London Guaranty & Accident Company, 295 Pa. 368, 145 A.431 (1929).
- VII. Dahms v. General Elevator Company 214 Cal. 733, 7 P. 2d 1013 (1932).

<sup>53</sup> *See, Supra* note 41, at. 736.

of inherent danger here represents nothing more than the substantial harm which is to be known if the chattel is defective<sup>54</sup>.

### 2.3.5. Plaintiff/victim Liability

Sometimes an individual suffered by any damage will be incapable of getting compensations from the other because of his own contribution to his harm. All are anticipated to have a reasonable care of one's own security. Whenever the aggrieved person himself contributed towards his own injury, he must share the liability with the original tort-feasor. This may result in the reduction of compensation or even the complete bar of compensation and is termed as 'contributory negligence' in torts<sup>55</sup>. The burden of proof of such a negligence on the plaintiff's side lies upon the shoulder of the defendant<sup>56</sup>. But in most of the cases the plaintiffs will be capable to overcome this argument by proving the last opportunity rule of evading the incident<sup>57</sup>.

All these different kinds of liabilities discussed above will contribute towards the civil liability of an occupier, operator and supplier in the occurring of an accident in their premises. This means, tortious liability can have several different forms based on the conditions close to the related incident. Actually tortious liability is connected with

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<sup>54</sup> See, *Supra* note 41, at. 737.

<sup>55</sup> See, Jeffries, R. N., *Torts and personal injury law for the paralegal: Developing workplace skills*. Boston: Pearson. (2014). *Justia Law*. (n.d.). Last visited on July 26, 2018, in <https://law.justia.com/>

<sup>56</sup> See generally, Lewis, T. Ellis, *Tort. Res Ipsa Loquitur. Burden of Proof on Defendant*. 150-53 *The Cambridge Law Journal* 14, no. 2 (1956): Last visited on January 18, 2020. In [www.jstor.org/stable/4504387](http://www.jstor.org/stable/4504387).

<sup>57</sup> *Id.* at 153.

compensations. But sometimes certain liability may have other remedies such as a restraining order or an injunction<sup>58</sup>.

### **2.3.6 Product liability based on strict and absolute liability**

The perception of “Product Liability” was established in a renowned verdict of common law legal system called *Donoghue vs. Stevenson*<sup>59</sup>, even before the development of the concept of absolute liability. It is a principle of product related strict liability, to immune the intermediaries who are acting only as a connecting agent between the seller and buyer without any interference to the product in between<sup>60</sup>.

According to House of Lords, a person who manufacture any products with an intention to sell it in such a form as to reach the end-user in the same mode as it left him, be obliged a responsibility to the ultimate user to take a reasonable care. It is true that, there is no contractual obligation between them, as there was no contract at all. But the existence of a tortious obligation is presumed and recognized by courts of law, whose violation may make the manufacturer liable. From this judgement an intelligent piece of law emerged as the “Consumer Rights and Product liability” rule<sup>61</sup>.

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<sup>58</sup> See, Bigelow, Melville M., Benjamin H. Lowry, Alexander Durbin Lauer, and Patrick C. B. O'Donovan, *supra* note 30, at.448.

<sup>59</sup> [1932] UKHL 100, [1932] SC (HL) 31, [1932] AC 562, [1932] All ER Rep 1 Manufacturers have a legal duty of care to the ultimate consumers of their products if it is not possible for defects to be identified before the goods are received.

<sup>60</sup> See generally, Whittaker, Simon, *Privity of Contract and the Tort of Negligence: Future Directions*191-230.Oxford Journal of Legal Studies 16, no. 2 (1996):. Last visited on January 18, 2020. in [www.jstor.org/stable/764742](http://www.jstor.org/stable/764742).

<sup>61</sup> *Id* at.230.

The theory of product liability is founded mainly upon the law of negligence, strict liability and breach of warranty<sup>62</sup>. The manufacturers, suppliers, distributors, retailers and others who ever are making the availability of a product are liable for the damages caused by those products according to law. Ideally this theory can promote efficient levels of product safety and protect consumers from dangerous or defective products, while holding manufacturers, distributors, and retailers liable for putting into the market place products that they knew or should have known were dangerous or defective<sup>63</sup>.

In a product liability case the plaintiff must prove that the product that caused harm was defective and the defect made the product unreasonably dangerous. There are three types of defects that might cause injury and give rise to liability of manufacturer or supplier<sup>64</sup>:

- Design Defects- the inherently unsafe design of a product. It was present even before its production which means, from the beginning.
- Manufacturing Defects- the defects that occur in the course of a product's manufacture or assembly.

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<sup>62</sup> See generally, McKean, Roland N, *Products Liability: Trends and Implications*, 3-63. The University of Chicago Law Review 38, no. 1 (1970): Last visited on January 24, 2020. in doi:10.2307/1598957.

<sup>63</sup> See generally, Viscusi, W. Kip, and Michael J. Moore. *Product Liability, Research and Development, and Innovation*. Journal of Political Economy 101, no. 1 (1993): 161-84. Last visited on January 24, 2020. www.jstor.org/stable/2138678.

<sup>64</sup> *Id.* at 169.

- Marketing Defects- defects happened in the way a product is marketed, such as improper labelling, insufficient instructions, or inadequate safety warnings.

Anyway a liability arises after the violation of a right, by the distribution of a product which causes damage, injury or harm to others. The breach may result from breach of warranty, a breach of duty as in negligence, or due to the strict liability imposed by any of statutes<sup>65</sup>. A wrongdoer incurs tortious liability that they will have to compensate the victims for the harm that they have instigated to him. On the other hand, the person who is found liable or responsible in any manner for another being's harm will likely to pay damages. Under most tort laws, the injury suffered by the plaintiff does not have to actually be physical. A tortfeasor may be required to pay damages for other types of harms like emotional distress or the violation of personal rights<sup>66</sup>.

The fault-based principle of liability had verified as insufficient to deal with many of the socio-legal demands of the twentieth century. Eventually, a gradual evolution from this normal concept of guilt-based

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<sup>65</sup> See generally, Greene, Mark R. *The product liability risk, insurance, and marketing*. The Journal of Insurance Issues and Practices 6, no. 2 (1983): 23-35. Last visited on January 24, 2020. in [www.jstor.org/stable/41943135](http://www.jstor.org/stable/41943135).

<sup>66</sup> *Id.* at 31.

system of liability towards a new concept of ‘Strict liability’ has been happened, through proper judicial interference<sup>67</sup>.

The justification for imposing ‘strict liability’ for hazardous activities is threefold<sup>68</sup>:

- The individual who produces a danger should bear the liability for any of its subsequent impairment for being fair and equitable
- The operator of the reactor is bound to control the risk and to take necessary measures to prevent any accident; and
- To get insurance coverage for making the reparation of nuclear damage, operator should take any such insurance policy beforehand.

Prompt industrial development which happened in this nineteenth century and the other connected risks of the age, like coal, steel, electricity and production of chemicals etc. acted as a catalyst in this change of concept of liability<sup>69</sup>. Industrialisation caused many accidents in which the major reason behind was purely mechanical and unidentified. Unfortunately Article 1382<sup>70</sup> turn into a guard in the hands of these industrialized companies as defendants, instead of becoming a weapon in the hands of

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<sup>67</sup> See, G. VINEY. W.VAN GERVEN, J.LEVER, P.LAROUCHE CASES, MATERIALS AND TEXT ON NATIONAL, SUPRANATIONAL AND INTERNATIONAL TORT LAW,57 Hart Publishing 2000.

<sup>68</sup> *Id.* at 59.

<sup>69</sup> See, Gilmore, Grant., *From Tort to Contract: Industrialization and the Law*. THE YALE LAW JOURNAL 86, no. 4 (1977): 788-97. Last visited on January 18, 2020. doi:10.2307/795645.

<sup>70</sup> See *supra* note 7, French Law.



victims of such severe grievance. And they became deprived of compensation<sup>71</sup>.

Therefore, French law try to find a confrontation between freedom to involve in any activity and the responsibility for all the concerns that it inferred. The most significant provision related to this confrontation is Article 1384<sup>72</sup> of French Civil code, which reads: “ One shall be liable not only for the damages he causes by his own act, but also for that which is caused by the acts of persons for whom he is responsible, or by things which are in his custody<sup>73</sup>”. This fundamental understanding sooner or later has been turned into the principle that, Article 1384 establishes an unambiguous by-line that liability could be imposed on a basis other than fault. The Cour’ de Cessation in 1930, in its well-known Jand’heur decision<sup>74</sup> held that its first verdict of Art.1384 itself

<sup>71</sup> See *supra* note 41 at 758.

<sup>72</sup> See *supra* note 7, French Law.

<sup>73</sup> See *supra* note 41 at 758.

<sup>74</sup> Jand’heur v.Les Galeries Belfortaises (French tort case by Cour de Cassation, decided in 1930, illustrating the French 1-sentence rule: provided by Professor Michael Wells, Wake Forest University at: <http://www.wfu.edu/~palmitar/Courses/ComparativeLaw/CourseReadings/Wells-FrenchOpinions.htm>)

The Court: -- Deciding with all the chambers united; -- On the issue raised by the [appeal]: -- See (paragraph 1 of article 1384 of the Civil Code) -- Whereas the presumption of responsibility established by that article as to one who has under his guard an inanimate object that has caused harm to another can be rebutted only by proving an [unforeseen event], a force majeure, or a cause étrangère that cannot be imputed to him; as it does not suffice to prove that he did not commit any fault or that the cause of the harmful act has not been ascertained; -- Whereas, on April 22, 1925, a truck belonging to the Company Les Galeries Belfortaises knocked down and injured the minor Lise Jand’heur; as the challenged decision refused to apply the article cited above on the ground that an accident caused by an automobile in movement, under the impulsion and direction of an individual, does not constitute, so long as it has not been shown that the accident was due to a defect in the automobile, the act of an object that one has under his guard within the meaning of paragraph 1 of article 1384, and that, in consequence, the victim must, in order to obtain compensation for the injury, establish a fault imputable to the driver; -- But whereas the law does not distinguish, for purposes of application of the presumption that it has established, whether the object that caused the harm was or was not put in motion by man; as it is not necessary that there be a defect in the object capable of causing the damage as article 1384 attaches the responsibility to the guard of the

establishes the legal foundation of a wide-ranging and independent strict liability for things all kind<sup>75</sup>. Thus it is established that, however a plaintiff under Article.1382 have need of the evidence of all three elements say fault, causation and damage by the claimant, whereas one fetched under Art.1384 only necessitates the proof of the impairment. The burden of proof will be shifted to the defendant. This famous ‘principle of objective liability independent of fault’ was appreciated and followed subsequently in many other decisions in civil law courts<sup>76</sup>.

By the same time itself, one of the cardinal rules of common law regarding strict liability also was developed in the famous case Ryland’s vs. Fletcher<sup>77</sup>, by the House of Lords in 1868. It was not to restrict the

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object, not to the object itself; -- From which it follows that, in ruling as it did, the challenged decision reversed the legal burden of proof and violated the article of law cited above. -- For these reasons, quash . . . [remand] before the Cour d'appel of Dijon.

<sup>75</sup> See generally, SAMUEL, GEOFFREY, *OBLIGATIONS AND LEGAL REMEDIES*—2nd ed—@2000 (Cavendish Publishing Sourcebook series)

<sup>76</sup> See generally, Jean-Sébastien Borghetti, *The Culture of Tort Law in France* Published Online: 2012-09-12 DOI: <https://doi.org/10.1515/jetl-2012-0158> and also

‘French tort law was meant in the first place to discourage socially undesirable behaviour. But it has evolved in such a direction that today, “ the law of civil liability not only allows the courts to uphold against those who would disregard the rights already acknowledged to exist, but also contributes to the emergence and protection of rights as yet inchoate and unrecognized. It thus constitutes a method of complementing and improving the legal system and bringing it up to date.’ See ,W.Van Gerven, J.Lever, P.Larouche Cases, *Materials and Text on National, Supranational and International Tort Law*, Hart Publishing 2000 p.60-62.

<sup>77</sup> [1868] UKHL 1, (1868) LR 3 HL 330

See also, University of Pennsylvania Law Review and American Law Register Vol. 59, No. 5, Volume 50 New Series (Feb.,1911),298-326, Last visited @ DOI:10.2307/3307445 in <https://www.jstor.org/stable/3307445>.

The defendant (Fletcher) an owner of a mill in Answorth with an aim to improve water supply for his mill employed independent and efficient engineers for the construction of a reservoir. During their excavation of the ground underneath, they came across some shafts and passages but chose not to block them. Post construction of the reservoir when they filled it with water, all the water flowed through the unblocked old shafts and passages to the plaintiff’s (Rylands) coal mines on the adjoining land and inundated them completely. The engineers kept the defendant in the dark about the occurrence of these incidents. On a suit filed before the court by the plaintiff against the defendant, the court though ruled out negligence on the defendant’s part but held him liable under the rule of Strict Liability. Any amount of carefulness on his part is not going to save him where his liability falls under the scope of ‘No Fault Liability’.

civil liability of somebody who, for his own advantage, takes a thing on to his own property and retains it there, anything possible to do disruption if it escapes. Thus it makes a responsibility to keep the thing at his risk and in case if he is not able to do so, to mark him prima facie punishable for all the damage which is a natural consequence of its escape. This pronouncement is thus documented as the leading law in common law system for a new concept that, the liability originates not only from the common negative duty of somebody to abstain from active injury, but also from a positive responsibility to protect and guard one's neighbours from injury by reason of inherently dangerous belongings artificially brought on his land<sup>78</sup>. As this liability was regardless of any carelessness on the part of the respondent or his retainers, it was mentioned to as the rule of "strict Liability". It is also denoted to as "no fault liability", where the wrong doer will be liable with or without proof of fault, by the claimant.

However, it had acknowledged some concessions too for strict liability<sup>79</sup>. Further, this doctrine was developed by English courts, and made an immediate impact on the liability law. Before Rylands case, common law courts had based their verdicts in similar cases on intentions behind the

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<sup>78</sup> See generally, P.S.ACHUTHAN PILLAI, LAW OF TORT, EBC Publishing, 9th Edition, reprinted in 2006. 273-281

<sup>79</sup> *Id.* at 267-273.

The recognised exceptions to the rule of strict liability are Plaintiff's fault, Act of God, Act of third party and the Consent of the plaintiff, natural use of land, things not essentially dangerous, common benefit, statutory authority, catastrophies, default of plaintiff

act rather than imposing this strict liability<sup>80</sup>. In opposite, Rylands enforced strict liability upon those found disadvantageous in such a way, without proving a duty of care or negligence, and brought the law into line with that relating to public reservoirs and also marked as a significant doctrinal shift<sup>81</sup>. Many have disparaged it, conversely, for both its possibility of economic damage caused by such a principle and for the inadequate applicability of this doctrine<sup>82</sup>. The Supreme Court of India found that in these modern times of India the rule of Rayland's v. Fletcher will not be appropriate to fix the liability. The exemptions given inside this rule which were reiterated by the Supreme Court of India in MC Mehta v. Union of India<sup>83</sup> give abundant occasion to most of the commercial organizations to discharge their responsibility very easily<sup>84</sup>. Due to this it was swapped by the principle of Absolute liability.

In the Indian context, the Supreme Court laid down the principle of "absolute liability" in Shriram Gas Leak case, thus: "Where an enterprise is engaged during a hazardous or inherently dangerous activity and results any harm to anybody on account of an accident or within the operation of

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<sup>80</sup>They had concentrated on the intention behind the actions rather than the nature of the actions themselves.

*See generally*, Bohlen, Francis H. , *The Rule in Rylands v. Fletcher. Part I* (1911).University of Pennsylvania, Law Review and American Law Register.59 (5). ISSN0041-9907.

<sup>81</sup> *Id.*

<sup>82</sup> *Id.*

<sup>83</sup> AIR 1987 SC 965

<sup>84</sup> *See generally*, Woodside III, Frank C.; Mark L. Silbersack; Travis L. Fliehman; Douglas J. Feichtner *Why Absolute Liability under Rylands v Fletcher is Absolutely Wrong!*. (2003). Dayton Law Review, University of Dayton School of Law. 29 (1). ISSN 0162-9174

such hazardous or inherently dangerous activity resulting for instance , escape of toxic gas, the enterprise is strictly and absolutely vulnerable to compensate all people who are affected by the accident and such liability isn't subject to any of the exceptions which operate vis-à-vis the tortuous principle of strict liability under the rule out Rylands v Fletcher.” Furthermore, the Parliament has codified the principle of absolute liability by enacting the overall Public Liability Insurance Act 1991. §.3<sup>85</sup> of the said Act says that in any claim the claimant shall not be required to plead and establish that the death, injury or damage in respect of which the claim has been made was because of any wrongful act, neglect or default of any persons.

Above all, it's considered to be inequitable or unfair that the innocent victim who has nothing to try to with the activity or enterprise should bear the burden of the damage it causes. The person who produces and preserves a matter in dispute is to be accountable for any unfortunate

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<sup>85</sup> §. 3 in The Public Liability Insurance Act, 1991

Liability to give relief in certain cases on principle of no fault.—

(1) Where death or injury to any person (other than a workman) or damage to any property has resulted from an accident, the owner shall be liable to give such relief as is specified in the Schedule for such death, injury or damage.

(2) In any claim for relief under sub-section (1) (hereinafter referred to in this Act as claim for relief), the claimant shall not be required to plead and establish that the death, injury or damage in respect of which the claim has been made was due to any wrongful act, neglect or default of any person.

Explanation.—For the purposes of this section,—

- (i) “workman” has the meaning assigned to it in the Workmen's Compensation Act, 1923 (8 of 1923);
- (ii) “injury” includes permanent total or permanent partial disability or sickness resulting out of an accident.

paraphernalia. Additionally to those considerations of equity in placing the burden on the operator, there are economic reasons also.

There is another important undeniable fact that, the expansion in industrial sector is impossible by lacking the presence of hazardous and inherently dangerous activities. So it is considerably essential to place obligation on such organizations for the safety of the individuals from any kind of misfortunes happening out of it<sup>86</sup>. The two key verdicts as precedents of absolute liability by the Supreme Court of India are Bhopal Gas Leak Disaster Case<sup>87</sup> and M.C.Mehtha v. Union of India<sup>88</sup>.

In MC Mehta case Justice Bhagwati contended that “Such hazardous or inherently dangerous activity for private profit are often tolerated only on condition that the enterprise engaged in such hazardous or inherently dangerous activity indemnifies all people who suffer on account of the carrying on of such menacing or fundamentally hazardous movement irrespective of whether it's carried on prudently or not”<sup>89</sup>. On the rock bottom, this principle is furthermore justifiable to show that the enterprise alone has the reserve to wish and protect against hazards or dangers and to provide warning against potential hazards. Thus from the above mentioned points it is a key necessity for such a principle to be evolved.

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<sup>86</sup> See , RATANLAL AND DHIRAJLAL, THE LAW OF TORTS 523, (26th ed.)

<sup>87</sup>(1989)(1)SCC 674: AIR 1990 SC 248. Union Carbide Corporation v. Union Of India Etc.

<sup>88</sup> AIR 1987 SC 1086

<sup>89</sup> *Id.* at 1089.

Also it helped a lot to shape the liability jurisprudence of India absolutely in conformity with the needs in modern society<sup>90</sup>.

Bhagwati J. also acknowledged that:-

The strict liability rule evolved within the 19th Century at a time when these developments of science and technology had not taken place cannot afford any guidance in evolving any standard of liability consistent with the constitutional norms and thus the requirements of today's economy and social organisation. It is better not to feel reticent by this rule which was evolved during a totally different context of economy. Law possesses to grow so on satisfy the wants of the fast changing society and continue with the economic developments happening within the country. As new situations arise the law possesses to be evolved so on satisfy the challenge of such new situations. Law cannot afford to stay static. We've to evolve new principles and lay down new norms which could adequately affect the new problems which arise during a highly industrialized economy. We cannot allow our judicial thinking to be constricted by reference to the law because it prevails in England or for the matter of that within the other foreign country<sup>91</sup>.

This Liability principle was upheld by the courts of India in many cases to avoid even a mass destruction of property or pollution of the

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<sup>90</sup> M.C.Mehta v. Union of India, AIR 1987 SC 1086

<sup>91</sup> *Id.* at 1089

environment as in *Klaus Mittelbachert v. Malay Archipelago Hotels Ltd*<sup>92</sup>.

## 2.4.DIFFERENCES BETWEEN STRICT LIABILITY AND ABSOLUTE LIABILITY

Both these liability principles are different in many aspects, but commonly they do not take into consideration about the reasonable care and lack of negligence on the part of the defendants. In common they are no-fault liability<sup>93</sup>. But in the time of their application, they differ on many points, as below:-

**Table 2.1: Difference between strict liability and absolute liability**

Strict liability	Absolute liability
Applicable only to those who are engaged in a business containing hazardous or inherently dangerous thing in it.	Applicable to all industries
Escape of any dangerous thing is necessary to attract this principle.	The escape of an inherently dangerous thing is not necessary for attracting the

<sup>92</sup> A.I.R 1997 Delhi 201 (single judge):

In this case, the plaintiff, a German co-pilot suffered grave injuries after diving into the swimming pool of the five-star restaurant. Upon investigation, it was seen that the pool was defectively designed and had insufficient amount of water as well. The pilot's injuries left him paralyzed leading to death after 13 years of the accident. The court held that five-star hotels that charge hefty amounts owe a high degree of care to its guests. This was violated by Hotel Oberoi Inter-continental, New Delhi when the defectively designed swimming pool left a man dead. This made the hotel absolutely liable for payment of damages. The hefty amounts taken from the guests by the hotel owners guaranteed them to pay exemplary damages to the deceased or in any such further cases. It was decided that the plaintiff would receive Rs. 50 lakhs for the accident caused.

- However, with the death of the plaintiff while the suit was still pending in the court, the cause of action also died and the aforesaid decision was reversed on appeal by the defendant party (A.I.R, 2002 Delhi 124 D.B.)

<sup>93</sup> See , RATANLAL AND DHIRAJLAL, *Supra* note 86, at. 520.



	<p>application of this principle. This rule is applicable to those who have injured within the premises or outside the premises.</p>
<p>The liability is strict and has no connection with the fault of the defendant. The amount of compensation payable to the plaintiffs is compensatory in nature i.e. it will be in proportion with the actual damage suffered by the plaintiff. In accordance to the injury suffered by the complainant, compensation will be paid.</p>	<p>The liability is absolute to the defendant and has no connection with the quantum of damage suffered by the plaintiff. The compensation payable to the plaintiffs are exemplary in nature. This means, the compensation provided to each aggrieved party is much greater in amount than the actual loss. Compensations available where the rule in Rylands v. Fletcher put on will be normal; but in cases where the rule appropriate is the one put down in MC Mehta’s case the court can permit exemplary damages. And in the case of better and more wealthy the enterprise, the better can be the quantity of compensation payable by it.</p>
<p>Has no connection with the magnitude and financial capability of the industry.</p>	<p>This principle taken into account of the financial capacity of the defendant company.</p>
<p>The respondents can have the aid of many available exceptions given inside the rule itself:-</p> <ul style="list-style-type: none"> <li>• Damage caused due to natural use of land</li> <li>• Consent of the Plaintiff</li> <li>• Plaintiff’s Own Default</li> <li>• Act of Stranger</li> <li>• Act of God or Vis Major</li> <li>• Common Benefit of Plaintiff and the Defendant</li> <li>• Statutory Authority</li> </ul>	<p>The exceptions are not applicable. The defendants are not in a position to take any defence to escape from the responsibility to compensate the damage, because of their absolute liability.</p>
<p>If any of the fortifications made by these available exceptions to a particular case is correct according to the presiding Judge, the respondent will not be held liable.</p>	<p>It is an absolute liability put upon the respondents where the scope of any defence being taken is not allowed. They are held liable for payment of damages under all circumstances.</p>
<p>Certain industries involve hazardous activities which pose a danger to human life and property. They are not prohibited by law because they are</p>	

deemed inevitable for the progress and development of human society<sup>94</sup>. Nuclear power production is a major example of such a type of activity. Absolute liability principle is absolutely necessary to make these industries liable for payment of damages under all circumstances, without taking a defence.

## **2.5. JUSTIFICATION FOR ABSOLUTE CIVIL LIABILITY IN TORTS.**

Basically in a tort, the foreseeability of the tortfeasor about the consequence of his act is the concept used to discourse the issue of civil liability. But the wrongdoer is deprived of this basic right by the application of strict and absolute liability. So the application of this no-fault liability should be regulated with certain principles to avoid the injustice. Some other times if the tortfeasor is deprived of enough funds, for practically providing compensations for the foreseeable or random problems both the ‘traditional test of foreseeability’ as well as the principle of absolute liability turns out to be irrelevant. In case, if the mandatory minimum standard of care is not sufficient in an inherently dangerous industry it may be difficult to resolve upon what conduct is to be deemed negligent. Also the industrial and engineering techniques involved may be so little known and understood that even experts may differ as to the application of standards of care. Lastly, the experimental

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<sup>94</sup> See, FLEMING: TORTS 302,(6<sup>th</sup> Ed.)

works, the development, manufacture and distribution of "hardware " and fuels to be used in an inherently dangerous industry are, generally, enveloped in a cloak of secrecy for necessary reasons of security. Hence an injured plaintiff may be completely excluded from any opportunity of obtaining the evidence he requires to prove his case<sup>95</sup>. Analysing all the above points, justification for the application of this strict rule in adjudication of liability is possible only if it is limited within the background of the following principles:-

- Just like accumulation of wealth, accumulation of liability upon on a single point also is injustice. The liability should be shared in between the beneficiaries of the industry, like the manufacturer, supplier, operator and the consumers
- Trans-boundary injuries also should be addressed.
- Limitation period must be reasonable
- Jurisdiction should be fixed as per the convenience of the victim
- Unnecessary cap on compensation is injustice
- Fund for dispensing liability should be made available by using different insurance policies.

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<sup>95</sup>See, Banks McDowell, *Foreseeability in Contract and Tort: The Problems of Responsibility and Remoteness*, 36 Case W. Res. L. Rev. 286 (1985).Last visied on February 2 in <https://scholarlycommons.law.case.edu/caselrev/vol36/iss2/5>.

- The definition of damage should be made carefully to include all types of damage like environmental impairment, economic loss, preventive measures, and relevant physical and mental damage.

## 2.6. ABSOLUTE LIABILITY IN NUCLEAR DAMAGE

Nuclear Energy has a long way to go in this industrialised world. At this point of time, the ‘liability law’ has only three core purposes to serve<sup>96</sup>:

- Compensation for being a victim of a nuclear damage
- The diplomatic perseverance of clashes, and
- Prevention or deterrence of similar discrepancies in the field of civil nuclear energy.

Accordingly the civil liability for nuclear damage came into deliberations in India and the Government of India had compelled to enact ‘The Civil Liability for Nuclear Damage Act 2010’. This law is much different from other national laws which are traditional in content. It contains several principles evolved and involved in this area of law through various international conventions<sup>97</sup>. ‘Strict liability’ channelled to the operator of the plant is at the core of these conventions. But the important thing to be noted is that, only a few numbers of exceptions to strict liability are recognised for the operator in this area.

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<sup>96</sup> See, MALGOSIA FITZMAURICE, DAVID M. ONG, PANOS MERKOURIS ET. AL., RESEARCH HANDBOOK ON INTERNATIONAL ENVIRONMENTAL LAW 328 Last visited on Google books online on 20/01/2020.

<sup>97</sup> *Id.* at 330.

A nuclear liability regime should compensate civil liabilities for the torts including environmental liability and trans-boundary liability for nuclear damage. Considering a brief history of nuclear accidents worldwide, it is obvious that serious accidents have been very few and far between. A specific obligation to provide restitution and compensation when nuclear activities cause trans-boundary injuries is to be recognised separately from the body of customary international environmental law. Considering better criteria for a better liability regime where it includes elements like unlimited liability, a broad definition of recoverable damage, absolute liability with few or no exceptions, all responsible parties bear joint and several liabilities and a neutral tribunal for the adjudication of claims is to be made. Actually the failure to develop a comprehensive and adequate liability compensation regime is the equivalent of providing an enormous subsidy to support this energy sector. An international regime on liability and redress should be based on the polluter pays principle, according to Principle 16 of the Rio Declaration. Polluter should provide means to prevent or remedy environmental damage and should directly and fully compensate victims. An effective and comprehensive liability regime must contain all the standard essential elements.<sup>98</sup>

Indian Civil Liability for Nuclear Damage Act, 2010 articulates however, a fault based right of recourse which holds the supplier of nuclear reactor

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<sup>98</sup> *Id.*

and other materials with patent or latent imperfection or below average services and amenities as liable to the operator<sup>99</sup>. If this is seen to be a trend in the national jurisprudence regarding civil liability for nuclear damage, it will introduce new dimensions to the international nuclear liability regimes and poses hitherto unforeseen issues for evolution of a universal global nuclear liability regime.

A review as to whether the progress is a pointer towards some new norms and has the potential to contribute to a progressive development of a universal global regime or is retrogressive to the growth thereof and therefore is an aiding signal to nuclear power development. Investigation into the possibilities of such enactments and their effect on the international law therefore, becomes a genuine area for research. The aim is to analyse those legal issues regarding civil liability, and also to explore all matters with regard to formation of a strong Indian nuclear liability regime as well as in the universal scenario.<sup>100</sup>

## 2.7. CONCLUSION

The comparison and analysis of the jurisprudence of civil liability in common law and civil law reveals that there are more similarities than differences between these two. It must be noticed that, despite very different legal cultures, processes and institutions, common law and civil

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<sup>99</sup>See generally, Vaibhav Saxena, *Nuclear liability –Recent trends and implications*. Paper presented in XXII Nuclear Inter Jura Congress, November 7-11, 2016/ New Delhi conducted by NLA(Nuclear Law Association India)

<sup>100</sup> *Id.* at 11.

law have displayed a remarkable convergence in their treatment of civil liability, like many other legal issues. Based on this theoretical background the Indian enactment for Civil Liability for Nuclear Damage Act 2010 was done, which is in compliance with the international treaty requirements. A research as to whether this progress is a pointer towards some new norms and has the potential to contribute to a progressive development of a universal global regime or is retrogressive to the growth thereof and therefore is a deterrent to nuclear power development is of much importance. Thus a study into the possibilities of such enactments and their effect on the international law therefore, becomes a genuine area for research.

### CHAPTER 3

#### **TORTIOUS LIABILITY OF STATE: A KALEIDOSCOPIC VIEW OF INDIAN JUDICIAL ATTITUDE**

**“Law is the great civilizing machinery. It liberates the desire to build and subdues the desire to destroy. And if war can tear us apart, Law can unite us – out of fear, or love or reason, or all three. Law is the greatest human invention.”**

**Lyndon B. Johnson<sup>1</sup>**

It is in fact as cynical that the State of India still believes on the common law maxim 'the King can do no wrong', to have protection for any tortious liability arising from the exercise of its 'sovereign power'. It is true that the maxim is no longer in survival even in England<sup>2</sup>. "The Government (Liability in Tort) Bill, 1967" was presented in the Parliament. But it has yet to become law<sup>3</sup>.

Late Dr. Rajendra Prasad President of India took initiative for considering the Law Ministry of India to amend the law similar to English Crown Proceedings Act 1947. Even after many years of Independence no sincere

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<sup>1</sup> TIME September 24, 1965 page 48 Quoted the words of Lyndon Baines Johnson, 37th Vice President (1961-1963) US Senate

<sup>2</sup> See, S.C THANVI , LAW OF TORTS, Revised by Vishnu Konoorayar in INDIAN LEGAL SYSTEM 629-630

<sup>3</sup> *Id.* at 630



effort has been made to modify the law relating liability of the State in torts. Modern views concept is that State is the guardian of the citizens. But now in India, there is no satisfactory provision to fix the civil liability of the State<sup>4</sup>. In India to make the State liable for a tort arising in the course of its activities, it is not necessary to have a law on the Statute Book like the one in England. The Article 300 of Indian Constitution states the liability of State in civil wrongs<sup>5</sup>. It deals with the extent of liability of the Union of India and the Government of the States. In India there is no exclusive legislation dealing with the tortious liability of State. According to modern view, State is the guardian of citizens. In the post constitutional scenario the trend of decisions by judiciary is always to make this principle more and more valid. Many recent verdicts contradict the principle in P&O Navigation case<sup>6</sup>. It would not be appropriate for the State in these circumstances to continue to raise the plea of 'sovereign power' or of 'sovereign immunity' to escape its liability in tort<sup>7</sup>.

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<sup>4</sup> See Alice Jacob, *Vicarious liability of Government in torts*, JILI 7 1965 at 247.

<sup>5</sup> India Const. art. 300. cl.(1) The Government of India may sue or be sued by the name of the Union of India and the Government of a State may sue or be sued by the name of the State and may, subject to any provisions which may be made by Act of Parliament or of the Legislature of such State enacted by virtue of powers conferred by this Constitution, sue or be sued in relation to their respective affairs in the like cases as the Dominion of India and the corresponding Provinces or the corresponding Indian States might have sued or been sued if this Constitution had not been enacted. cl. (2) If at the commencement of this Constitution— (a) any legal proceedings are pending to which the Dominion of India is a party, the Union of India shall be deemed to be substituted for the Dominion in those proceedings; and (b) any legal proceedings are pending to which a Province or an Indian State is a party, the corresponding State shall be deemed to be substituted for the Province or the Indian State in those proceedings.

<sup>6</sup> *The Secretary Of State for India v. A.Cockcraft and Anr.* On 2 December 1914 (1861) 5 Bom. H.C.R. App. I,1. (1916) ILR 39 Mad 351

<sup>7</sup> See generally, supra note 2, at 630

### 3.1. PRE CONSTITUTIONAL SCENARIO

The East India Company had dual role of performing commercial functions and of exercising sovereign power as a representative of the British Crown. It was in the latter role that the East India Company claimed sovereign immunity based on the maxim 'the king can do no wrong'. This dual character of the East India Company has been explained in the *Peninsular and Oriental Steam Navigation Company case (P & O case)*<sup>8</sup>. In that case, the plaintiff filed an action under Section 55 of Act IX of 1850 to recover from the Company Rs 350 being the damages sustained by reason of injuries caused to a horse of the plaintiff through the negligence of certain servants of the Company. Sir Barnes Peacock, holding the Company liable, said<sup>9</sup>.

There is great and clear distinction between acts done in the exercise of what are usually termed as sovereign powers, and acts done in the conduct of undertaking which might be carried on by private individuals without having such power delegated to them.... When an act is done or contract is entered into, in the exercise of powers usually called sovereign powers, by which we mean powers which cannot be lawfully exercised except by a sovereign, or a private individual delegated by a sovereign to exercise them, no action will lie.

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<sup>8</sup> See *supra* note 6

<sup>9</sup> See, RATANLAL & DHIRAJLAL, THE LAW OF TORTS, Revised by G.P. Singh ( Wadhwa and Co Nagpur, 29<sup>th</sup> edition, 2008 )

In *Secretary of State v. Hari Bhanji*<sup>10</sup>, the Madras High Court held that State immunity was confined to acts of State. In the P & O Case, the ruling did not go beyond acts of State, while giving illustrations of situations where the immunity was available. It was defined that Acts of State, are acts done in the exercise of sovereign power, where the act complained of is allegedly done under the sanction of municipal law, and in the exercise of powers conferred by law.

The mere fact that it is done by the sovereign powers and is not an act which could possibly be done by a private individual does not oust the jurisdiction of the civil court. The Madras judgment in Hari Bhanji's case holds that the Government may not be liable for acts connected with public safety, even though they are not acts of State. The general belief and trend was to protect the State actions.

### **3.2 POST CONSTITUTIONAL SCENARIO**

Article 300(1) of the Constitution makes no direct difference of situation. It provides only that the State may sue or be sued in connection with any of its affairs like those in which the Dominion of India or a corresponding Province or an Indian State might have sued or been sued, under the absence of the Constitution. Thus Article 300(1) relates back through

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<sup>10</sup> (1882) ILR 5 Mad. 273

successive Government of India Acts to the legal position immediately prior to the Act of 1858. In each case, therefore, the question arises whether a suit would lie against East India Company had the case arisen prior to 1858. If it did, the State can be sued, while if it did not, the State is not liable for the tort committed was the situation<sup>11</sup>.

An analysis of the important case laws in a chronological order in this issue tells about a gradual change in the judicial approach regarding state liability.

### **3.2.1. State of Rajasthan v. Vidyawati**

The respondents filed a suit for the damages made by an employee of a State and the case questioned whether the State was liable for the tortious act of its servant – The Court held that the liability of the State in respect of the tortious act by its servant within the scope of his employment and functioning as such was similar to that of any other employer<sup>12</sup>.

It was held in this case that the State should be as much liable for tort in respect of tortuous acts committed by its servant within the scope of his employment and functioning as such, like any other employer.

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<sup>11</sup> See, India Const. art. 300, cl.1, Suits and proceedings, (1) The Governor of India may sue or be sued by the name of the Union and the Government of a State may sue or be sued by the name of the State and may, subject to any provisions which may be made by Act of Parliament or of the Legislature of such State enacted by virtue of powers conferred by this Constitution, sue or be sued in relation to their respective affairs in the like cases as the Dominion of India and the corresponding Provinces or the corresponding Indian States might have sued or been sued if this Constitution had not been enacted.

<sup>12</sup> AIR 1962 SC 933

The facts of this case may shortly be stated as follows. In that case, the claim for damages was made by the dependants of a person who died in an accident caused by the negligence of the driver of a jeep maintained by the Government for official use of the Collector of Udaipur while it was being brought back from the workshop after repairs. The Rajasthan High Court took the view-that the State was liable, for the State is in no better position in so far as it supplies cars and keeps drivers for its Civil Service. In the said case the Hon'ble Supreme Court has held as under: "Act done in the course of employment but not in connection with sovereign powers of the State, State like any other employer is vicariously liable."

In the aforesaid case, the Hon'ble Apex Court while approving the distinction made in Steam Navigation Co.'s case between the sovereign and non-sovereign function observed that the immunity of crown in the United Kingdom was based on the old feudalistic notions of Justice, namely, that the King was incapable of doing a wrong. The said common law immunity never operated in India.

### **3.2.2. Kasturi Lal v. State of U.P**

The ruling, in this case<sup>13</sup>, was given holding that the act, which gave rise to the present claim for damages, has been committed by the employee of the respondent during the course of its employment. Also, that

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<sup>13</sup> AIR 1965 SC 1039

employment belonged to a category of sovereign power. This removed any liability on the part of the state. In this case, the plaintiff had been arrested by the police officers on a suspicion of possessing stolen property.

Upon investigation, a large quantity of gold was found and was seized under the provisions of the Code of Criminal Procedure. Ultimately, he was released, but the gold was not returned, as the Head Constable in charge of the maalkhana, where the said gold had been stored, had absconded with the gold. The plaintiff thereupon brought a suit against the State of UP for the return of the gold or alternatively, for damages for the loss caused to him. It was found by the courts below, that the concerned police officers had failed to take the requisite care of the gold seized from the plaintiff, as provided by the UP Police Regulations. The trial court decreed the suit, but the decree was reversed on appeal by the High Court. When the matter was taken to the Supreme Court, the court found, on an appreciation of the relevant evidence, that the police officers were negligent in dealing with the plaintiff's property and also, that they had not complied with the provisions of the UP Police Regulations.

However, the Supreme Court rejected the plaintiff's claim, on the ground that "the act of negligence was committed by the police officers while dealing with the property of Ralia Ram, which they had seized in exercise

of their statutory powers. The power to arrest a person, to search him and to seize property found with him, are powers conferred on the specified officers by statute and they are powers which can be properly categorized as sovereign powers. Hence the basis of the judgment in *Kasturi Lal* was two-fold” – The act was done in the purported exercise of a statutory power. Secondly, the act was done in the exercise of a sovereign function.

### **3.2.3. Satyawati Devi v. Union of India**

The Delhi High Court held that the carrying of a hockey team in a military truck to the Air Force Station to play a match is not a sovereign function<sup>14</sup>. In this case, an Air Force vehicle was carrying hockey team of Indian Air Force Station to play a match. After the match was over, the driver was going to park the vehicle when he caused the fatal accident by his negligence.

It was argued that it was one of the functions of the Union of India to keep the army in proper shape and tune and that hockey team was carried by the vehicle for the physical exercise of the Air Force personnel and therefore the Government was not liable. The Court rejected this argument and held that the carrying of the hockey team to play a match could by no process of extension be termed an exercise of sovereign power and the Union of India was therefore liable for damages caused to

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<sup>14</sup> AIR 1967 Delhi 98

the plaintiff. Thus a visible dilution of the concept of sovereign functions of State was introduced by this case.

#### **3.2.4. State of Gujarat v. Haji Memon**

It was held in this landmark judgment<sup>15</sup>, that is bound to be of great use to the public, that if any movable property is seized by the police/custom officials or any other department of the government, they are under the same responsibility as a Bailee to take care of the goods as an ordinary man would take care of his own goods under similar circumstances. The state cannot seek to evade responsibility for loss of goods under its custody under the cloak of sovereign functions and under the fallacious argument that Bailment can only arise by a contract under s.148 of the Contract Act, as the said section is not exhaustive upon matters of bailment.

#### **3.2.5. Union of India v. Sugrabai**

The Bombay High Court held that the transporting of military equipment from the workshop of the Artillery School is not a sovereign function<sup>16</sup>. The Bombay High Court overruled the plea of sovereign immunity when a military driver driving a motor truck carrying a Records Sound Ranging machine from military workshop to military school of artillery killed a

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<sup>15</sup> 1967 SCR (3) 938

<sup>16</sup> A.I.R 1969 Bom 13



cyclist on the road. It was held that the driver was not acting in the exercise of sovereign powers.

The Bombay High Court observed in the following words:

Sovereign powers are vested in the State in order that it may discharge its sovereign functions. For the discharge of that function one of the sovereign powers vested in the State is to maintain an army. Training of army personnel can be regarded as a part of the exercise of that sovereign power. The State would clearly not be liable for a tort committed by an army officer in the exercise of that sovereign power. But it cannot be said that every act which is necessary for the discharge of a sovereign function and which is undertaken by the State involves an exercise of sovereign power. Many of these acts do not require to be carried out by the State through its servants. In deciding whether a particular act was done by a Government servant in discharge of a sovereign power delegated to him, the proper test is whether it was necessary for the State for the proper discharge of its sovereign function to have the act done through its own employee rather than through a private agency.

The privileges are given only for the smooth conduct of governance by the employees. It would not be interpreted to protect their tortious liability.

### **3.2.6. Basava Kom Dyamgonde Patil v. State of Mysore**

In this case<sup>17</sup> the Articles seized by the police were produced before a Magistrate, who directed the Sub-Inspector to keep them in his safe custody and to get them verified and valued by a goldsmith. The articles were lost, while they were kept in the police guard room. In a proceeding for the restoration of the goods, it was held that when there was no prima facie defence made out, that due care had been taken by officers of the State to protect the property, and the court can order the State to pay the value of the property to the owner.

It is obvious that the breach of a primarily fixed duty by a government servant will cause a vicarious liability to the State as his master. In most of the cases liability of State are due to abuse of power, excesses of power, negligence and breach of duty by the officers or agencies of the State.

### **3.2.7. State of M.P. v. Chironji Lal**

A new question came before the court relating to the payment of damages for the loss caused by the lathi-charge of the police in a situation where it was unauthorized and unwarranted by law<sup>18</sup>. It was alleged that the police resorted to lathi-charge wilfully and without any reasonable cause and

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<sup>17</sup> AIR 1977 SC 1749, 1977 CriLJ 1141, (1977) 4 SCC 358.

<sup>18</sup> AIR 1981 M.P. 65

thus damaged the plaintiff's property. The claim was rejected on the ground that the function of the state to regulate processions and to maintain law and order is a sovereign function.

This type of discretionary decisions to protect the law and order of a place is purely a sovereign function of respective authority. To what extent the government would be liable for torts committed by its servants is a complex problem, especially in democracy, the State perform numerous function for the welfare of its citizens. In the exercise of these functions, any misuse of power by the Government servants may cause injury to person or property of the citizens; sometimes even the fundamental rights are violated. Such a situation calls for an adequate mechanism for determining the State liability and compensating the victims.

### **3.2.8. Khatri(II) v. State of Bihar**

An important question was raised regarding the liability of the government for wrongful arrest and detention<sup>19</sup>. Moving ahead in the direction of a new dimension of the right to life and personal liberty, Justice Bhagwati said: "Why should the court not be prepared to forge new tools and devise new remedies for the purpose of vindicating the

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<sup>19</sup> (1981) 1 SCC 627

most precious of the precious fundamental rights to life and personal liberty.”

It may be noted that the Government of India has not signed any treaty which provides for compensation for wrongful arrest and detention. This amply proves the lack of government’s concern for the precious of the precious rights of the people for the sake of discounting its own inefficiency and lawlessness. The Courts are now empowered to proceed further and give compensatory relief under the public law jurisdiction within the constitutional scheme for the wrong done due to the breach of public duty by the State in not preserving the life or liberty of the citizen. Award of compensation for the breach of Article 21 of the Constitution is therefore, not only to citizen public power but also to assure the citizens that they live under a legal system wherein their rights and interests are protected and preserved<sup>20</sup>.

### **3.2.9. Rudal Shah v. State of Bihar**

In this case<sup>21</sup> it was laid down a most important principle of compensation against government for the wrong action of its official. The petitioner was detained illegally in Ranchi Jail of Bihar for 14 years after his acquittal by a competent Court. Chief Justice Chandra Chud said that,

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<sup>20</sup> See, Dr. A.Raghnadha Reddy, *Liability of the Government Hospitals and Breach of Right to Life*, AIR 1998 Journal 153.

<sup>21</sup> (1983) 4 SCC 141

if Courts power under Article 32 was limited to passing an order of release from unconstitutional detention it would amount to denuding Article 21 of its significant content. He further said that one of the effective ways of preventing violation of Article 21 was to make the violators to pay compensation. The Court ordered compensation of Rs 30,000 for the injustice and injury done to Rudal Shah and his helpless family. For the first time the Supreme Court set up an important landmark in Indian human rights jurisprudence by articulating compensatory jurisprudence for infraction of Article 21 of the Constitution. Since then apex Court in a catena of cases awarded monetary compensation as and when the conscience of the Court was shocked. This can be considered as an effective remedy to apply as balm to the wounds and give much solace to the family members of the aggrieved or victim. It is the only practical mode of enforcement of the fundamental rights with a view to preserve and to protect the rule of law.

### **3.2.10. Bhim Singh v. State Of Jammu And Kashmir**

In this case<sup>22</sup>, the Court awarded the exemplary cost of Rs 50,000 on account of the authoritarian manner in which the police played with the liberty of the appellant. The Court ruled that a person whose right to life and liberty has been violated by the State is entitled to compensation both

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<sup>22</sup>1985 (2) SCALE 1117

in a Habeas Corpus petition and a civil suit for damages. Three years later the Court awarded Rs. 50,000/- as compensation to Mr. Bhim Singh a member of the Jammu and Kashmir State's Legislative Assembly who was arrested and illegally detained for delivering an inflammatory speech in September 1985. The Court passed severe strictures on the police and said: "Thus the State has a legal duty of not only protecting rights of citizens, but also the social duty to compensate for illegal arrest or torture". The compensation is seen as a 'tangible expression' of State's sympathy and concern for those who through no fault of their own suffer unjustifiable invasion on their personal integrity<sup>23</sup>.

A comparison of the fact situation in Rudul Shah and Bhimsingh seem to suggest the criteria for the award of compensation by the Court. The unconstitutional detention has to be prolonged, while mala fide detention need not be prolonged. In either case the Court will determine on 'case by case' basis the exact duration of detention that calls for award of compensation. In fact the court has awarded monetary compensation by way of exemplary costs in "appropriate cases".

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<sup>23</sup> *Id.* at 1120

In Mehta<sup>24</sup> while explaining the phrase “appropriate cases” Bhagawati, C.J. pointed out that “the infringement of fundamental right must be gross and patent that is incontrovertible and ex facie glaring”.

### **3.2.11. Saheli, A Women’s Resources v. Commissioner Of Police**

Saheli v. Commissioner of Police<sup>25</sup> was another milestone in the evaluation of compensation jurisprudence in writ courts. The masterpiece judgment in Vidyawati was rightly quoted in this case. The State was held liable for the death of nine-year-old child by Police assault and beating. Delhi Administration was ordered to pay compensation of Rs. 75000/-. The significance of this case is that firstly, the revival of Vidyawati ratio and secondly that the Delhi Administration was allowed to recover money from those officers who are held responsible for this incident.

### **3.2.12. N. Nagendra Rao v. State of A.P**

In this case<sup>26</sup>, the Supreme Court held that when due to the negligent act of the officers of the state a citizen suffers any damage the state will be liable to pay compensation and the principle of sovereign immunity of state will not absolve him from this liability. The court held that in the

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<sup>24</sup> 1987 SCR (1) 819; AIR 1987 965

<sup>25</sup> 1990 AIR 513, 1989 SCR 488

<sup>26</sup> AIR 1994 SC 2663.

modern concept of sovereignty the doctrine of sovereign immunity stands diluted and the distinction between sovereign and non-sovereign functions no longer exists.

The court noted the dissatisfactory condition of the law in this regard and suggested for enacting appropriate legislation to remove the uncertainty in this area. Rejecting the contention of the state the Supreme Court held that the state was liable vicariously for the negligence committed by its officers in the discharge of public duty conferred on them under a statute. As regards the immunity of the state on the ground of sovereign function, the court held that the traditional concept of sovereignty has undergone a considerable change in the modern times and the line of distinction between sovereign and non-sovereign powers no longer survives.

No civilized system can permit an executive as it is sovereign. The concept of public interest has changed with structural change in society. No legal system can place the state above the law as it is unjust and unfair for a citizen to be deprived of his property illegally by the negligent act of the officers of the state without remedy. The need of the state to have extraordinary powers cannot be doubted. But it cannot be claimed that the claim of the common man be thrown out merely because the act was done by its officer even though it was against law. The need of the state, the duty of its officials and the right of the citizens are required to be



reconciled so that the rule of law in a welfare state is not shaken. In the welfare state, functions of the state are not the only defence of the country or administration of justice or maintaining law and order but it extends to regulating and controlling the activities of the people in almost every sphere.

The demarcation between sovereign and non-sovereign powers for which no rational basis survives has largely disappeared. The court further said that sovereign immunity was never available if the state was not involved in commercial or private function nor it is available where its officers are guilty of interfering with life and the liberty of a citizen not warranted by law.

In both cases, the state is vicariously liable to compensate. The doctrine of sovereign immunity has no relevance now when the concept of sovereignty has itself undergone a major change. Sovereignty is now with the people. The people of India made the Constitution and gave it to themselves. The structure and functions of the state have been created and constituted to serve the people.

Accordingly, the state is liable for the negligence of its officers. Further, in a large number of cases, the courts have ordered the Government to pay compensation to the victims of torture for violation of their fundamental right guaranteed by Article-21 of the Constitution.

### **3.2.13. Common Cause, A Registered Society v. Union of India**

The Supreme Court emphatically stressed that Kasturi Lal case, apart from being criticized, not been followed by the Court in subsequent cases, and therefore, much of its efficacy as a binding precedent has been eroded. In this case, the entire history relating to the institution of suits by or against the State or, to be precise, against Government of India, beginning from the time of East India Company right up to the stage of Constitution, was considered and the theory of immunity was rejected. In this process of judicial advancement, Kasturi Lal's case has paled into insignificance and is no longer of any binding value<sup>27</sup>.

The Courts have ever tried to set the limits of this liability of the State by treating more and more acts as non-sovereign functions and confining sovereign immunity to traditional functions of the State but even this limit is very vague. In a Welfare State, the State should not hesitate in owning responsibility for the wrongs of its servants. As the Law Commission in its first report rightly observed that there is no convincing reason as to why the Government should not place itself in the same position as a private employer, subject to the same rights and duties as imposed by the statute.

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<sup>27</sup> 1996 (4) SCC 33.

### 3.2.14. Chairman, Railway Board v. Chandrima Das

Initially, Mrs. Chandrima Das who was a practicing advocate of the Calcutta High Court, filed a petition under Article 226 of Constitution against the Chairman of Railway Board<sup>28</sup>, claiming compensation for the victim, a Bangladeshi National who was gang-raped by many including employees of the Railways in a room at Yatri Niwas at Howrah Station. The HC awarded a sum of Rs. 10 lakhs as compensation for the victim. The HC was of the opinion that the rape was committed at the building belonging to the Railways and was perpetrated by the railway employees and thus the Railway board is vicariously liable.

An appeal was filed against the above said HC judgement. In this case, the Supreme Court held that the functions of the State is not only relate to the defence of the country or the administration of justice, but they are extended to many other welfare spheres like education, commercial, social, economic, political etc. so all these activities cannot be protected by saying associated to sovereign power. The Court said that the theory of absolute sovereign immunity is no longer in any welfare State. This is done to prevent the State or the public bodies from acting in an arbitrary manner. SC, in a number of cases, has awarded compensation for the personal injuries caused by the officers of the government, like in Rudal

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<sup>28</sup>AIR 2000 SC. 465

Shah v. State of Bihar<sup>29</sup>. Therefore, compensation can be legally awarded in this case also under public law, i.e. Article 226. The Railways are a commercial body of Union of India which is not merely sovereign body and can be held vicariously liable for the damage caused by the employees otherwise there will be responsibility for the government bodies and will behave in arbitrarily.

### 3.3 CONCLUSION

Preferably the legislature should initiate with a clean and clear legislation to demarcate the opportunity of immunity and liability of State. The definitions of Government liability should have far-reaching effects to cover all the illegal acts of the Government servants of the State committed in the course of their lawful employment. Victims of State atrocities could be served by such strict law. In fact, due to the lack of such legislation, the court dealing with the cases of tortious claims against State and his officials are not following a uniform pattern while deciding those claims. This may lead to undesirable consequences. The out-dated doctrine of sovereign immunity is to be changed. In England, the Crown Proceeding Act, 1947 made the Crown liable for the acts of its servants. In United States of America also the Federal Tort Claims Act, 1946 has been enacted to define the liability of the State for tortious acts. In India,

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<sup>29</sup> See *supra* note 21

the bill entitled the Government Liability in Tort is drafted on the lines of the Law Commission of India, with certain modifications suggested in 1969 by the Joint Committee of the Parliament. But still it remains to be enacted as a law. The present liability of the government in tort is not only unsatisfactory but also not in tune with the modern jurisprudential thinking. Immediate measures are required in this field.

Actually the Apex Court of India continuously took appropriate remedy to compensate the magnitude of damage by violation of fundamental rights, in constitutional tort. According to the judgement formulated in Rudal shah's case, there are certain landmark rules regarding civil liability of State,

1. Civil liability can arise when constitutional rights are violated.
2. Civil liability can also emerge when there is a violation of personal liberty.
3. The court also opined " the plaintiff has the right to compensation if there is a violation of their fundamental rights along with penalizing the authorities which acting in the name of public interest, use their powers as a shield to prevent themselves from scrutiny.

Ultimately, the award of damages by the hands of the judiciary is indeed a creative concept introduced in India but fails at certain stages due to the

absence of well-defined criteria. While concluding, it may be stated that the doctrine of Constitutional Tort is a creative jurisprudence which may also have application in nuclear liability cases. The Apex Court will evolve a scientific criterion for future liability cases accordingly. The rule of sovereign invulnerability or any such immunity has no importance in the present-day setting when the idea of sovereignty itself has experienced radical change. Thus, by reading it along with section 46 of CLND Act, the operator of a nuclear power plant could not escape the civil liability for nuclear damage, at any point of intercourse<sup>30</sup>.

Liberty and equality are the demands of the modern times, where Human and Fundamental Rights are given transcendental position. The State was under an obligation to protect the life, liberty and property of its citizens. It is held that it is the duty of the State to protect the citizens and also to compensate them. However justice requires a Governmental accountability, the Government being in a fit position to pay damages. The court repeatedly stated through the decisions that the remedy lies in the hands of legislature and it is necessary to make the law as a predictable working system.

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<sup>30</sup> Section 46 of The Civil Liability for Nuclear Damage Act provides that "the provisions of this Act shall be in addition to, and not in derogation of, any other law for the time being in force, and nothing contained herein shall exempt the operator from any proceeding which might, apart from this act, be instituted against such operator".

**CHAPTER 4**

**CIVIL LIABILITY FOR TRANS-BOUNDARY  
ENVIRONMENTAL NUCLEAR DAMAGE: A CRITICAL  
INVESTIGATION**

**“Accidents and calamities occur in a thousand different ways, and it is they that are the universal legislators of the world.”**

**Plato, ‘The Laws’<sup>1</sup>**

The ultimate legal perception controlling the relationships between states is the sovereignty of States<sup>2</sup>. As far as a sovereign State is concerned, it is not restricted to use the natural resources inside it, unless and until it is not inquisitive with the interests of other Nations holding the same rights. But it is obvious that the operator of a NPP, who is responsible to compensate the victims, cannot limit the effects of a nuclear incident into his own geographical boundaries anyway. Thus, the above standard of a sovereign state indicates its right to exploit its own natural resources and its simultaneous right to protect the national territory. Both these facets

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<sup>1</sup> The Laws is Plato’s last, longest, and, perhaps, most loathed work. The book is a conversation on political philosophy between three elderly men: an unnamed Athenian, a Spartan named Megillus, and a Cretan named Clinias. These men work to create a constitution for Magnesia, a new Cretan colony. The government of Magnesia is a mixture of democratic and authoritarian principles that aim at making all of its citizens happy and virtuous.

<sup>2</sup> See, KRASNER, STEPHEN D. “SOVEREIGNTY.” *Foreign Policy*, no. 122 (2001): 20–29. <https://doi.org/10.2307/3183223>.

are contained within the ‘principle 21’ of the ‘Declaration of Principles’ assumed by the ‘UN Conference on the Human Environment’ in 1972<sup>3</sup>. The 1972 Stockholm Declaration restated this norm as follows<sup>4</sup>: “States have, in accordance with the Charter of the United Nations and thus the principles of law of countries ... the responsibility to form sure that, the activities within their jurisdiction or control doesn't cause damage to the environment of other States or of areas beyond the bounds of national jurisdiction.” This norm was originally formulated within the historical decision in ‘Trail Smelter arbitration’<sup>5</sup>. This famous decision set the foundations for discussions of responsibility and liability in environmental law, but it left open the question of whether a State exercising all due diligence would be liable if trans-frontier harm results despite the State’s best efforts. More generally, the tribunal did not clarify whether a State is liable just for intentional, reckless or negligent behaviour (fault based conduct) or whether it's strictly responsible for all serious or significant trans-boundary environmental harm<sup>6</sup>. In subsequent

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<sup>3</sup> See, the final report of, “The United Nations Conference on the Human Environment was held in Stockholm, Sweden from June 5–16 in 1972”. UN Doc. A/CONF.48/14/Rev.1, 11ILM (1972)1416

<sup>4</sup> See, Rose Rivera, *U.S. State Responsibility á la Trail Smelter: Arms Trafficking and Trans-boundary Harm to Mexico*, MEX. LAW REV vol.5 no.1 México Jul./Dic. 2012 version On-line ISSN 2448-5306versión impress ISSN 1870-0578 in [http://www.scielo.org.mx/scielo.php?script=sci\\_arttext&pid=S1870-05782012000200001](http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S1870-05782012000200001)

<sup>5</sup> Trail Smelter Arbitration (United States v. Canada), Arbitral Trib. 3 U.N. Rep. Int’l Arb, Awards 1905 (1941)

Brief Fact Summary: The United States (P) sought damages from Canada by suing them to court and also prayed for an injunction for air pollution in the state of Washington, by the Trail Smelter, a Canadian corporation which is domiciled in Canada (D).

<sup>6</sup> See generally, Allum, James R., *An Outcrop of Hell: History, Environment, and the Politics of the Trail Smelter Dispute* ed. Rebecca Bratspies and Russell Miller (New York: Cambridge University Press, 1986) 16, 13-26.



developments, international environmental law has come to differentiate responsibility, which arises upon breach of a world obligation, and liability for the injurious consequences of lawful activities<sup>7</sup>. albeit the progress towards clarification on this subject remains slow, following the Trail Smelter arbitration, the ICJ asserted a general duty to avoid trans-boundary injury within the 1949 Corfu Channel case<sup>8</sup>, which mentioned “every State’s obligation to not allow perceptively its terrain to be used contrary to the rights of other States”<sup>9</sup>. An equivalent year as this decision, the United Nations Survey of law of countries concluded that there is “general recognition of the rule that a State must not permit the utilization of its territory for purposes injurious to the interests of other States during a fashion contrary to international law”<sup>10</sup>.

<sup>7</sup> *Id.* at 21

<sup>8</sup> Corfu Channel Case (United Kingdom v. Albania); Merits, International Court of Justice (ICJ), 9 April 1949, Last visited on 15 February 2020 in <https://www.refworld.org/cases,ICJ,402399e62.html>,

<sup>9</sup>SUMMARY OF RELEVANT ASPECTS OF CORFU CHANNEL CASE (MERITS), Judgment of 9 April 1949 in <https://www.ijl.org/wp-content/uploads/2016/08/Summary-of-and-extract-from-Corfu-Channel-Case-United-Kingdom-v.-Albania.pdf>

The facts are as follows. On October 22nd, 1946, two British cruisers and two destroyers, coming from the south, entered the North Corfu Strait. The channel they were following, which was in Albanian waters, was regarded as safe: it had been swept in 1944 and check-swept in 1945. One of the destroyers, the Saumarez, when off Saranda, struck a mine and was gravely damaged. The other destroyer, the Volage, was sent to her assistance and, while towing her, struck another mine and was also seriously damaged. Forty-five British officers and sailors lost their lives, and forty-two others were wounded. The United Kingdom accordingly submitted an Application which, after an objection to its admissibility had been raised by Albania, was the subject of a Judgment, dated March 25th, 1948, in which the Court declared that it possessed jurisdiction. On the same day the two Parties concluded a Special Agreement asking the Court to give judgment on the following questions. Only one aspect of the first question – “Is Albania responsible for the explosions”? – is relevant for our purposes here. In its Judgment the Court declared on the first question, by 11 votes against 5, that Albania was responsible.

<sup>10</sup>*See*, LAW OF THE SEA, ENVIRONMENTAL LAW AND SETTLEMENT OF DISPUTES: Liber micorum Judge Thomas A. Mensah edited by Tafsir Malick Ndiaye, Rüdiger Wolfrum, Chie Kojima, Martinus Nijhoff Publishers, 2007 - Law - 1132. <https://books.google.co.in/books?id=XUFGIFDQzsUC&dq>

In 2012, during the construction of India's Kudankulam Nuclear Power Plant (KNPP) Sri Lanka raised serious concerns about their environmental safety threats regarding India's new project located near the Tamilnadu coast. KNPP is only 250 kilometres away from this island Nation. Further India also has serious similar concerns about the siting of Bangladesh's newly proposed power project which is only 50 kilometres away from Indian border. Likewise, forthcoming NPPs within the ASEAN region may have advance earnest apprehensions for all bordering states surrounded by the region, notwithstanding whether or not such nations are following a nuclear energy platform<sup>11</sup>.

#### **4.1 CALCULATION OF TRANS-BOUNDARY LIABILITY**

Three levels of State responsibility are identified by scholars in reference to the trans-boundary environmental hazards<sup>12</sup>:

1. Most important is the one that connected with concern on the idea of fault or lack of due diligence.
2. Strict Liability supported by the requirement to not damage the environment and therefore the violation of which can engage responsibility no matter fault.

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<sup>11</sup> See, MOHIT ABRAHAM, NUCLEAR LIABILITY: A KEY COMPONENT OF THE PUBLIC POLICY DECISION TO DEPLOY NUCLEAR ENERGY IN SOUTHEAST ASIA, International Law and Nuclear Liability. American academy of Arts and Science, in <https://www.amacad.org/publication/nuclear-liability-key-component-public-policy-decision-deploy-nuclear-energy-southeast/section/5>

<sup>12</sup> See, BERNIE AND BOYLE, INTERNATIONAL LAW AND THE ENVIRONMENT.2009

3. Absolute responsibility concerns liability for acts not prohibited by law of nations regardless of fault or of the lawfulness of the activity in question.

To calculate the trans-boundary liability, the definition of injury must be quantifiable and certain, and must thus be: “Damage measured in economic units as suffered by other states”, e.g. loss of tourism, or damage to the fishing industry, or in terms of the prices of removal and restoration. Environmental values are considered in each particular context employing a criterion supported the character and extent of human use also as on the availability of the natural resources to human society with the currently available and feasible technology.<sup>13</sup>”

In *Common Wealth of Puerto Rico v. SS Zoe Colocotroni*<sup>14</sup> decided by U.S Court of Appeals for the primary circuit in 1980, the court concluded that the measure of damages wasn't limited “to the loss of market value of the important estate affected<sup>15</sup>”, and explained the proper measure as follows:

“we think the suitable primary standard for determining damages during a case like this is often the value reasonably to be incurred by the sovereign

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<sup>13</sup>See, XUE HANQUIN, *TRANS-BOUNDARY DAMAGE IN INTERNATIONAL LAW* 92 n.68(2003) Cambridge University Press, July 2009, in <https://www.cambridge.org/core/books/transboundary-damage-in-international-law/AB3246582D48E3EA933B49C0D3290A13>

<sup>14</sup> *Common Wealth of Puerto Rico v. SS Zoe Colocotroni*, 628F.2d652,670(1<sup>st</sup> Cir. 1980)

<sup>15</sup> *Id.* at 674

or its designated agency to recover or reorient the surroundings within the exaggerated area to its pre-existing circumstance, or as close there to as is possible without grossly disproportionate expenditures".<sup>16</sup>

In fact, the Trail Smelter<sup>17</sup> precedent was important for several reasons. First, it held that an activity that was lawful, like smelting, might cause liability to pay compensation for any damages incurred. Second, the Tribunal did not order that the smelter cease its activities pursuant to the need of cessation under the law of countries of State responsibility. Instead, the smelter was allowed to continue its activities pursuant to regulations imposed by the Tribunal to attenuate future harm to the victims. Third, the Tribunal held that a sovereign state, Canada, was liable to compensate the injured victims, as against the actual wrongdoers, the operators of the smelter<sup>18</sup>.

In many countries strict liability is connected to dangerous and harmful actions of people as a rule, and States enact laws or regulations to spot such activities. Countries seem diffident to just admit international rules which can oblige them to limit or accept liability for activities whose

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<sup>16</sup> *Id.* at 675

<sup>17</sup> The Trail Smelter Arbitral Tribunal's decision is regarded as a foundational case of environmental law<sup>34</sup> and the case provided the basis for the emerging theory of International State liability<sup>35</sup> in its famous dicta: "Under the principles of international law, as well as of the law of the United States, no State has the right to use or permit the use of its territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing injury."

<sup>18</sup> See generally, Wirth, John D. *The Trail Smelter Dispute: Canadians and Americans Confront Trans boundary Pollution*, 1927-41. *Environmental History* 1, no. 2 (1996): 34-51. Last visited on February 16, 2020 in [www.jstor.org/stable/3985111](http://www.jstor.org/stable/3985111).

harmful environmental consequences are likely to be limited to their own territory. Throughout like this economic interests play a significant political role. There are detailed actions, nonetheless, which present an enormous risk for the environment of the commons or of other States. Environmental damage from nuclear activities and marine pollution, especially, may escape the territorial limits of States and cause trans-boundary damage to persons and/or to the environment. While law of countries has been slow in placing the danger of loss on the actor taking advantage of the enterprise, economic globalization potentially could lead on to progress by harmonizing the conditions of operation in certain fields of activities dangerous to human health and to the environment<sup>19</sup>. This is the context during which the trans-boundary liability for nuclear damage came into consideration. In the interior facets of tort law and more precisely with respect to the analysis of law and accidents ‘Nuclear Liability’ has been a region of legal erudition and has its exclusive pedigrees there for the past several decades<sup>20</sup>.

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<sup>19</sup> See generally, STEVEN SHAVELL, *ECONOMIC ANALYSIS OF ACCIDENT LAW* (Harvard University Press 1987)

<sup>20</sup> See generally, Handl, Günther. *Trans-boundary Nuclear Accidents: The Post-Chernobyl Multilateral Legislative Agenda*. *ECOLOGY LAW QUARTERLY* 15, no. 2 (1988): 203-48. Last visited on February 14, 2020 in [www.jstor.org/stable/24112949](http://www.jstor.org/stable/24112949)

According to the existing consensus among the states, the following are the principles to be followed while considering a trans-boundary pollution case<sup>21</sup>:-

- State is not allowed under general customary international law to use or permit others to use its territory without due consideration being given to the rights and interest of other states.
- Even though international law provides liability for trans-boundary pollution, it is applicable only to pollution having very serious consequences.
- State has a duty to prevent trans-boundary pollution even though it is not provided explicitly anywhere.
- There is a duty also to notify the dangers of pollution to prospective victim States.
- Another duty of state is to make reparation for pollution damage of serious consequences done by any one of that country. This may be by way of pecuniary compensation, formal apologies and statements of intent as to future conduct.
- International Tribunals may grant interim measures and injunctions.

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<sup>21</sup>See generally, Professor Sharon Williams, *Public International Law Governing Trans-boundary Pollution*, 112-143 The University of Queensland Law Journal Vol. 13, No.2

International organisations like UN, UNEP are obliged to make treaties and conventions to make the above principles binding to all States. Still, if a State feels something which is more vital for them is not to be obligated by a formal Global convention, they can refuse to sign or ratify any such instrument. A workable protection regarding this problem can be achieved only by making all the States recognize their obligation to cooperate for global environmental well-being. It must be applicable to all type of serious pollution damage including the nuclear accidents<sup>22</sup>.

#### **4.2 TRANS- BOUNDARY LIABILITY IN NUCLEAR ACCIDENTS**

Formation of a legal regime administering nuclear activities world-wide was categorically indispensable for the progress of the nuclear power production constructed on the theory of ‘liability for risk’, due to the high amount of risk involved in it<sup>23</sup>. Many developing states were well-thought-out to believe that nuclear power would provide the additional energy essential to conserve their economies after the war, and to stimulate prompt economic progress by the creative research and growth done by ‘nuclear states’ into the improvement of nuclear power<sup>24</sup>.

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<sup>22</sup> *Id.* at.132

<sup>23</sup> See generally, Doeker, Günther, and Thomas Gehring. *Private or international liability for transnational environmental damage—the precedent of conventional liability regimes* JOURNAL OF ENVIRONMENTAL LAW 2, no. 1 (1990): 1-16. Last visited on February 16, 2020 in [www.jstor.org/stable/44247865](http://www.jstor.org/stable/44247865)

<sup>24</sup> See generally, Jose Goldemberg, *Nuclear energy in developing countries* A PUBLICATION OF THE AMERICAN ACADEMY OF ARTS & SCIENCES On the Global Nuclear Future, Vol. 1, in <https://www.amacad.org/publication/nuclear-energy-developing-countries>

Although some of these formed the ‘public-sector trades’, some other states desired to boost private-sector inventiveness in the nuclear field. However, budding venture capitalists were reluctant to act because of the ambiguity in law and uncertainties if in case of an accident would occur about the crippling liability claim<sup>25</sup>. Even if the seriousness of nuclear energy was uncertain in those days, it was definitely known to entail huge risks. Accordingly, many states progressed to fill up the lacuna of law by enacting effective domestic legislations in order to govern their nuclear activities, by incorporating provisions to ensure both safety and liability as an intrinsic part<sup>26</sup>. At the same time all these countries desiring to nurture a nuclear power sector were anxious to defend the operators of nuclear power plants from devastating liability claims and also to offer an acceptable reimbursement for the victims of an accident<sup>27</sup>. Thus there are many conventions including the major international nuclear liability conventions like<sup>28</sup>

- The ‘Vienna Convention on Civil Liability for Nuclear Damage’

<sup>25</sup> See generally, the Opening Remarks by M. Luis Echávarri, Director-General of the OECD/NEA on the 50th Anniversary of the Nuclear Law Committee Colloquium of 6 February 2007 in <https://www.oecd-nea.org/law/colloquium/echavarri.pdf>

<sup>26</sup> The earliest national liability laws were adopted in the United States in 1957 and in Europe in 1959. Simultaneously, in the context of the relevant international organisations, States were negotiating nuclear liability treaties to govern the problem at the international level. These treaties were required to permit victims to recover compensation for even damage caused by a nuclear accident occurring in another country, or in the course of the international transport of nuclear materials.

<sup>27</sup> ‘Liability and compensation for nuclear damage’ an international overview, NUCLEAR ENERGY AGENCY

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT – in <https://www.oecd-nea.org/law/pubs/1994/liability-compensation-nuclear-damage.pdf>

<sup>28</sup> These are the major international conventions regarding nuclear liability. All these conventions will be analysed thoroughly in the next chapter, for understanding their efficiency to ensure justice to victims of nuclear incidents including trans-boundary issues, torts as according to criteria.



- The ‘Paris Convention’
- The Joint Protocol Relating to the Application of the Vienna Convention and Paris convention
- The ‘Convention on Supplementary Compensation for Nuclear Damage’.

### **4.3 ESSENTIALS OF A PERFECT NUCLEAR LIABILITY REGIME: NEED OF INCORPORATING TRANS BOUNDARY DAMAGE**

The major criteria for a better liability regime must include elements like a broad definition of recoverable damage, unlimited liability, and absolute liability with some necessary exceptions, joint and several liabilities for all blameable persons and an impartial tribunal for the adjudication of claims<sup>29</sup>. Actually the failure to nurture an all-inclusive and appropriate liability reimbursement regime for civil nuclear sector is all equivalent to provide them a huge subsidy for the maintenance of this energy sector<sup>30</sup>. According to the Principle 16 of the Rio Declaration<sup>31</sup>, a worldwide liability law structure for environmental destruction and

<sup>29</sup> See, Duncan e. J. Currie, *The problems and gaps in the nuclear liability conventions and an analysis of how an actual claim would be brought under the current existing treaty regime in the event of a nuclear accident* 56-78 <https://www.law.du.edu/documents/djilp/The-Problems-Gaps-Nuclear-Liability-Conventions-Analysis-How-Actual-Claim.pdf>

<sup>30</sup> *Id.* at 67

<sup>31</sup> Rio Declaration on Environment and Development 1992 , principle 16:-‘National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment’.

regulations for its redress had better be founded on the ‘polluter pays principle’. Based on this principle polluter would have to deliver resources to avoid as well as to cure the environmental damage and must recompense the sufferers directly and completely including trans-boundary damages. The prevailing liability system is re-evaluated with respect to the following ideal measures. All these subsequent features are indispensable for an operative and all-inclusive liability regime to compensate an accident inside or outside the country.

#### **4.3.1. ‘Absolute Liability principle’ must be inflicted without giving any exceptions**

In fact any given exception in such a calamity will help to shift the burden on to the victim<sup>32</sup>, and extends to an undue subsidy to the nuclear sector. The Conventions exempt terrorist attacks, acts of armed conflict, hostilities, civil war, and insurrection<sup>33</sup>. Exclusions of crucial natural disasters of an outstanding nature will be available, where destruction has been caused by extreme weather events. International Law Commission made suggestions on international liability for trans-boundary damage

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<sup>32</sup> See generally, Calabresi, Guido. *Some Thoughts on Risk Distribution and the Law of Torts* THE YALE LAW JOURNAL 70, no. 4 (1961): 499-553. Last visited on February 16, 2020 doi:10.2307/794261

<sup>33</sup> See generally, Nathalie L.J.T. Horbach & Omer F. Brown, II & Tom Vanden Borre, *Terrorism and nuclear damage coverage* 16-20, 5th International Conference on Nuclear Option in Countries with Small and Medium Electricity Grids Dubrovnik, Croatia, May 2004. in [https://inis.iaea.org/collection/NCLCollectionStore/\\_Public/35/062/35062769.pdf](https://inis.iaea.org/collection/NCLCollectionStore/_Public/35/062/35062769.pdf)

due to unsafe dangerous actions. But incongruity among countries about the topic may be the reason for that progress is likely to be difficult<sup>34</sup>.

#### **4.3.2. Liability must be infinite in amount**

Truly, a nuclear incident may cause unlimited damage to the nearest states, their population, their industries or their environment. The hazardous effects and economic crisis of Chernobyl and Fukushima incidents are examples for this<sup>35</sup>. Many would argue about the necessity and the logic that, nuclear liability should be unrestrained<sup>36</sup>. Actually the polluter pays principle bear this in it. The IAEA's revised Explanatory Text, 2007 observed that there is no limited liability as the Vienna Convention does not create a highest limit of legal responsibility aggregate and the installation state is allowed to implement a better amount as liability, or limitless responsibility, as follows<sup>37</sup>:

“In practice, few States have opted for unlimited liability, which could easily lead to the ruin of the operator without affording any substantial contribution to the compensation of the damage caused. Indeed, even

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<sup>34</sup> *Id.* at 20

<sup>35</sup> See generally, Allison, Wade. *Life and Nuclear Radiation: Chernobyl and Fukushima in Perspective*. 373-75, European Journal of Risk Regulation 2, no. 3 (2011)  
Last visited on February 16, 2020 in [www.jstor.org/stable/24323099](http://www.jstor.org/stable/24323099)

<sup>36</sup> See generally, Doeker, Günther, and Thomas Gehring, *Private or international liability for transnational environmental damage—the precedent of conventional liability regimes* 1-16. *Journal of Environmental Law* 2, no. 1 (1990): Last visited on February 16, 2020, in [www.jstor.org/stable/44247865](http://www.jstor.org/stable/44247865).

<sup>37</sup> See generally, Goldie, L. F. E. *Liability for Damage and the Progressive Development of International Law*, *The International and Comparative Law Quarterly* 14, no. 4 (1965): 1189-264. Last visited on February 16, 2020, in [www.jstor.org/stable/757329](http://www.jstor.org/stable/757329)

where the operator's liability is unlimited in amount, insurance cover cannot be unlimited.”

This provision would have instigated the breakdown of the operator. Although restricted liability might have unquestionably source the destruction of the victim<sup>38</sup>. This will inspire the operator to take supplementary methods to avoid such damage. Since the principle of restricted liability helps to set reasonably low limits for nuclear liability, it is easy for the nuclear industry to get insurance cover. It makes the insurance coverage economical; and channels liability to a single person, the operator. Thus the operator could discharge all others in this industry, such as suppliers out of any liability<sup>39</sup>.

Even after regular modifications, the existing limit of liability amounts are still very low compared to the actual cost that could be suffered in the happening of a nuclear accident. It shows that the probable victims may not be compensated effectively<sup>40</sup>.

The existing liability limits according to the ‘1997 Vienna Protocol’ and ‘2005 Paris Protocol’ is very much short of actual damage suffered<sup>41</sup>. The actual cost of a nuclear accident could be enormous. This is a potential

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<sup>38</sup> *Id.* at 1256

<sup>39</sup> *Id.* at 1262

<sup>40</sup> *Id.* at 1263

<sup>41</sup> See generally, Faure, Michael, Liu Jing, and Wang Hue, *A multi-layered approach to cover damage caused by offshore facilities* 356-422. Virginia Environmental Law Journal 33, no. 3 (2015): Last visited on February 16, 2020 in [www.jstor.org/stable/24789542](http://www.jstor.org/stable/24789542).

defect and is acknowledged in the revised Vienna Convention. This convention provides the priority in the distribution of the compensation and shall be given to claims in respect of loss of life or personal<sup>42</sup>.

The IAEA Explanatory text noted that “the limitation of the amount of his liability is clearly designed as an advantage for the operator, in order not to discourage nuclear-related activities<sup>43</sup>.” The cost of effective functioning of a nuclear power plant would increase significantly if the nuclear operator is required to insure the potential cost of a nuclear accident completely<sup>44</sup>.

Taking the essential features like the bigger size of ‘risk of damage’ resulting from a normal nuclear incident, contemporary variations in the value of money, the various dimensions of the insurance market etc. into consideration the limits of civil nuclear liability could be increased by two-thirds majority of Parties under a new regime. Even then it is true that the insurance market is incapable to repay the risks which the nuclear sector put on non-nuclear states and others or the environment at large whoever are subjected to large scale risks<sup>45</sup>.

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<sup>42</sup>*Id.* at 405

<sup>43</sup>*Id.* at 420

<sup>44</sup>*See*, Rangel, Lina Escobar, and François Lévêque. *Revisiting the Cost Escalation Curse of Nuclear Power: New Lessons from the French Experience* 103-26 *Economics of Energy & Environmental Policy* 4, no. 2 (2015): Last visited on February 16, 2020 in [www.jstor.org/stable/26189383](http://www.jstor.org/stable/26189383).

<sup>45</sup>*Id.* at 125

### **4.3.3. The Limitation period for Liability claim must be adequate**

Actually a Nuclear damage is deceptive in nature. Most probably the effects of radiation may be unknown for a long period of time. The problems may be extended even for next generations. Also it is not easy to prove the inter connection between the incident and damage at the time when they are manifested. Many States provide 'a thirty year time' as limitation period for nuclear damage<sup>46</sup>. This time limitation period is considerably shortened by all the conventions, other than the revised Vienna Convention. But it is essential to have a reasonable time limit in order to identify some damage which might be latent and may take time to develop or manifest itself. So it is crucial that those claims should be allowed when the damage is found, as well as when it is caused, and that there is a reasonable period to bring a claim after the damage is found or caused. It is important that the time should run from the time it becomes known or reasonably should have become known by the claimant<sup>47</sup>.

There is a "discovery rule" in most of the domestic laws to limit the number of claims. It requires the claims to be filed within two or three

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<sup>46</sup>*Id.* at 126

<sup>47</sup> LIABILITY AND COMPENSATION FOR NUCLEAR DAMAGE, An International Overview, by NUCLEAR ENERGY AGENCY and ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT in <https://www.oecd-nea.org/law/pubs/1994/liability-compensation-nuclear-damage.pdf>

years of the discovery of ‘the damage and the identity of the operator’<sup>48</sup>.

It is obvious that most of the International conventions embrace an interlude in limitation period for nuclear damage, at the time of their amendment<sup>49</sup>. An adequate time limit to benefit the victim must be provided internationally for every claimant.

#### **4.3.4. All Responsible Parties Should Bear Liability**

Channeling of liability to operator profits the nuclear power trade and its suppliers, since it emphasis the liability on one party who can then insure the business for damage to third party. It limits the chances for claim of victims against whom they may claim due to some prejudices<sup>50</sup>. For illustration, in all nuclear consignments, the liability would be swallowed together by the holder and operator of the shipment and also by the owner of the harmful nuclear material in it. In the end they are responsible to pay compensation for generating the peril that has produced the damage<sup>51</sup>. They must abide ‘joint and several’ liability<sup>52</sup> accordingly.

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<sup>48</sup> *Id.*

<sup>49</sup> See, N. PELZER, ON GLOBAL TREATY RELATIONS – HURDLES ON THE WAY TOWARDS A UNIVERSAL CIVIL NUCLEAR LIABILITY REGIME.273,274 (Berlin: Lexicon, 2008)

<sup>50</sup> See, Lee, Maria. *Civil liability of the nuclear industry* Journal of Environmental Law 12, no. 3 (2000): 317-32. Last visited on February 17, 2020 in [www.jstor.org/stable/44251668](http://www.jstor.org/stable/44251668)

<sup>51</sup> See generally, Schuster, Philip F., *Nuclear ship pollution: national and international regulation and liability*. 203-40. Environmental Law 5, no. 2 (1975): Last visited on February 17, 2020 in [www.jstor.org/stable/43265375](http://www.jstor.org/stable/43265375)

<sup>52</sup> *Id.* at 238

The IAEA Explanatory Text said<sup>53</sup>: The principle of exclusive liability of the operator simplifies the claims on the part of the victims of a nuclear incident. It is due to the relaxation given to them from the burden of proving the liability of parties other than the operator. Channelling of liability induce the inevitability for operator to indulge in an insurance pool in order to facilitate their capacity to make compensation. But the principle perceptibly helps all others like manufacturer, supplier or carrier of the material or equipment, as well as any other person who may have contributed to the nuclear incident<sup>54</sup>.

#### 4.3.5. Formation of a Backup Fund

Occasionally, for instance, even if a party is found liable, the company is insufficiently capitalized and cannot or will not pay. If a liable party is not able to pay or if the liability regime misses the mark for some other reason, reimbursement must still be paid and the reparation for damage to the environment should be made<sup>55</sup>. For instance, a transnational may set up a shell company so that the local company has limited liability with

<sup>53</sup> See generally, M.P. RAM MOHAN, LEGAL FRAMEWORKS AND RISK ASSESSMENT WITHIN SAARC, in NUCLEAR ENERGY AND LIABILITY IN SOUTH ASIA: INSTITUTIONS, April 2015, DOI:10.1007/978-81-322-2343-6, Publisher: Springer, ISBN:978-81-322-2342-9©2019SpringerNature. [https://www.researchgate.net/publication/275155776\\_Nuclear\\_Energy\\_and\\_Liability\\_in\\_South\\_Asia\\_Institutions\\_Legal\\_Frameworks\\_and\\_Risk\\_Assessment\\_within\\_SAARC](https://www.researchgate.net/publication/275155776_Nuclear_Energy_and_Liability_in_South_Asia_Institutions_Legal_Frameworks_and_Risk_Assessment_within_SAARC)

<sup>54</sup> See, Wilson, Richard. *Nuclear Liability and the Price-Anderson Act*, 612-21 The Forum (Section of Insurance, Negligence and Compensation Law, American Bar Association) 12, no. 2 (1977): Last visited on February 19, 2020 in [www.jstor.org/stable/25761253](http://www.jstor.org/stable/25761253)

<sup>55</sup> See, Meek, Daniel W., *Nuclear Power and the Price-Anderson Act: Promotion over Public Protection* 393-468 STANFORD LAW REVIEW 30, no. 2 (1978): Last visited on February 19, 2020 in doi:10.2307/1228037.



few resources. Furthermore, a company may escape liability by appealing an appropriate immunity. Though, the victim is still out of pocket in such a case. Again the impairment caused to the environment is not automatically being done to any private interest. Thus a properly structured and well capitalized fund is necessary to ensure compensation and remediation regardless of fault, exceptions or the capitalization of defendants<sup>56</sup>.

#### **4.3.6. Neutral and convenient Tribunal for all**

The Vienna Convention precludes some victims from suing in their own state where a trans-national occurrence happens during transportation of nuclear material outside the installation state, such as an accident occurring to a coastal state by granting exclusive jurisdiction to the installation state.<sup>57</sup> Such legal regimes that necessitate the suits to be initiated in the courts in the operator's place may block many of the plaintiffs at a substantial faintness. The difficulties that may confront with the claimants in bringing a suit can be exemplified by taking the following case in UK Court.

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<sup>56</sup> *Id.* at 468

<sup>57</sup> See, Galizzi, Paolo. *Questions of jurisdiction in the event of a nuclear accident in a member state of the European Union*, JOURNAL OF ENVIRONMENTAL LAW 8, no. 1 (1996): 71-97. Last visited on February 19, 2020 in [www.jstor.org/stable/44248064](http://www.jstor.org/stable/44248064)

In *Merlin v. British Nuclear Fuels, PLC*<sup>58</sup>, where the court rejected to award any compensation to petitioners whose household had been polluted by radionuclides, although the household lost practically half its price as a consequence of the contamination, on the basis that the house was not ‘physically’ affected. The holders were about to move from there, as they did not want to expose their children to the health risk which they supposed would be influenced from long term living in that household. They vend the house for a significantly abridged amount. Whereas in another case<sup>59</sup>, the plaintiffs’ land was polluted by harmful nuclear material from a pond spilling over in the Atomic Weapons Establishment land, the land was held to be physically damaged by the admixture with the topsoil of radioactive material, which required the expenditure of money to remove. But it was held by high court that the property could not on its own constitute damage according to law. It appears that a ‘floodgates’ argument may have influenced the Court, finding that “it is in the nature of nuclear installations that there will be some additional radionuclides present in the houses of the local population.” The Court also found that “the presence of alpha emitting radionuclides in the human airways or digestive tracts or even in the bloodstream merely increases the risk of cancer to which everyone is

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<sup>58</sup> *Merlin v British Nuclear Fuels plc* [1990] 3 WLR 383, QBD

<sup>59</sup> *See, Calvert Cliffs' Coordinating Committee, Inc. v. United States Atomic Energy Commission*, 449 F.2d 1109 (D.C. Cir. 1971), it is a court case which provided the first important court interpretation of the National Environmental Policy Act (NEPA)

exposed from both natural and artificial radioactive sources. But they do not per se amount to injury. These discoveries unambiguously illustrate the difficulties of victims of a nuclear accident outside the UK claiming in UK courts would face.

In a later case in UK, *Blue Circle Industries plc v. Ministry of Defence*<sup>60</sup> where land was contaminated, damage was found to have occurred, but the Court of Appeal explained the *Merlin* case by saying that the dust was in the house and the Judge did not hold that the house and the radioactive material were so intermingled as to mean that the characteristics of the house were altered. So in neither *Merlin* nor *Blue Circle* were the courts willing to recognize that radioactive contamination per se constitutes physical damage. So it is clear that victims need access to a tribunal that would be neutral and not linked economically to the nuclear industry, and which is applying law and procedure independent of the Installation State. This may be contrasted with the IAEA's claim that "the principle of non-discrimination and equal treatment of victims is often considered to be one of the basic principles of the nuclear liability regime." While the Convention requires the national law be applied without discrimination, the very application of the law of the nuclear operator, and the requirement to go to the nuclear operator's State courts, may be seen as discriminatory. The 'polluter pays principle' and 'the duty to

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<sup>60</sup> [1998] EWCA Civ. 945 (10 June 1998)

avoid damage to areas beyond the limits of national jurisdiction' are two principles both require to follow for attaining access to justice. 2004 Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention deals with additional problems relate to the determination of the operator liability and of the State whose courts have jurisdiction in transport cases, since both Conventions differentiate between transport between Contracting Parties, on the one hand, and transport between a Contracting Party and a non-Contracting State, on the other<sup>61</sup>.

#### **4.3.7. Related Law ought to be that of the Plaintiff**

As with jurisdiction, applicable law should normally be that of the place of damage, provided that jurisdiction can be obtained over those who are liable. Two reasons militate for the law of the place where the damage was suffered to be applied in the case of international nuclear transports<sup>62</sup>: 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

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<sup>61</sup> See, Faure, Michael, Liu Jing, and Wang Hui., *A multilayered approach to cover damage caused by offshore facilities* VIRGINIA ENVIRONMENTAL LAW JOURNAL 33, no. 3 (2015): 356-422. Last visited on February 20, 2020 in [www.jstor.org/stable/24789542](http://www.jstor.org/stable/24789542)

<sup>62</sup> *Id.* at 358

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<sup>63</sup>.

Claimant's courts are likely to apply the *lex loci delicti*<sup>64</sup>, although that may be displaced by significant factors linking the tort or delict to another country. Even with an accident on the high seas, the victim's courts are likely to apply the law of his own land.

#### **4.3.8. Broad Definition of Recoverable Damage**

It is very important for a good liability regime that the definition of damage must be as broad and clear as possible. Many jurisdictions do not allow for recovery of 'pure economic loss', or loss which is not consequential on physical damage. An accident or incident resulting in market loss caused by perception of contamination, for instance, which may result in markets being closed due to no fault of the producer, is no less real to those suffering the loss if there is no actual contamination that can be proven. An effective international liability regime should cover property damage, economic damage, and damage to biodiversity,

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<sup>63</sup> See generally, Beitz, Charles R. *Human Rights as a Common Concern*. 269-82. The American Political Science Review 95, no. 2 (2001): Last visited on February 20, 2020, in [www.jstor.org/stable/3118120](http://www.jstor.org/stable/3118120)

<sup>64</sup> The *lex loci delicti commissi* is the Latin term for "law of the place where the delict [tort] was committed" in the conflict of laws. Conflict of laws is the branch of law regulating all lawsuits involving a "foreign" law element where a difference in result will occur depending on which laws are applied.

preventive measures, the cost of reinstatement and reinstatement or remediation of an impaired environment<sup>65</sup>.

Damages should include damages to the marine environment in areas beyond national jurisdiction and damages resulting from perceptions of risk even if damages or health effects are not measurable. Restricting the definition of damages to damages that can be claimed in the operator's jurisdiction is indefensible. The above said case demonstrates the dangers for claimants of host State jurisdiction. Damages should be defined broadly to include all actual economic losses of all sorts and all losses to the marine environment, as well as actual physical and mental health damages and measurable property losses<sup>66</sup>.

#### **4.3.9. Locus standi and Access to Justice**

An instrument regarding nuclear liability should have broad provisions on locus standi. Groups acting in the general interest and to protect the environment should have locus standi to take an action. Also, the wider issue of access to justice is not to be limited to the narrow question of standing where legal costs can be a vital consideration. Some legal systems can require security of costs, for instance, which can be a barrier.

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<sup>65</sup> See generally, Tilley, George C. *The English Rule as to Liability for Unintended Consequences*. 829-51. MICHIGAN LAW REVIEW 33, no. 6 (1935): Last visited on February 20, 2020, in doi:10.2307/1281775

<sup>66</sup> See *supra* note 63 at 280.

Many other legal systems discourage claims by having costs borne by the losing party; others provide for legal assistance to bring environmental claims. Standing should not only be granted to those affected by the damage, but also to those acting in the general interest. Groups should have the right to protect environmental and social interests, which may be wider than direct economic interest. Damage may be caused to the environment and society without necessarily damaging private economic interests as such. This includes so-called ‘rumour damage’ which may be caused by an incident which does not release radioactivity, but which still causes considerable economic loss due to lost market confidence directly attributable to the incident<sup>67</sup>.

In addition, while capacity building to develop national regimes and harmonization of laws are both important, many developing States would not have the resources and capacity to lodge and pursue major claims in nuclear States. Claimants should not be required to participate in the legal systems of nuclear States to have claims resolved. Legal aid from a fund could be part of a solution, but an independent tribunal is essential.<sup>68</sup>

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<sup>67</sup> See generally, Thornton, Justine, and Stephen Tromans, *Human rights and environmental wrongs: Incorporating the European Convention on Human Rights: Some Thoughts on the Consequences for UK Environmental Law*. 35-57. *JOURNAL OF ENVIRONMENTAL LAW* 11, no. 1 (1999): Last visited on February 20, 2020. in [www.jstor.org/stable/44248208](http://www.jstor.org/stable/44248208).

<sup>68</sup> *Id.* at 55

#### **4.3.10. Justifiable Rules concerning Burden of Proof and causation.**

States may allow ‘unlimited liability’ and let petitioners to file claims against multiple defendants during the absence of a perfect liability regime. For the dangerous activities done by an operator of a nuclear reactor the normally applicable rules of liability are ‘strict liability’ and the ‘burden of proof upon him’<sup>69</sup>.

Guidelines about ‘proof of damage’ and issues of proving the interconnection between damage and incident can put some discriminating or even unbearable burden on victims. It may be challenging to trace and to trait a slow-moving negative impact of radiation. The significance and prominence of the ‘precautionary principle’ is also very much crucial in the perspective of ever-changing burden of proof of damage to nuclear operators and in the context of proving causation<sup>70</sup>.

These relationship complications perceptibly have repercussions only for its period of limitation. So as, in case if investigations took 10 years to substantiate a connection in between the dangerous radiations and an effect of it, a 10 year limitation period, are clearly too short for claimants

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<sup>69</sup> See, Dickerson, John H., *Limited Liability for Nuclear Accidents: Duke Power Co. v. Carolina Environmental Study Group, Inc.* 163-85. *ECOLOGY LAW QUARTERLY* 8, no. 1 (1979): Last visited on February 20, 2020, in [www.jstor.org/stable/24112567](http://www.jstor.org/stable/24112567)

<sup>69</sup> *Id.* at 184

<sup>70</sup> *Id.* at 185



and they need at least a 30 year limitation period for it. Another possibility is, if a victim of radiation took ten years to conceive and the children have symptoms only after another ten years<sup>71</sup>.

#### 4.4. CONCLUSION

A perfect nuclear liability regime should compensate civil liabilities for the torts including its environmental liability and trans-boundary liability by a nuclear damage. Considering a brief history of nuclear accidents worldwide, it is obvious that serious accidents have been very few and far between. A clear-cut responsibility to deliver compensation and restitution at the time when nuclear activities cause trans-boundary injuries is to be recognised separately from the body of customary international environmental law. Considering better criteria for an enhanced liability regime comprising fundamental principles like unlimited liability, a comprehensive definition for different classes of damage, absolute liability with a small number of or of no exceptions, all responsible parties bear joint and several liabilities and a neutral tribunal for the adjudication of claims is to be made. Failure to develop a comprehensive and adequate liability regime is said to be the same as giving a huge backing to upkeep this energy sector. According to Principle 16 of the Rio Declaration, an international regime on liability and redress should be based on the polluter pays principle, precautionary

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<sup>71</sup> *Id.* at 185

principle, and duty to reparation of trans-boundary liability and all. Polluter ought to offer means to avoid or remedying environmental damage and must unswervingly and abundantly compensate the victims. A back up fund must be made available in this regard. An effective and comprehensive liability regime must contain all the standard essential elements.

## CHAPTER 5

### FIXING CIVIL LIABILITY FOR NUCLEAR DAMAGE: GLOBAL ENDEAVOURS

**“The desire to economize time and mental effort in arithmetical computations and to eliminate human liability to error is probably as old as the science of arithmetic itself”.**

**Howard Aiken<sup>1</sup>**

On 8<sup>th</sup> December 1953 U.S. President Eisenhower<sup>2</sup> addressed and delivered a significant speech in the United Nations General Assembly in New York, while Vijayalekshmi Pandit was engaged as the President of UN General Assembly<sup>3</sup>. These were the words, which subsequently became famous as the "Atoms for Peace" speech<sup>4</sup>. Actually, the President's speech was based on the context of nuclear arms race as a Cold War existed between the countries, but he was much-admired for

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<sup>1</sup> See, Howard Aiken (1900-1973), *mathshistory.st-andrews.ac.uk* , Last visited on November 18, 2019 in [https://en.wikipedia.org/wiki/Howard\\_H.\\_Aiken](https://en.wikipedia.org/wiki/Howard_H._Aiken)

<sup>2</sup> Dwight David "Ike" Eisenhower was an American army general and statesman who served as the 34th president of the United States from 1953 to 1961. During World War II, he was a five-star general in the Army and served as Supreme Commander of the Allied Expeditionary Force in Europe. He was responsible for planning and supervising the invasion of North Africa in Operation Torch in 1942–43 and the successful invasion of Normandy in 1944–45 from the Western Front.

<sup>3</sup> Address to 470th plenary meeting of UN General Assembly, 8th December 1953; in the IAEA website, [www.iaea.org/About/history\\_speech.html](http://www.iaea.org/About/history_speech.html).

<sup>4</sup> See, Gerhard Peters, John T. Woolley, *Address before the General Assembly of the United Nations on Peaceful Uses of Atomic Energy, New York City*, University of California, Santa Barbara (December 8, 1953).[ucsb.edu](http://ucsb.edu).

“I feel impelled to speak today in a language that in a sense is new, one which I, who have spent so much of my life in the military profession, would have preferred never to use. That new language is the language of atomic warfare”.

conveying his intention and peace memorandum through this speech<sup>5</sup>. He was considerably enthusiastic about the civilian applications of atoms in cultivation, drug, and energy production. He recommended the formation of "International Atomic Energy Agency"<sup>6</sup> to endorse the diplomatic determinations of nuclear energy to profit the mankind<sup>7</sup>." This marked the beginning some global endeavours for fixing the civil liability for accidents in nuclear power sector.

### **5.1. THE GRADUAL DEVELOPMENT OF GLOBAL NUCLEAR LIABILITY REGIME**

Conferring to the plan by the President of United States, in atoms for peace speech, a draft law of the "International Atomic Energy Agency" (IAEA) was prepared by a group of nations<sup>8</sup>. After that, the Statute was open for signature there. The IAEA's Statute was instigated into

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<sup>5</sup> See, IRA CHERNUS, *EISENHOWER'S ATOMS FOR PEACE*, College Station TX: Texas A&M University Press, 2002.

The speech was part of a carefully orchestrated media campaign, called "Operation Candor", to enlighten the American public on the risks and hopes of a nuclear future. It was a propaganda component of the Cold War strategy of containment.

<sup>6</sup> IAEA

<sup>7</sup> The "Atoms for Peace" program opened up nuclear research to civilians and countries that had not previously possessed nuclear technology. Eisenhower argued for a non-proliferation agreement throughout the world and argued for a stop of the spread of military use of nuclear weapons. Although the nations that already had atomic weapons kept their weapons and grew their supplies, very few other countries have developed similar weapons—in this sense, it has been very much contained. The "Atoms for Peace" program also created regulations for the use of nuclear power and through these regulations stopped other countries from developing weapons while allowing the technology to be used for positive means.

<sup>8</sup> Australia, Belgium, Brazil, Canada, Czechoslovakia, France, India, Portugal, South Africa, the Soviet Union, the United Kingdom and the United States were the, and they proposed in a conference in New York, at the United Nations Headquarters.

dynamism on 29 July 1957<sup>9</sup>. And in October 1957, the first General Conference of IAEA happened in Vienna which was selected as the permanent headquarters of new Establishment. All this happened to activate the most interesting plight of this dubious source of energy. Serving all the states to make advantage from the nonviolent use of atomic power is measured as the core part of the IAEA's objective<sup>10</sup>. Energy production subjected to the sustainable development, health, food

<sup>9</sup> See, Full text of the IAEA statute is given in IAEA website <https://www.iaea.org/gsearch/IAEA%2Bstatute>.

<sup>10</sup> See, the Articles II and III of The IAEA statute:

ARTICLE II: Objectives

The Agency shall seek to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world. It shall ensure, so far as it is able, that assistance provided by it or at its request or under its supervision or control is not used in such a way as to further any military purpose.

ARTICLE III: Functions

A. The Agency is authorized:

1. To encourage and assist research on, and development and practical application of, atomic energy for peaceful uses throughout the world; and, if requested to do so, to act as an intermediary for the purposes of securing the performance of services or the supplying of materials, equipment, or facilities by one member of the Agency for another; and to perform any operation or service useful in research on, or development or practical application of, atomic energy for peaceful purposes;
2. To make provision, in accordance with this Statute, for materials, services, equipment, and facilities to meet the needs of research on, and development and practical application of, atomic energy for peaceful purposes, including the production of electric power, with due consideration for the needs of the under-developed areas of the world;
3. To foster the exchange of scientific and technical information on peaceful uses of atomic energy;
4. To encourage the exchange of training of scientists and experts in the field of peaceful uses of atomic energy;
5. To establish and administer safeguards designed to ensure that special fissionable and other materials, services, equipment, facilities, and information made available by the Agency or at its request or under its supervision or control are not used in such a way as to further any military purpose; and to apply safeguards, at the request of the parties, to any bilateral or multilateral arrangement, or at the request of a State, to any of that State's activities in the field of atomic energy;
6. To establish or adopt, in consultation and, where appropriate, in collaboration with the competent organs of the United Nations and with the specialized agencies concerned, standards of safety for protection of health and minimization of danger to life and property (including such standards for labour conditions), and to provide for the application of these standards to its own operation as well as to the operations making use of materials, services, equipment, facilities, and information made available by the Agency or at its request or under its control or supervision; and to provide for the application of these standards, at the request of the parties, to operations under any bilateral or multilateral arrangements, or, at the request of a State, to any of that State's activities in the field of atomic energy;
7. To acquire or establish any facilities, plant and equipment useful in carrying out its authorized functions, whenever the facilities, plant, and equipment otherwise available to it in the area concerned are inadequate or available only on terms it deems unsatisfactory.

safety, water administration, and many other areas could be done by nuclear aid. Actually, the significant part of IAEA's obligation is serving nations to use atomic power safely, securely and sustainably<sup>11</sup>. Nuclear Energy is a profoundly hazardous trade and may cause incidental accidents at any time. So that the organization is duty bound to control the legal responsibility to compensate and to maintain the obtainability of money for compensating the fatalities of a nuclear incident as and when essential and also to make it harmless and protected<sup>12</sup>.

Actually this was not the first convention on civil liability for nuclear accidents and the first one was not organized by IAEA. The 'Organisation for Economic Co-operation and Development' (OECD)<sup>13</sup> who has been committed for the improvement of the entire world by constructing effective policies and plans, had procured an inventiveness to prepare a Convention on Third Party Liability in the Field of Nuclear Energy, and

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<sup>11</sup> *Id.*

<sup>12</sup> *Id.*

<sup>13</sup> The Organisation for Economic Co-operation and Development (OECD) celebrated its 50th anniversary, but its roots go back to the rubble of Europe after World War II. Determined to avoid the mistakes of their predecessors in the wake of World War I, European leaders realised that the best way to ensure lasting peace was to encourage co-operation and reconstruction, rather than punish the defeated. The Organisation for European Economic Cooperation (OEEC) was established in 1948 to run the US-financed Marshall Plan for reconstruction of a continent ravaged by war. By making individual governments recognise the interdependence of their economies, it paved the way for a new era of cooperation that was to change the face of Europe. Encouraged by its success and the prospect of carrying its work forward on a global stage, Canada and the US joined OEEC members in signing the new OECD Convention on 14 December 1960. The Organisation for Economic Co-operation and Development (OECD) was officially born on 30 September 1961, when the Convention entered into force. The details are available in the official website of OECD, [www.oecd.org](http://www.oecd.org)

hence the renowned ‘Paris Convention<sup>14</sup>’, occurred in the year 1960. This is being recognised and documented as the first acknowledged nuclear convention of its kind to deal with liability issues in the nuclear liability dominion for many of the Western European countries<sup>15</sup>.

The IAEA’s mission to concoct the principles of liability for nuclear impairment within an international framework also had happened immediately after Paris Convention, which is called the Vienna Convention, 1963 (the Vienna Convention on Civil Liability for Nuclear Damage)<sup>16</sup>. So that, the acceptance of the ‘Vienna Convention’, generated the presence of two equivalent conventions. But unfortunately neither of this is appropriate to a nuclear impairment grieved within the territory of a state submitted to the other Convention. In the Brussel’s Supplementary Convention 1963, the smaller limits of compensation prescribed by these documents were enlarged accordingly to limit to a total of about 360 million Euros or 300 million Special Drawing Rights (SDR).<sup>17</sup> The Joint Protocol of 1988 is designed to combine the two Conventions say the

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<sup>14</sup> The text of Convention on Third Party Liability in the Field of Nuclear Energy of 29th July 1960, as amended by the Additional Protocol of 28th January 1964 and by the Protocol of 16th November 1982, known generally as Paris Convention, in [https://www.oecd-nea.org/law/nlparis\\_conv.html](https://www.oecd-nea.org/law/nlparis_conv.html).

<sup>15</sup> See, Stephen Gorove, *International Conventions on Civil Liability for Nuclear Damage*, 543 THE AMERICAN JOURNAL OF INTERNATIONAL LAW, Vol. 62, No. 2 (Apr., 1968), Published by: American Society of International Law Stable URL: <http://www.jstor.org/stable/2196910> . Last visited on April 29, 2017.

<sup>16</sup> See, The Vienna Convention on Civil Liability for Nuclear Damage was adopted on 21 May 1963 and was opened for signature on the same day. The full text of the document is there in <https://www.iaea.org/publications/documents/infcircs/vienna-convention-civil-liability-nuclear-damage>.

<sup>17</sup> See, Yash Thomas Mannully, ‘*Law Relating to Nuclear Liability and Compensation in India*’ 112 INTERNATIONAL JOURNAL OF NUCLEAR LAW (2010).

Paris and the Vienna Conventions into one expanded liability regime<sup>18</sup>. Parties to the joint protocol are treated as if they are parties to both the Paris and Vienna Conventions<sup>19</sup>. In case of a nuclear incident, either the Vienna Convention or the Paris Convention shall be applicable to the victim state, with the exclusion of the other. In case if a nuclear incident happened in a nuclear installation, the applicable convention shall be that to which the State is a party in which such installation is situated<sup>20</sup>. In case of a nuclear accident outside a nuclear reactor and includes radioactive substances during its conveyance, the appropriate Convention will be the one to which that State is a member and in which place the nuclear installation is situated. According to either Article II 1 (b) and (c), of the Vienna Convention or Article 4(a) or (b) of the Paris Convention, the operator will be liable to make the compensation<sup>21</sup>. These treaties inflict strict liability<sup>22</sup> on the operator of the plant for nuclear damage and

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<sup>18</sup> See, IAEA, Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention, IAEADoc.INFCIRC/402 (Sept. 21, 1988) and also in <https://www.iaea.org/gsearch/joint%2Bprotocol>. As of July 2009, 26 countries were contracting parties to the Joint Protocol (Bulgaria, Cameroon, Chile, Croatia, Czech Republic, Denmark, Egypt, Estonia, Finland, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Netherlands, Norway, Poland, Romania, Saint Vincent & the Grenadines, Slovakia, Slovenia, Sweden, Turkey, Ukraine, and Uruguay) and another nine had signed the Convention (Argentina, Belgium, France, Morocco, Philippines, Portugal, Spain, Switzerland, and United Kingdom).

<sup>19</sup> The 1988 joint protocol relating to the application of the Vienna Convention and the Paris Convention: explanatory text. — Vienna: International Atomic Energy Agency, 2013. p.28. — (IAEA international law series, ISSN 1991–2366 ; no. 5)

<sup>20</sup> *Id.*

<sup>21</sup> *Id.*

<sup>22</sup> See, Article III of Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention

1. Either the Vienna Convention or the Paris Convention shall apply to a nuclear incident to the exclusion of the other.
2. In the case of a nuclear incident occurring in a nuclear installation, the applicable Convention shall be that to which the State is a Party within whose territory that installation is situated.



require it to determine economic safety to defend the burdens carried on by the incident, mostly in the method of insurance<sup>23</sup>. By holding the operator strictly liable this liability regime is created just as to protect predominantly the manufacturer and supplier of the nuclear installation<sup>24</sup>.

Subsequently by conducting a tactful session in Vienna at IAEA Headquarters in September 1997, by the representatives from more than 80 countries embraced the Decorum to amend ‘the 1963 Vienna Convention on Civil Liability for Nuclear Damage’<sup>25</sup>. Instead of such an amendment, there had a completely new notion of an international nuclear liability regime, and it was developed to assume one more Convention, “Convention on Supplementary Compensation for Nuclear Damage (CSC)”<sup>26</sup>. The Protocol was to set a possible upper limit of the liability of operator at 300 million SDR (roughly equivalent to 400 million US dollars)<sup>27</sup>. The CSC describes that extra sum to be provided

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3. In the case of a nuclear incident outside a nuclear installation and 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.

<sup>23</sup> See, LIABILITY AND COMPENSATION FOR NUCLEAR DAMAGE, An International Overview, Nuclear energy agency, Organisation for economic co-operation and development, 1994.

<sup>24</sup> *Id.*

<sup>25</sup> See, Article II of the Joint Protocol, For the purpose of this Protocol:

a. The operator of a nuclear installation situated in the territory of a Party to the Vienna Convention shall be liable in accordance with that Convention for nuclear damage suffered in the territory of a Party to both the Paris Convention and this Protocol;

The operator of a nuclear installation situated in the territory of a Party to the Paris Convention shall be liable in accordance with that Convention for nuclear damage suffered in the territory of a Party to both the Vienna Convention and this Protocol.

<sup>26</sup> *Id.*

<sup>27</sup> The Convention on Supplementary Compensation for Nuclear Damage, was adopted on 12 September 1997 by a Diplomatic Conference held 8-12 September 1997, and was opened for signature at Vienna on 29 September 1997 at the 41st General Conference of the International Atomic Energy Agency.

through aids from nuclear nations on the basis of their mounted nuclear capacity and UN rate of assessment<sup>28</sup>. This Convention is a device to which all States could adhere to, irrespective of their bond to any existing nuclear liability conventions or the number of nuclear reactors in their country<sup>29</sup>. The fact is that CSC describes one of the best known definitions of nuclear damage<sup>30</sup>. It addresses the problems like

<sup>28</sup> See, Article III, Undertaking

1. Compensation in respect of nuclear damage per nuclear incident shall be ensured by the following means:
  1. The Installation State shall ensure the availability of 300 million SDRs or a greater amount that it may have specified to the Depository at any time prior to the nuclear incident, or a transitional amount pursuant to sub-paragraph (ii);
  2. A Contracting Party may establish for the maximum of 10 years from the date of the opening for signature of this Convention, a transitional amount of at least 150 million SDRs in respect of a nuclear incident occurring within that period.
  3. Beyond the amount made available under sub-paragraph (a), the Contracting Parties shall make available public funds according to the formula specified in Article IV.
2.
  1. Compensation for nuclear damage in accordance with paragraph 1(a) shall be distributed equitably 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 nuclear damage suffered in a non-Contracting
  2. Compensation for nuclear damage in accordance with paragraph 1(b), shall, subject to Articles V and XI 1(b), be distributed equitably without discrimination on the basis of nationality, domicile or residence.
3. If the nuclear damage to be compensated does not require the total amount under paragraph 1(b), the contributions shall be reduced proportionally.
4. The interest and costs awarded by a court in actions for compensation of nuclear damage are payable in addition to the amounts awarded pursuant to paragraphs 1(a) and (b) and shall be proportionate to the actual contributions made pursuant to paragraphs 1(a) and (b), respectively, by the operator liable, the Contracting Party in whose territory the nuclear installation of that operator is situated, and the Contracting Parties together.

<sup>29</sup> See generally, "OECD/NEA - Multilateral agreements in nuclear energy - IV. Liability and compensation for nuclear damage" - Protocol to Amend the 1963 Vienna Convention on Civil Liability for Nuclear Damage (1997 Vienna Protocol)". [www.oecd-nea.org](http://www.oecd-nea.org).

See also, "The 1997 Vienna Convention on Civil Liability for Nuclear Damage and the 1997 Convention on Supplementary Compensation for Nuclear Damage — Explanatory Texts". [www.iaea.org](http://www.iaea.org). December 21, 2016.

<sup>30</sup> See, Article I clause (f) "Nuclear Damage" means:

- (i) loss of life or personal injury;
- (ii) loss of or damage to property; and each of the following to the extent determined by the law of the competent court
- (iii) economic loss arising from loss or damage referred to in sub-paragraph (i) or (ii), insofar as not included in those sub-paragraphs, if incurred by a person entitled to claim in respect of such loss or damage;

environmental damage and defensive actions also as damage. It is really very significant<sup>31</sup>. CSC encompasses the territorial range of the Vienna Convention, and extends the total time period to claim damages for loss of life and personal injury<sup>32</sup>. CSC also gives provisions for deciding the jurisdiction of coastal countries over actions suffering nuclear damage on during transportation. In totality, here is a significant augmentation in the worldwide structure for damages in nuclear incidents after CSC.

Thus the following are the major international documents regarding the civil liability for nuclear damage:-

- i. The 1960 Paris convention
- ii. The 1963 Brussels supplementary convention

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(iv) 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 sub-paragraph (ii);

(v) loss of income deriving from an economic interest in any use or enjoyment of the environment, incurred as a result of a significant impairment of that environment, and insofar as not included in sub-paragraph (ii);

(vi) the costs of preventive measures, and further loss or damage caused by such measures.

(vii) 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.

in the case of sub-paragraphs (i) to (v) and (vii) above, to the extent that the loss or damage arises out of or results from ionizing 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.

<sup>31</sup> Attention is drawn to Article XVIII.1 and XIX.1 which provide that instruments of ratification, acceptance, approval or accession will only be accepted 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 the 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.

<sup>32</sup> Adoption of CSC in September 1997 is an important step to improve the international nuclear liability regime. The other two instruments, i.e. the Vienna Convention on Civil Liability for Nuclear Damage of 1963 and the Paris Convention on Third Party Liability in the Field of Nuclear Energy of 1960 were linked by the Joint Protocol adopted in 1988.

- iii. The 1963 Vienna convention on civil liability for nuclear damage
- iv. The 1988 Joint Protocol (in order to the Application of the Vienna Convention and the Paris Convention)
- v. The 1997 Convention on Supplementary Compensation for nuclear damage
- vi. The 2004 protocol to amend the Vienna convention

All the above international endeavours for fixing civil liability for nuclear damage is founded upon some novel ideologies like<sup>33</sup>:

- the responsibility is channelled to one person;
- the number of exemptions from strict liability of this person are very few;
- liability is limited to a fixed amount irrespective of the existence of fault on the part of the responsible person; and
- thus introduced a compulsory financial security against nuclear risk

Many of these new principles are adopted by international conventions and are already been a part of domestic law of many countries<sup>34</sup>. Nuclear

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<sup>33</sup>See, Cigoj Stojan, *International Regulation of Civil Liability for Nuclear Risk* 809-44. THE INTERNATIONAL AND COMPARATIVE LAW QUARTERLY 14, no. 3 (1965): Last visited on January 19, 2020. in [www.jstor.org/stable/757052](http://www.jstor.org/stable/757052).

<sup>34</sup> There are four categories of countries in this regard: those that are party to one or both of the international conventions and have their own legislation, those that are not parties to an international convention but have their own legislation (notably USA, Canada, S.Korea), those who ratify CSC and

liability was an area in which the regulation had to be created without former experience in this area of nuclear damages, and with a restriction that nobody had an accurate idea at their disposal regarding the amount of damage which might probably be produced by a nuclear hazard<sup>35</sup>. Now the content of major conventions regarding the Civil Liability of Nuclear Damages arising from fixed nuclear installations is discussed briefly to make a comparative study of their objective and purpose

## 5.2. THE PARIS CONVENTION

The Convention on Third Party Liability in the field of Civil Nuclear Energy called ‘The Paris Convention’ was prepared by the Organisation for Economic Co-operation and Development (OECD) and was signed by all members of OECD on July 29, 1960. Two member states refrained from signing the document on that day were Ireland and Iceland<sup>36</sup>.

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having domestic law accordingly and those that are not party to a convention and are without their own legislation (notably China)

<sup>35</sup> See *supra* note 33, at 811.

<sup>36</sup> **Paris Convention on Nuclear Third Party Liability in the Field of Nuclear Energy 1960 :-**

The Paris Convention establishes a nuclear liability and compensation regime to compensate victims of a nuclear accident. The Convention is open to OECD member countries as of right and non-member countries with the consent of all the contracting parties to the Paris Convention.

Adopted: 29 July 1960

- 1964 Additional Protocol adopted: 28 January 1964
- 1982 Protocol adopted: 16 November 1982
- 2004 Protocol adopted: 12 February 2004

Opened for signature: 29 July 1960

- 1964 Additional Protocol opened for signature: 28 January 1964
- 1982 Protocol Adopted opened for signature: 16 November 1982
- 2004 Protocol Adopted opened for signature: 12 February 2004

Entered into force: 1 April 1968, along with its 1964 Additional Protocol

- 1964 Additional Protocol entered into force: 1 April 1968, along with the original 1960 Convention
- 1982 Protocol Adopted entered into force: 7 October 1988
- 2004 Protocol Adopted entered into force: not yet in force

Convention requires national legislation to be passed mandatorily in order for it to be ratified. Thus this convention sets out the factors that have to be present for making the operator or the insurer to be liable<sup>37</sup>. Paris Convention protected the damage to or loss of life of any person or of any property, and Article 3(a) offers that the Operator of a nuclear installation shall be responsible for compensating a nuclear damage<sup>38</sup> on proof of being caused by a nuclear incident inside a nuclear reactor or including nuclear substances used in a nuclear installation. The limit of liability is in between 5-15 million SDR. Limitation period for taking legal action is fixed as 10 years<sup>39</sup>. The jurisdiction is fixed to the courts of the country in which the nuclear incident occurred or in which territory the installation of the operator liable is situated<sup>40</sup>. Some key exceptions are also there in

Parties: 16 (to the Paris Convention and to its 1964 and 1982 Protocols) (see table below)

Belgium*	Germany*	Norway	Sweden*
Denmark	Greece	Portugal	Switzerland*
Finland*	Italy	Slovenia*	Turkey
France*	Netherlands*	Spain*	United Kingdom*

\* Country with at least one nuclear power plant in operation.

Switzerland has signed the 1960 Paris Convention, the 1964 Additional Protocol to amend the Paris Convention and the 1982 and 2004 Protocols to amend the Paris Convention. On 9 March 2009, Switzerland deposited its instrument of ratification of the 1960 Paris Convention as amended by the 1964, 1982 and 2004 amending Protocols. As this ratification is effective only with respect to the 1960 Paris Convention as amended by all 3 Protocols, entry into force for Switzerland of the Paris Convention as so amended will only take place once the 2004 Protocol to amend the Paris Convention has itself entered into force.

in <https://www.oecd-nea.org/law/paris-convention.html>.

<sup>37</sup> See, OECD, Convention on Third Party Liability in the Field of Nuclear Energy (Paris Convention), OECD/LEGAL/0038

Art. 1 (a) sub clause vi) "Operator" in relation to a nuclear installation means the person designated or recognised by the competent public authority as the operator of that installation.

<sup>38</sup> *Id.* at Art. 3

<sup>39</sup> *Id.* at Art. 7

<sup>40</sup> *Id.* at Art. 8

a) The right of compensation under this Convention shall be extinguished if an action is not brought within ten years from the date of the nuclear incident. National legislation may, however, establish a

this Paris Convention which may help the operator to relieve the liability<sup>41</sup>:

- The first exception is nuclear damage caused by a nuclear incident directly due to an act of armed conflict, hostilities, civil war or insurrection. This exoneration is on the basis that the nation would be responsible for the consequences of a civil war or other armed conflict. It should be noted that “this clause has been interpreted as not granting exemption for acts of terrorism, on whatever scale.” Following the 11 September attacks, the insurance industry requested Article 9 to be reviewed but in “the final analysis terrorism will remain covered by the conventions.”
- Another is where nuclear damage is caused by a nuclear incident directly due to a grave natural disaster of an exceptional character (unless national law provides otherwise), although the 2004 Paris Protocol removed “the exoneration for natural disasters.”
- The court may also relieve the Operator “wholly or partly” from paying compensation, in the event that the Operator can prove that

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period longer than ten years if measures have been taken by the Contracting Party in whose territory the nuclear installation of the operator liable is situated to cover the liability of that operator in respect of any actions for compensation begun after the expiry of the period of ten years and during such longer period: provided that such extension of the extinction period shall in no case affect the right of compensation under this Convention of any person who has brought an action in respect of loss of life or personal injury against the operator before the expiry of the period of ten years.

<sup>41</sup> *Id.* at Art. 9

The operator shall not be liable for damage caused by a nuclear incident directly due to an act of armed conflict, hostilities, civil war, and insurrection or, except in so far as the legislation of the Contracting Party in whose territory his nuclear installation is situated may provide to the contrary, a grave natural disaster of an exceptional character.

nuclear damage was caused or contributed to by the person suffering damage whether from that person's "gross negligence...or from an act or omission of such person done with intent to cause damage".

Also, the operator is not responsible for a nuclear damage if it is happened in the following circumstances<sup>42</sup>:

- To the installation it-self including a nuclear installation under construction, on the site where that installation is located. The Exposé des Motifs provides that the purpose of this exemption is to avoid the Operator's financial security, (normally insurance) "from being used principally to compensate damage to [the] installation to the detriment of third parties",
- If caused to any property on the site of the nuclear installation which is used in connection with the nuclear installation. The property would normally fall into two categories:

(a) The Operator's property.

The Operator would not have any action for compensation against itself for damage to its own property (e.g. a person cannot sue himself). The Operator is also in a position insure

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<sup>42</sup> See generally, Antony Thomas and Raphael J. Heffron, *Third Party Liability: The case of a Supplier in the United Kingdom* February 2012, AMEC plc. and Electricity Policy Research Group, University of Cambridge, (CWPE 1207&EPRG 1205) Last visited on December 2, 2014. in [www.eprg.group.cam.ac.uk](http://www.eprg.group.cam.ac.uk)



loss of or damage to the nuclear installation since almost “all pools...see it as their task to provide cover for nuclear installations...and nuclear insurance responds to the full definition of a nuclear installation in the international liability conventions”;

(b) The Supplier’s property.

Likewise, Suppliers “whose property is on the site of a nuclear installation are obliged to assume the risks of loss or damage thereto, and they too are able to include the cost of this risk in the price of their supply contracts.”

Many more activities and materials are standing outside the purview of Paris Convention. Paris Convention is not applicable to a damage suffered or a nuclear incident happened in a non-convention country. Similarly, certain other things also will fall outside its purview. Primarily, the following category of incidents or things having low levels of radiation may fall out of it<sup>43</sup>:

- Uranium mining or milling or the manufacture [storage] and processing of natural or depleted uranium” which do not present any criticality risk to the public at large;

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<sup>43</sup> *Id.*

- Installations where small amounts of fissionable materials are found (including research reactors and particle accelerators); or
- Radioisotopes used in medicine, education and industry which pose much less of a risk are covered by normal civil liability regimes; or
- Uranium salts that are “used incidentally in various industrial activities not related to the nuclear industry.” In addition to low levels of radioactivity, non-peaceful operations such as military installations or facilities are also outside the scope of the Paris Convention.

Similarly, nuclear fusion reactors do not advantage presently from the general principles of this universal regime. So the operator of a power reactor brings about from the ITER<sup>44</sup> project in France is never under this global liability regime. Thus those menaces are really unprotected and have limitless liability that cannot be insured. There were many arguments about the “lack of foresight in not covering fusion installations” in the 2004 Protocol. The omission of fusion is particularly relevant to the Supplier in light of the progress of the developing ITER project. The significance of legal channelling of liability to the operator is that sufferers of nuclear accident never demand the proof for the

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<sup>44</sup> In southern France, 35 nations are collaborating to build the world's largest tokamak, a magnetic fusion device that has been designed to prove the feasibility of fusion as a large-scale and carbon-free source of energy based on the same principle that powers our Sun and stars. The experimental campaign that will be carried out at ITER is crucial to advancing fusion science and preparing the way for the fusion power plants of tomorrow.

negligence or fault of operator at any point of time. The connection between the nuclear damage and the nuclear incident alone is to be proved by the victim of the incident. Thus according to this theory the supplier is absolutely free and not liable to take out nuclear liability insurance. Though, this Convention offers a right of recourse to the operator under two particular situations. Firstly the operator has this right only when the damage is due to a nuclear incident as a consequence of an act or omission of an individual with an intention to cause damage. It is applicable against a person acting or ignoring to do the same with an evil intention. According to the objective of this Convention it is obvious that this right of recourse is available only against discrete individuals who act or omit to act with intent to cause damage.<sup>45</sup> The Paris convention is not envisioned to give a right of recourse contrary to the employing company. As a consequence the company is not to be held responsible if their employee do or not to do an act intentionally to cause impairment. Secondly the operator of a reactor has a right to recourse the supplier only if there is a contract in between the countries. Accordingly the position set out in this Convention is transparent and any supplier might have a clear knowledge of the consequences. Basically it provides that a supplier of a reactor would not be held responsible to the operator of the reactor

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<sup>45</sup>See generally, Dickerson, John H. *Limited Liability for Nuclear Accidents: Duke Power Co. v. Carolina Environmental Study Group, Inc.* 163-85. *ECOLOGY LAW QUARTERLY* 8, no. 1 (1979): Last visited on January 26, 2020, [www.jstor.org/stable/24112567](http://www.jstor.org/stable/24112567)

for a nuclear incident causing out of negligence or a fault of the supplier. But, if there is such a stipulation in this contract between the supplier and operator permitting the operator to have recourse against supplier in case the service or goods are faulty or where the negligence of the supplier is proved beyond doubt, the Supplier would be open to claims from the operator. Even then this provision would never eliminate the operator's liability to third parties. This convention gives the operator a right to sue the supplier for its negligence as well as for its faulty products. The supplier has a right to decide whether it agrees about the right of the operator to sue it. For example, liability being limited the contact value with the costs above such limit being borne by the operator<sup>46</sup>.

### 5.3. THE VIENNA CONVENTION

International Atomic Energy Agency prepared the 'Vienna Convention on Civil liability for Nuclear Damage'<sup>47</sup>. Since the Vienna Convention

<sup>46</sup> See, M P Ram Mohan & Els Reynares Kini, *Right of recourse claims based on latent defects in the nuclear energy sector in India: brace yourself for fact-intensive disputes* research and publications IIMA, in <https://web.iima.ac.in/assets/snippets/workingpaperpdf/15120337482019-05-01.pdf> on 26-01-2010. W. P. No. 2019-05-01

<sup>47</sup> The Vienna Convention on Civil Liability aims at harmonizing the national law of the Contracting Parties by establishing some minimum standards to provide financial protection against damage resulting from certain peaceful uses of nuclear energy. The Convention is designed to ensure that all Contracting Parties have laws and regulations in place conforming to the legal regime for civil liability for nuclear damage provided for in the Convention. The legal regime provided for in the Convention is based on the following general principles:

- exclusive liability of the operator of the nuclear installation concerned;
- "absolute" or "strict" liability, so that the injured party is not required to prove fault or negligence on the part of the operator;
- minimum amount of liability;
- obligation for the operator to cover liability through insurance or other financial security;
- limitation of liability in time;
- equal treatment of victims, irrespective of nationality, domicile or residence, provided that damage is suffered within the geographical scope of the Convention;

and the protocol were relevant subject to ratification, they were incorporated and adopted by the International Atomic Energy Agency only by May 19, 1963 in a conference held at its headquarters and was opened for signature on May 23 of the same year. Thus this was emerged as an alternative to Paris/Brussel's convention. The signatories to this convention are mainly from Eastern Europe and Latin America<sup>48</sup>. Both Vienna and Paris conventions are similar in all their principles and scope but moulded differently. There are many denunciations of the Vienna convention regarding the channelling of liability to compensate a nuclear damage to the operator. The Vienna Convention was amended by the 1997 Protocol to amend the Vienna Convention, which resulted in similar changes as set out in the 2004 Protocol to Paris Convention<sup>49</sup>.

This Convention is intended only to regulate the civil liability for damage aroused out of a nuclear incident inside a nuclear installation like a power

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- exclusive jurisdictional competence of the courts of the Contracting Party in whose territory the incident occurs or, in case of an incident outside the territories of Contracting Parties (in the course of transport of nuclear material), of the Contracting Party in whose territory the liable operator's installation is situated);
  - Recognition and enforcement of final judgements rendered by the competent court in all Contracting Parties.

Date of adoption: 21 May 1963; Place of adoption: Vienna, Austria; Date of entry into force: 12 November 1977

Authentic Languages: English, French, Russian and Spanish Depositary: Director General of the International Atomic Energy Agency (IAEA)

From <https://www.iaea.org/topics/nuclear-liability-conventions/vienna-convention-on-civil-liability-for-nuclear-damage>

<sup>48</sup> See *Supra* note 36, at art.7 amending Paris Convention art. 7. Costs and interest are exempted under Paris Convention;

<sup>49</sup> *Id.* at Art.7(b)

reactor or during the department of nuclear material<sup>50</sup>. It does not have application to any nuclear incident inside the territory of a state which is not a party to the contract or to the injury suffered in such state if it is not given by the law of the installation state. According to the definition given in this Convention a Nuclear Incident is the occurrence or a chain of occurrences of same from the same source which roots the nuclear damage<sup>51</sup>. A Nuclear Damage is defined as the destruction or harm to the life of any individual, and impairment or loss of any property except the property situated in the site of the reactor. Damage may be classified either as of radioactive nature or a combination of radioactive nature with toxic, explosive, or other hazardous nature of nuclear fuel or radioactive products on waste, or from radiation emitted by any source of radiation inside a nuclear installation<sup>52</sup>. Certain substances with a low level of

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<sup>50</sup> See, THE 1997 VIENNA CONVENTION ON CIVIL LIABILITY FOR NUCLEAR DAMAGE AND THE 1997 CONVENTION ON SUPPLEMENTARY COMPENSATION FOR NUCLEAR DAMAGE, EXPLANATORY TEXTS, IAEA VIENNA 2017, 7 a comprehensive study of the IAEA's nuclear liability regime. The texts are available in all the IAEA's official languages on the IAEA web site ([www.iaea.org](http://www.iaea.org)).

<sup>51</sup> *Id.*

Article I 1(k) "Nuclear damage" means -

- I. loss of life, any personal injury or any loss of, or damage to, property which arises out of or results from the radioactive properties or a combination of radioactive properties with toxic, explosive or other hazardous properties of nuclear fuel or radioactive products or waste in, or of nuclear material coming from, originating in, or sent to, a nuclear installation;
- II. any other loss or damage so arising or resulting if and to the extent that the law of the competent court so provides; and
- III. if the law of the Installation State so provides, loss of life, any personal injury or any loss of, or damage to, property which arises out of or results from other ionizing radiation emitted by any other source of radiation inside a nuclear installation.

<sup>52</sup> See, Article I 1 (j) "Nuclear installation" means -

- (i) any nuclear reactor other than one with which a means of sea or air transport is equipped for use as a source of power, whether for propulsion thereof or for any other purpose;

radioactivity or with only a minor risk are not covered in it. The Convention does not give protection specifically for preventive or protective measures taken by people to avoid an accident or damage to the environment<sup>53</sup>.

According to this Convention a Nuclear Installation is defined as<sup>54</sup>:-

- i. Nuclear reactors (other than those composed in any means of transport),
- ii. plants in which the making and treating of fissionable materials are taking place;
- iii. plants in which the parting of fissionable materials taking place;
- iv. plants in which the recycling of fissionable materials are taking place, and
- v. Storage place of nuclear substances other than storage incidental to the carriage of such substances.

According to Vienna convention the liability is ‘strict’ and ‘exclusive’<sup>55</sup>.

The characteristics of nuclear civil liability are well explained in Article II of this Convention. As per this, the civil liability is exclusively

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(ii) any factory using nuclear fuel for the production of nuclear material, or any factory for the processing of nuclear material, including any factory for the re-processing of irradiated nuclear fuel; and

(iii) any facility where nuclear material is stored, other than storage incidental to the carriage of such material; provided that the Installation State may determine that several nuclear installations of one operator which are located at the same site shall be considered as a single nuclear installation.

<sup>53</sup> See, Article IV (1), the liability of the operator for nuclear damage under this Convention shall be absolute.

<sup>54</sup> See *supra* note 50.

<sup>55</sup> See, Article IV (1), the liability of the operator for nuclear damage under this Convention shall be absolute.

channelled to the operator of the nuclear installation by which the nuclear damage had happened. The supplier or contractor of the said installation even found negligent or at fault will not be held liable at any circumstance<sup>56</sup>. But other persons could be made responsible if they have recognised that obligation through an express contract, and also where an operator has a right of recourse according to law<sup>57</sup>. The operators can rightfully recourse to any person acting intentionally to cause the damage in question. And also in such cases, an operator may leftover solely with his strict liability towards the victims i.e. no fault or negligence on the part of the operator needs to be proven by the claimant<sup>58</sup>. There are few exceptions to this normal rule. Whereas the claimant is required to prove only that he is aggrieved with any injury or damage and it was caused by this particular nuclear incident. According to this Convention, an ‘operator’ of any nuclear installation is a person identified or entitled as the operator by a public authority deemed fit<sup>59</sup>. It is mandatory for a member country to designate its authorised operator for every nuclear installation on its territory. As per Article IV of this Convention, an operator is exempted from the liability caused by any nuclear incident as

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<sup>56</sup>See generally, Hardy, M. J. L. *International Protection against Nuclear Risks*. 739-59. THE INTERNATIONAL AND COMPARATIVE LAW QUARTERLY 10, no. 4 (1961): Last visited on January 29, 2020 in [www.jstor.org/stable/756421](http://www.jstor.org/stable/756421).

<sup>57</sup> See, Art. X, The operator shall have a right of recourse only -

(a) if this is expressly provided for by a contract in writing; or  
(b) if the nuclear incident results from an act or omission done with intent to cause damage, against the individual who has acted or omitted to act with such intent.

<sup>58</sup> *Id.*

<sup>59</sup> See, Art. I (1) (c) "Operator", in relation to a nuclear installation, means the person designated or recognized by the Installation State as the operator of that installation.



a direct consequence of an act of armed conflict, hostilities, civil war, and insurrection or, except in so far as the legislation of the installation state may provide to the contrary, a grave natural disaster of an exceptional character<sup>60</sup>. The Liability for damage triggered is limited both in amount and in time. The maximum limit according to Vienna Convention is to be determined by national legislation, but it should not be less than 5 million U.S. \$ for any particular incident. If there is more than one operator who is liable, then they have liability jointly and severally. The minimum total as 5 million was well defined with reference to the historic official price of gold at the time of adoption of this document<sup>61</sup>. The limitation period for making claims is ten years according to Vienna Convention. It starts from the date of the incident, and insurance is normally not available for more than ten years of time period<sup>62</sup>. The exception is available only if there is a provision in the national law for making measures by the installation state to bare the liability of the operator for any damage instituted after the ten year limit. The Convention also permits the member states to incorporate in their national legislation; a 'discovery rule' to express any claim has to be done within a period of not less than

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<sup>60</sup> See, Art. IV(3) (a) No liability under this Convention shall attach to an operator for nuclear damage caused by a nuclear incident directly due to an act of armed conflict, hostilities, civil war or insurrection.

(b) Except in so far as the law of the Installation State may provide to the contrary, the operator shall not be liable for nuclear damage caused by a nuclear incident directly due to a grave natural disaster of an exceptional character.

<sup>61</sup> See generally, Lee, Maria. *Civil liability of the nuclear industry* 317-32 JOURNAL OF ENVIRONMENTAL LAW 12, no. 3 (2000): Last visited on January 29, 2020 in [www.jstor.org/stable/44251668](http://www.jstor.org/stable/44251668). (35 U.S. \$ per troy ounce)

<sup>62</sup> *Id.* at 331

two years from the time at which the victim discovered the damage. This extra period must be included within the general limit of ten years from the date of the nuclear incident. In all cases of nuclear accidents involving nuclear substances in it, the limitation period for making a claim is 20 years since the date of the incident<sup>63</sup>. For ensuring the availability of fund, to pay damages, the Convention says that the operator has to make and maintain a compulsory insurance scheme or any such other financial security approved by the installation state to meet the required sum of his liability established as per the Convention<sup>64</sup>. Though insurance is one of the best common ways of achieving financial security, it may also possible to benefit from a state guarantee or a form of indemnity or insurance provided by the state. The state determines the form and conditions for financial security which must be used solely to compensate claims for damage under the convention<sup>65</sup>. According to this Convention, state is liable to pay damages to the extent that the financial security of the operator like insurance is not enough to cover the higher limit of liability recognized by law<sup>66</sup>. The jurisdiction is fixed to the courts of the country in which the nuclear incident occurred. If the place of the incident cannot be determined properly or if the incident occurred outside the

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<sup>63</sup> *Id.* at 332

<sup>64</sup> See generally, Pelzer, Norbert, *International Pooling of Operators' Funds: An Option to Increase the Amount of Financial Security to Cover Nuclear Liability?* NUCLEAR LAW BULLETIN, 2007/06/25, 10.1787/nuclear\_law-2007-5k9gvsb1rwq1, Discussion Paper for the IAEA INLEX Group Meeting on 21-22 June 2007

<sup>65</sup> *Id.*

<sup>66</sup> *Id.*

jurisdiction of any party, the jurisdiction is fixed to the courts of the installation state of the liable operator<sup>67</sup>. This Convention offers that the right to reimbursement for harm caused by a nuclear accident may be implemented only against an operator liable in accordance with the convention or only if such a right is given under the law of the installation state, against the insurer or other provider of a financial guarantee<sup>68</sup>. The courts shall apply all the terms of this Convention as well as the law of the land in every subjects not precisely enclosed in the Convention. Both the Convention and national law should be functional without perception on the grounds of nationality domicile or residence<sup>69</sup>. The extent, nature and force of the damages, as well as the even-handed delivery thereof are administered by the law of the land. In case of accident, this Convention offers the insurance money and economic compensation are to be freely exchangeable between the parties, even though the verdicts are to be implemented in the terrain of any of the contracting party. Also the costs and interest are to be added to the liability amount fixed by the court<sup>70</sup>. The basic principles and concepts established through the Paris Convention and Vienna convention are quite similar and both of them

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<sup>67</sup> *Id.*

<sup>68</sup> See, Doeker, Günther, and Thomas Gehring, *Private or international liability for transnational environmental damage—the precedent of conventional liability regimes*. 1-16 JOURNAL OF ENVIRONMENTAL LAW 2, no. 1 (1990): Last visited on January 29, 2020. [www.jstor.org/stable/44247865](http://www.jstor.org/stable/44247865).

<sup>69</sup> *Id.* at 14-16.

<sup>70</sup> *Id.* at 16

contain the same provisions regarding the civil liability of nuclear power sector, such as<sup>71</sup>

- Strict liability or absolute liability of the operator
- Channelling exclusive liability to the operator
- Provision for compulsory financial security
- Assured minimum as liability
- Stipulated time limit for submitting the claims by victims
- Inclusion of cases in between transportation of materials
- Unity of jurisdiction ; and
- Enforcement of judgements in a reciprocal manner.

#### **5.4. THE BRUSSELS SUPPLEMENTARY CONVENTION**

This is a Convention<sup>72</sup>, which is Supplementary to the Paris Convention of 29 July 1960 and was adopted in 1963. The objective of this

<sup>71</sup> See generally, DG Tren, *Legal Study for the Accession of Euratom to the Paris Convention on Third Party Liability in the Field of Nuclear Energy*. European Commission, 2005 'TREN/CC/01–2005 Report < [http://www.mng.org.uk/gh/private/2009\\_12\\_accession\\_euratom.pdf](http://www.mng.org.uk/gh/private/2009_12_accession_euratom.pdf)> Last visited 9 January 2016.

<sup>72</sup> The Brussels Supplementary Convention is subject to the provisions contained in the Paris Convention including those which define the concepts of "nuclear incident", "nuclear installation", "nuclear substances" and "nuclear damage". Its geographical scope of application is limited to damage suffered on the territory of a contracting party or on or over the high seas, caused by nuclear incidents other than those occurring entirely in the territory of a non-contracting state. The combined Paris/Brussels regime provides for compensation to a maximum amount of SDR 300 million\*, in three tiers:

- a first tier corresponding to the liability amount imposed under the Paris Convention, meaning that each Party to the Brussels Supplementary Convention is required to establish by legislation an operator liability amount of at least SDR 5 million, to be provided by insurance or other financial security.
- a second tier consisting of the difference between SDR 175 million and the amount required under the first tier, which is to be provided from public funds to be made available by the party in whose territory the nuclear installation of the liable operator is situated;

Convention is to provide an additional fund to compensate damage caused by nuclear incidents. Actually the fund provided by Paris convention is insufficient for dealing these emergencies. According to the provisions of this Convention, certain public funds are to be readily accessible for this purpose, not only by the state where the liable operator's nuclear installation is located, but also by contributions from all parties to the Brussels Supplementary Convention. Brussels convention thus deals with a sturdy link of economic harmony between the member countries. But, the major variance of opinion among them is according to the limitation of civil liability. Thus Brussels Supplementary Convention has established a convenient three tyre system of compensation<sup>73</sup>.

- In the initial level, the maximum liability of the operator set by national law is to be provided as compensation, by considering the provisions of Paris Convention.

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• a third tier comprising SDR 125 million to be made available from public funds contributed jointly by all the parties to the Brussels Supplementary Convention according to a pre-determined formula.

No state may become or remain a contracting party to the Brussels Supplementary Convention unless it is already a contracting party to the Paris Convention. The Brussels Supplementary Convention will only remain in place for as long as the Paris Convention also remains in force.

The Belgian Government is the depositary for the Brussels Supplementary Convention, which has been amended by protocols adopted in 1964, 1982 and 2004.

The 2004 Protocol to Amend the Brussels Supplementary Convention has not yet entered into force.

<sup>73</sup> See generally, Laura Rimšaitė, *Civil liability for nuclear damage: comparative analysis of international treaties* in SOCIAL TRANSFORMATIONS IN CONTEMPORARY SOCIETY, 2013 (1). ISSN 2345-0126, Last visited on January 30, 2020.

- The installation state has to provide the balance amount between the first tier compensation and 175 million SDR, in the second level<sup>74</sup>.
- In the third stage of compensation, the remaining amount up to 300 million SDR is to be provided by state parties by using a special formula deducted from the gross national product and the total capacity of the reactors located in installation country<sup>75</sup>.

## 5.5. THE JOINT PROTOCOL

The Vienna and Paris Conventions were there in complete remoteness and in a domain of their own. Rapidly after the accident in Chernobyl, all the States woke up to the truth that, victims belongs to any one of the Conventions could not be able to claim damages under either convention for any accident happened in a country being a signatory of the other convention. Both Paris and the Vienna convention signatories are dealt by

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<sup>74</sup> Convention of 31 January 1963 Supplementary to the Paris Convention of 29 July 1960, as amended by the Additional Protocol of 28 January 1964 and by the Protocol of 16 November 1982 (Brussels Supplementary Convention); it entered into force in 1974 and the following countries are a party to the Brussels Convention: Belgium, Denmark, Finland, France, Germany, Italy, the Netherlands, Norway, Slovenia, Spain, Sweden and the United Kingdom. Austria, Luxembourg and Switzerland have signed it but it is not in force.

<sup>75</sup> See, P Reyners, *General principles governing liability for nuclear damage* 10 Nuclear Energy Agency, OECD, 2020. in [https://inis.iaea.org/collection/NCLCollectionStore/\\_Public/29/064/29064445.pdf?r=1&r=1](https://inis.iaea.org/collection/NCLCollectionStore/_Public/29/064/29064445.pdf?r=1&r=1) on 30-01-2020.

Joint protocol<sup>76</sup> and the civil liability of those operators are governed by this protocol. It is applicable to any nuclear damage triggered by any mishaps occurred in land-based nuclear reactors and during the carriage of radio-active materials between them. The important purpose of this joint protocol is to allow victims in states being party to either of the conventions to find compensation for an incident happening in a state which is a party to the other convention. Also the Joint protocol precludes disputes regarding jurisdiction by assuring the application of only one convention to any one nuclear accident<sup>77</sup>.

In effect the Joint protocol means that, the operator of a nuclear reactor located inside the area of a State which is a party to the Vienna convention shall be liable in accordance with that Convention for nuclear damage suffered in the territory of a Party to both the Paris Convention and the Joint Protocol, and reciprocally for the Paris and Vienna Conventions<sup>78</sup>. Supposedly if a nuclear incident happened inside the reactor, the Convention appropriate to it is the one to which the State is a Party within whose territory that reactor is placed. Or else, in the case of a nuclear accident involving the carriage of radio-active substances, the

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<sup>76</sup> See, The Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention Available the pdf file in <https://www.iaea.org/topics/nuclear-liability-conventions/joint-protocol-relating-to-application-of-vienna-convention-and-paris-convention>.

<sup>77</sup> See *supra* note 61, at 330.

<sup>78</sup> See *supra* note 33, at 841-42. The parties of Paris Convention are Belgium, Denmark, Germany, Finland, France, Greece, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Turkey and U.K. Taking both the Conventions, only 19 countries have become parties to the Joint Protocol by the end of 1997. Mainly Finland, Germany, Lithuania, the Netherlands, Sweden and Ukraine are party to it. But the United Kingdom and France are not.

Convention applied to it is that to which the State is a Party within whose territory the nuclear reactor is situated and whose operator is answerable. Thus it says that the Brussels Supplementary Convention is not applicable where the Joint Protocol is applicable. And the Joint Protocol will work to make the Vienna Convention applicable if the liable operator is a Vienna Convention operator and otherwise also<sup>79</sup>.

## **5.6. THE CONVENTION ON SUPPLEMENTARY COMPENSATION FOR NUCLEAR DAMAGE**

The Convention on Supplementary Compensation for Nuclear damage<sup>80</sup> known as CSC was adopted by the members of IAEA, on September 12, 1997 at Vienna<sup>81</sup>, Austria in a diplomatic meeting to discourse and assess all the prevailing liability regimes. This Compensation Convention was to incorporate all the countries having a national legislation which uphold all recognised principles of existing liability conventions<sup>82</sup>. Also they must approve to provide a sum in order to form an international security

<sup>79</sup> See *supra* note 33, at 844.

<sup>80</sup> Date of adoption: 12 September 1997; Place of adoption: Vienna, Austria; Date of entry into force: 15 April 2015; Depositary: Director General of the International Atomic Energy Agency (IAEA) from <https://www.iaea.org/topics/nuclear-liability-conventions/convention-supplementary-compensation-nuclear-damage>

<sup>81</sup> The CSC was open for signatures on Sept. 29, 1997. It came into force on April 15, 2015 after 90 days of its ratification by Japan on Jan. 15, 2015. India signed the CSC on Oct. 27, 2010 and ratified it on Feb. 4, 2016 and it comes into operation for India after 90 days of its ratification. Presently there are 19 signatories and 8 state parties to CSC. A CSC ratification instrument can be accepted from a state which is a party to either the Paris Convention or Vienna Convention "or a State which declares that its national law complies with the provisions of the Annex to the Convention" and is also a contracting state to the 1994 Convention on Nuclear Safety (CNS). India is not party to either Paris or Vienna Convention but is party to CNS.

<sup>82</sup> See generally, David B. Davies, *The Convention on Supplementary Compensation for Nuclear Damage and participation by developing countries: A South African perspective* © OECD 2014, NEA no. 7181 NUCLEAR ENERGY AGENCY, ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT.



fund to supplement the reparation amount for nuclear damage happened in a member country. This Convention focused more to harmonize all the national nuclear liability systems in order to promote easy and adequate compensation which is offered in the event of a nuclear incident to the victims<sup>83</sup>. The main objective of CSC is the induction of a least possible national level compensation which may extent further to an increased sum of adequate reparation for victims by making accessible public resources with the compulsory contribution of members. It will be available even if the national fund is inadequate to pay off the damage caused by a nuclear incident<sup>84</sup>.

In detail, some of the provisions of the CSC are to envision some local measures or contracts which are frequently come across in between the parties to the CSC. Consequently, while future regional frameworks could offer some other principles of liability regarding the trans-boundary incidents, and other critical aspects like siting also as regional mapping of risk zones and possible risk scenarios within an area. The CSC model in combination with an extra contribution from the industry would offer an enormous boost to those regional frameworks by providing accessible funds. The support from France and Japan for the CSC also brings it closer to coming into force. The CSC would therefore be a meaningful

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<sup>83</sup> *Id.*

<sup>84</sup> *Id.*

base on which a reformed nuclear liability regime could be built. Any discussions on reconsidering international nuclear liability law should also believe the unique challenges of countries that are new entrants in nuclear energy, especially people that plan to rely exclusively on foreign operators and suppliers. Since none of the international or domestic laws affect this scenario, it is vital that some thought is provided on this aspect also<sup>85</sup>.

CSC is open only to any of the following<sup>86</sup>;

- All the member countries of Vienna Convention for civil liability for nuclear damage
- All the member countries of Paris convention on third party liability in the field of nuclear energy or any of the amendments to it.

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<sup>85</sup> *Id.*

<sup>86</sup> *See*, Article XVIII, Ratification, Acceptance, Approval

1. 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.

2. The instruments of ratification, acceptance or approval shall be deposited with the Director General of the International Atomic Energy Agency who shall act as the Depositary of this Convention.

3. A Contracting Party shall provide the Depositary with a copy, in one of the official languages of the United Nations, of the provisions of its national law referred to in Article II.1 and amendments thereto, including any specification made pursuant to Article III. I (a), Article XI.2, and a transitional amount pursuant to Article II.1(a)(ii). Copies of such provisions shall be circulated by the Depositary to all other Contracting Parties.

<sup>86</sup> *See generally*, V. Lamm, *The Protocol Amending the 1963 Vienna Convention* 169 in INTERNATIONAL NUCLEAR LAW IN THE POST-CHERNOBYL PERIOD A Joint Report by the OECD Nuclear Energy Agency and the International Atomic Energy Agency , ISBN 92-64-02293-7

- Any other State, if their national legislation is in conformity with the prevailing rules of nuclear civil liability prescribed in the Annex to CSC.

The role of the International Atomic Energy Agency (IAEA) and the Organization for Economic Cooperation and Development (OECD) in developing the cardinal nuclear liability principles in 1960 Paris Convention and 1963 Vienna Convention was recognised and appreciated by international community only after the Chernobyl disaster<sup>87</sup>. These organizations contribute to improve the efficiency and extent of these principles and also to strengthen the foundation of an established ‘global nuclear liability regime’ to complement and augment these principles with a view also to improve the amount of payment of damages obtainable to the victims. After the Fukushima incident in 2011, the requirement of having a much operative nuclear liability regime at the nationwide and global planes to confirm the accessibility of rapid and appropriate reparation for nuclear damage to the sufferers of any related accident was evident to all<sup>88</sup>. By preparing the CSC, the global nuclear law fraternity has been involved in an ample evaluation of the prevailing

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<sup>87</sup>*Id.* at175

<sup>88</sup> *See generally*, M. P. RAM MOHAN, NUCLEAR ENERGY AND LIABILITY IN SOUTH ASIA, INSTITUTIONS, LEGAL FRAMEWORKS AND RISK ASSESSMENT WITHIN SAARC © 2019 Springer Nature Switzerland AG. Part of Springer Nature. 137.97.96.1.

nuclear liability regime. This commitment delivered three significant ideas for prospect growth of civil liability law in nuclear sector<sup>89</sup>;

- Primarily, it identifies the present liability principles in nuclear sector as operational means of giving rapid remedy for victims of nuclear disaster as compared to general law of torts. The legal channelling of liability to the operator on the basis of principle of strict liability is effective in reducing court cases and it simplifies the concentration of resources to provide compensation to the victims.
- Secondly, there is a prerequisite to enlarge the description and definition of nuclear damage and also to update the rules related to jurisdiction.
- Thirdly, it is essential to improve the bounds of compensation for nuclear accident.

CSC makes out the fact that, the prerequisite of having a national legislation might be a hindrance, to some countries. There are states having no nuclear industry and thus has no need for any nuclear liability regime except as a possibility in the happening of a trans-national accident, transportation accident in its territory, territorial sea or EEZ<sup>90</sup>. So this Convention furthermore offers that it is not mandatory for all

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<sup>89</sup> *Id.*

<sup>90</sup> *See generally*, NATHAN SWARTZ, “THE IMPACT OF THE CONVENTION ON SUPPLEMENTARY COMPENSATION FOR NUCLEAR DAMAGE” Published by Penn Law: Legal Scholarship Repository, 2017

contracting parties to enact the implementing legislation if the extent of its national legal framework makes treaty provisions directly applicable without the need for legislation<sup>91</sup>. Also, the Convention put forward the jurisdictional provisions under Article XIII<sup>92</sup> for the state parties. According to these provisions the exclusive jurisdiction over a nuclear incident is to the CSC state party in whose territory, territorial sea or exclusive economic zone (EEZ) the incident takes place. Article XIII augments the provisions of jurisdiction in both the Paris Convention and

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<sup>91</sup> *Id.*

<sup>92</sup> *See*, Article XIII, Jurisdiction Of CSC

1. 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.

2. Where a nuclear incident occurs within the area of 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 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. However, if the exercise of such jurisdiction is inconsistent with the obligations of that Party under Article XI of the Vienna Convention or Article 13 of the Paris Convention in relation to a State not Party to this Convention

jurisdiction shall be determined according to those provisions.

3. Where a nuclear incident does not occur within the territory of any Contracting Party or within an area notified pursuant to paragraph 2, or where the place of a nuclear incident cannot be determined with certainty, jurisdiction over actions concerning nuclear damage from the nuclear incident shall lie only with the courts of the Installation State.

4. Where jurisdiction over actions concerning nuclear damage would lie with the courts of more than one Contracting Party, these Contracting Parties shall determine by agreement which Contracting Party's courts shall have jurisdiction.

5. A judgment that is no longer subject to ordinary forms of review entered by a court of a Contracting Party having jurisdiction shall be recognized except:

(a) where the judgment was obtained by fraud;

(b) where the party against whom the judgment was pronounced was not given a fair opportunity to present his case; or

(c) where the judgment is contrary to the public policy of the Contracting Party within the territory of which recognition is sought, or is not in accord with fundamental standards of justice.

6. A judgment which is recognized under paragraph 5 shall, upon being presented for enforcement in accordance with the formalities required by the law of the Contracting Party where enforcement is sought, be enforceable as if it were a judgment of a court of that Contracting Party. The merits of a claim on which the judgment has been given shall not be subject to further proceedings.

7. Settlements effected in respect of the payment of compensation out of the public funds referred to in Article III (1)(b) in accordance with the conditions established by national legislation shall be recognized by the other Contracting Parties.

the Vienna Convention on nuclear liability by distinguishing recent developments in the Law of the Sea and the concerns of coastal states over maritime shipments of nuclear material. This improved jurisdictional provision has broad sustenance in the international community, mostly among countries having anxieties about underlying maritime accidents involving nuclear material and has been incorporated into both the 1997 Vienna Convention and 2004 Paris Convention. The Article XIII also sets forth the rules on implementation of verdicts. Predominantly it offers that a judgment by a court of the CSC state with exclusive jurisdiction over a nuclear incident is enforceable in the courts of another CSC state as if the judgment were a judgment by a court of that country<sup>93</sup>.

Actually there is no provision in CSC regarding the insurance or other financial security schemes in the main body of the Convention. A contracting party to the CSC must follow the applicable provision in the Paris Convention, Vienna Convention or the Annex, all of which provide substantial discretion in setting the amount, type and terms of insurance and other financial security<sup>94</sup>.

The basic legal principles include<sup>95</sup>:

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<sup>93</sup> *Id.*

<sup>94</sup> See generally, Ben McRae, *Entry into force of the Convention on Supplementary Compensation for Nuclear Damage: Opening the umbrella* NUCLEAR LAW BULLETIN No. 95, VOL. 2015/1, NEA No. 7252, © OECD 2015 Last visited on August 20, 2019 in <https://www.oecd-nea.org/law/nlb/nlb95.pdf>.

<sup>95</sup> *Id.*

- Channelling of the legal liability for damage in nuclear accident absolutely to the operator;
- Reparation to the victims without any discrimination based on residence, nationality or domicile;
- Fixing liability of the operator without the requirement to prove fault, negligence or intent

Thus all these principles represent a legal approach to settle the victims, rapidly with minimum legal procedures. Absorption of all these legal ideologies into national laws abolishes the obligation to prove who is responsible for nuclear incident, whether there is negligence, intent or fault, or whether there are any legal defences that might be raised. The only issues to be resolved are whether the nuclear incident caused the damage and, if so, what is the amount of damage.

The CSC offers two steps of compensation for nuclear damage:

- First step comes from the requirement under Article III (1) (a) (i)<sup>96</sup> that “the installation state shall ensure the availability of SDR 300 million or a greater amount that may have been specified to the Depository”. To the extent if resources from the liable operator are

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<sup>96</sup> See , CSC, Article III(1)

Compensation in respect of nuclear damage per nuclear incident shall be ensured by the following means:

(a) (i) the Installation State shall ensure the availability of 300 million SDRs or a greater amount that it may have specified to the Depository at any time prior to the nuclear incident, or a transitional amount pursuant to subparagraph (ii)

inadequate to cover the amount of this step one; the CSC entails the installation state to create public funds available to cover the difference. In the event if unlimited liability is imposed on the operator, the obligation of the installation state to make public funds available is limited to the first tier amount.

- The second step comes from the requirement in Article III (1)(b)<sup>97</sup> that contracting parties “shall make available public funds” to an international resource to supplement the first layer amount. The second layer fund depends upon the number of nuclear power plants in contracting states and will upsurge as the number of such plants increase. The CSC also licences a contracting state to establish a third layer of payment in excess of first two layers, even if, it is not describing the dispersal of this mechanism.<sup>98</sup>

The CSC describes that, whereas the global community can set a floor on the amount of first layer compensation that is acceptable to initiate helps to the CSC international fund, the ultimate choice on what the first layer amount should be or a particular state or region is a purely political

<sup>97</sup> See, Article III. Compensation in respect of nuclear damage per nuclear incident shall be ensured by the following means:

1(b) beyond the amount made available under sub-paragraph (a), the Contracting Parties shall make available public funds according to the formula specified in Article IV.

<sup>98</sup> See, Pomper, Miles A. Report. James Martin Center for Nonproliferation Studies (CNS), 2014. Last visited March 19, 2021 in <http://www.jstor.org/stable/resrep09883>.

See also, CSC ,Article III (1)(b) beyond the amount made available under sub-paragraph (a), the Contracting Parties shall make available public funds according to the formula specified in Article IV.



decision<sup>99</sup>. The option to set a first layer amount greater than SDR 300 million, allows the growth of a political consensus on how much damage can and should be addressed through the civil liability legal structure. Recognition of the basic principles of nuclear liability law, particularly by the nations that have no nuclear power plants, is mainly depended upon their connection to an operational mechanism that ensures sufficient compensation in case of a nuclear incident<sup>100</sup>.

The intercontinental resources available under CSC identifies the significance of recompensing Trans-boundary harm in an impartial method by preserving half of the amount for trans-boundary incident, if the installation state has established a first layer amount of not less than SDR 600 million. This facility identifies the significance provided in CSC for recompensing trans-boundary impairment and will boost states without nuclear power plants to join the CSC. The provision will also provide an encouragement to states with nuclear power plants to create a first layer fund of at least SDR 600 million. This provision also relates the “polluter pays principle” of environmental law<sup>101</sup>, to make the nuclear

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<sup>99</sup> See, Ben McRae, *Convention on Supplementary Compensation for Nuclear Damage (CSC) and harmonisation of nuclear liability law within the European Union* 78 NUCLEAR LAW BULLETIN No. 87, VOL. 2011/1, ISSN 0304-341X, © OECD 2011.

<sup>100</sup> *Id.*

<sup>101</sup> The Polluter Pays Principle was first introduced in 1972 by the Organization for Economic Cooperation and Development (OECD) Guiding Principles concerning International Economic Aspects of Environmental policies where under the polluter was held responsible for the environmental damage and pollution. Subsequently, the Rio Declaration laid down the guidelines for sustainable development meaning thereby a strategy to cater the needs of the present generation without compromising the needs of the future generation. In furtherance of the aim of sustainable development Rio Declaration Principle

installation state further accountable for warranting compensation for trans-boundary incident<sup>102</sup>.

It is also contended that preserving half of the amount for trans-boundary damages is unfair to the installation state. However under the CSC, the installation state will always get more than it contributes. Actually the international community will provide the installation state with funds that can be used to compensate nuclear damage in the installation state in amounts that significantly outstrips the contributions from the installation state. Each state party to the CSC must donate to this international fund, even if it has no nuclear installation and thus could never be the installation state. This arrangement is applicable only if the installation state delivered a first layer amount less than SDR 600 million. So, this would not put on only if the installation states have had a first layer amount comparable to the amount suggested by the 2004 Paris Convention.

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16 of the Rio Declaration enshrined the Polluter Pays principle stating that the polluter should bear the cost of pollution. The Indian Judiciary has incorporated the Polluter Pays Principle as being a part of the Environmental Law regime is evident from the judgments passed, Indian Council for Enviro-Legal Action v. Union of India 1996(3) SCC 212.

*See also,*

- i. Vellore Citizens' Welfare Forum v. Union of India 1996(5) SCC 647
- ii. The Oleum Gas Leak case (M.C. Mehta v. Union of India) AIR 1987 SC 1086
- iii. M. C. Mehta v. Kamal Nath & Ors (1997)1SCC388

<sup>102</sup> *See supra* note.99 at 128.

There is no doubt that those principles lay down by the Paris and Vienna Conventions form the bedrock of international nuclear liability law. Contracting states have the option either to transform the principles of the conventions into domestic laws or to directly implement the convention as self-executing. Even then the international nuclear liability regime is extremely patchy, complicated and features sparse participation. While the recent amendments to the Vienna and Paris Conventions are much heralded, they are heavily hedged with exceptions and the amended Protocols enjoy even more sparse participation than the original Conventions. The Convention on Supplementary Compensation is the major convention in force now, and many major nuclear countries are party to it.

### **5.7. THE 2004 PROTOCOL**

In 2004 the Paris Convention was revised and amended to broaden the definition of nuclear damage. It also increases the limits of damage. This Protocol<sup>103</sup> would also escalate liability minimum to €700 million<sup>104</sup>, even though the nuclear states are free to cut short this to €70 million per each reactor with respect to the nature of the reactor as well as the likely

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<sup>103</sup> See, Protocol to Amend the 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, Feb.12, 2004,O.J.(L 97)55,Last visited in [http://europa.eu.int/eur-lex/pri/en/oj/dat/2004/l\\_097/l\\_09720040401en00550062](http://europa.eu.int/eur-lex/pri/en/oj/dat/2004/l_097/l_09720040401en00550062).

<sup>104</sup> *Id.* at art.7 amending Paris Convention art. 7. Costs and interest are exempted under Paris Convention;  
*See also supra* note 3, Art. 7(h)

consequences of a nuclear incident originating there from, or €80 million for the carriage of nuclear substances<sup>105</sup>. A party to the contract can make the transportation of radioactive materials through its territory with a condition that the maximum amount of liability of the foreign operator concerned be increased if it considers that such amount does not adequately cover the risks of a nuclear incident in the course of the transit, provided that the maximum amount thus increased shall not exceed the maximum amount of liability of operators of nuclear installations situated in its territory<sup>106</sup> except where, under international law, there is a right of entry in cases of urgent distress into the ports of such Contracting Party or a right of innocent passage through its territory<sup>107</sup>. This provision is limited to transit through territory and would not apply to passage through Exclusive Economic Zones (EEZ).<sup>108</sup>

## **5.8. STATUS QUO OF THE INTERNATIONAL NUCLEAR LIABILITY REGIME**

The international nuclear liability regime is exceptionally inconsistent, complex and has sparse participation. While the amendments to the Paris

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<sup>105</sup> *Id.* at Art.7(b)

<sup>106</sup> *Id.* at Art.7(e)

<sup>107</sup> *Id.* at art 7(f)(i). A similar exception applies to carriage by air where there is a right to overfly or land on the territory concerned at art. 7 (f) (ii)

<sup>108</sup> See generally, Ben McRae, *The Compensation Convention: Path to a Global Regime for Dealing with Legal Liability and Compensation for Nuclear Damage*, 61 NUCLEAR LAW BULLETIN 25, 33 (1998).

and Vienna Conventions are much signalled, they are deeply circumvented with omissions and the revised Protocols enjoy even more sparse participation than the original Conventions<sup>109</sup>. The Convention for Supplementary Convention is in force now, even though many major nuclear countries are not party to it. So discussion of Conventions must take into account their participation. The practicality of the regulations given in the existing nuclear liability regime comprising of both ‘Paris and Vienna conventions and CSC’ for speedy and satisfactory reimbursement of the victims of a nuclear accident is to be scrutinized to rectify and clear out a sensible doubt about its effectiveness. It is really true that, many of the significant nuclear energy–generating states persist outside the jurisdiction of these conventions and much of their domestic legislations differ from the provisions of conventions, thus inhibiting synchronization of these two. Again, several states possess limited liability requirements, and others have unlimited liability requirements in their regimes, which also complicates the goal of achieving harmonization<sup>110</sup>.

The revised Vienna Convention ensures that the State may bring an action against the operator of NPP on behalf of victims. Standing for groups to claim for economic loss for environmental impairment would

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<sup>109</sup> See generally Duncan E. J. Currie, *The Problems and Gaps in the Nuclear Liability Conventions and an Analysis of How an Actual Claim Would be Brought under the Current Existing Treaty Regime in the Event of a Nuclear Accident*, 35 Denv. J. Int'l L. & Pol'y 85 (2006).

<sup>110</sup> *Id.*

depend on whether they are entitled to claim, leaving the matter to the *lex-foi*. Preventive measures were introduced by the 1997 Vienna Protocol. But these measures could only be taken only when there is a ‘grave and imminent threat’ in case of nuclear damage has occurred. Only if the injury is substantial and replacement procedures are done in reality, the charges of reestablishment of the damaged environment are protected under this regime. Thus reimbursement may not be imminent if restoration is difficult and impossible. Where reinstatement or remediation is not possible the limitation of compensation to measures actually taken overlooks all the values of the damage as such, taking into account any impact on biodiversity and the non-economic value of the environment including value to future generations. Thus reimbursement of ecological damage is possible only if a loss of income would happened due to the diminished income deriving from it, out of any use or enjoyment of this environment. As in the 2004 Paris Protocol, the revised convention also extends ‘the ten year time limit for claims’ to a ‘thirty years for loss of life and personal injury’. On the other hand the 2004 Paris Protocol has a more restricted geographical application, and does not cover damage caused on the high seas or other areas beyond national jurisdiction. It also does not include the Vienna Protocol residual definition of economic loss<sup>111</sup>.

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<sup>111</sup> *Id.*

Existing nuclear liability principles are revisited in the backdrop of the Fukushima accident. The entry of new players in the international nuclear energy space, such as India, the UAE, and Vietnam is of much importance as it raises more issues and challenges. A robust nuclear liability regime is essential for the growth of nuclear power as well as to enhance its public acceptance. This requires a great deal of cooperation among countries, regulators, international institutions, and the nuclear industry. Many questions are being raised against the extant nuclear liability regime, both on the issue of adequacy of compensation and on the issue of supplier liability<sup>112</sup>.

## 5.9. CONCLUSION

It is of no doubt that, all those principles laid down by the Paris and Vienna Conventions form the foundation of the international nuclear liability law. Contracting nations have the option either to renovate these principles of the conventions into domestic laws or to directly implement the convention as self-executing. Also these principles have been duplicated in the domestic laws of states with civilian nuclear energy programs that are not party to any of the conventions. All these conventions are based on the civil law concept. Those principles behind

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<sup>112</sup> See generally, Rizwana Abbasi, *Nuclear Energy Security: Emerging Trends and Pakistan, Policy Perspectives* 13, no. 2 (2016): 167-92. Last visited on July 21, 2021 in doi:10.13169/polipers.13.2.0167

the new rules and the background and significance of this new body of law evolved from these conventions can be summarised like this:

1. The no-fault liability principle (strict liability as well as absolute liability);
2. Liability is channelled exclusively to the operator of the nuclear installation (legal channelling);
3. Only courts of the state in which the nuclear accident occurs would have jurisdiction (exclusive jurisdiction);
4. Limitation of the amount of liability and the time frame for claiming damages (limited liability); and
5. The operator is required to have adequate insurance or financial guarantees to the extent of its liability amount (liability must be financially secured or compulsory cover for liability).
6. Non-discrimination of victims on the ground of nationality, domicile or residence.

Liability is 'strict' and 'exclusive' regarding nuclear incidents. It means the liability is routed absolutely to the operator of the nuclear reactor. A supplier or contractor may not be held liable, even if he has been negligent or is at fault, except if he has accepted liability by contract. But the operator has a right of recourse and possesses a right of remedy against an individual who has acted with intention to cause damage. Even



then, the operator remains completely liable as the victims are concerned. Thus nuclear Liability is based on the principle of 'no fault'. So negligence on the part of the operator need not be evidenced by the plaintiff. Thus the plaintiff wants simply to prove that he has grieved some injury or damage and that it was caused by this particular nuclear accident. The operator of a nuclear reactor is a person acknowledged or nominated as the operator by the competent public authority. The member state is mandatory to entitle an operator for each nuclear reactor on its territory. The operator is exempted from liability for a damage triggered by a nuclear incident straight away due to an action of armed conflict, hostilities, civil war, insurrection or, exceptions in so far as the legislation of the installation state may provide to the contrary, a grave natural disaster of an exceptional character. Presently the existing global liability regime is facing many questions regarding its efficiency and extant. It has problems based both on the issue of adequacy of compensation and on the issue of supplier liability.

**CHAPTER 6****DOMESTIC NUCLEAR LIABILITY REGIME IN SELECTED  
COUNTRIES: A COMPARATIVE ANALYSIS**

**“Show me a fantasy novel about Chernobyl--there isn't one! Because reality is more fantastic”**

**Svetlana Alexievich<sup>1</sup>**

‘The Civil Liability for Nuclear Damage Act, 2010’ of India carries the state’s nuclear liability provisions approximately into track with global nuclear civil liability conventions and principles. Actually the terms of the 123 agreement also mandated for civil liability law with regard to nuclear incidents in India<sup>2</sup>. As a result, about 2 years later the Act was passed by the Parliament. The Indian legislation on nuclear civil liability faced much criticism, particularly from foreign suppliers, due to moving away from legal channeling of liability and, instead, subjecting suppliers to third party liability claims by way of right of recourse<sup>3</sup>. It is considered as a logical step for the out dated nuclear liability regime. Channeling

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<sup>1</sup>See, SVETLANA ALEXIEVICH, VOICES FROM CHERNOBYL: THE ORAL HISTORY OF A NUCLEAR DISASTER, On April 26, 1986, the worst nuclear reactor accident in history occurred in Chernobyl and contaminated as much as three quarters of Europe. Voices from Chernobyl is the first book to present personal accounts of the tragedy. Journalist Svetlana Alexievich interviewed hundreds of people affected by the meltdown---from innocent citizens to fire-fighters to those called in to clean up the disaster---and their stories reveal the fear, anger, and uncertainty with which they still live. Comprised of interviews in monologue form, Voices from Chernobyl is a crucially important work, unforgettable in its emotional power and honesty.

<sup>2</sup> See “Important Agreements”, Department of Atomic Energy, Government of India, Last visited on June 6, 2019.

<sup>3</sup>See, ‘The Civil Liability for Nuclear Damage Act, 2010 (Act 38 of 2010)’, §17(b) and Statement of Objects and Reasons 6 and 7.

liability exclusively to the nuclear operator is a means of protecting powerful suppliers from liability claims. This is at the expense of the victims of nuclear damage, the general public, and the environment at large, because suppliers have no real incentive to ensure the safety of their goods and services<sup>4</sup>. In this chapter, the provisions of domestic law of different countries regarding civil nuclear liability are examined in a comparative manner. United States of America, Canada, Belgium and Japan are not simply random examples, but logical selection from the array. United States' nuclear liability framework is selected as an example for an already existing liability law which comes under the regime of CSC. And all the other countries also come under the guarding umbrella of CSC by enacting their domestic nuclear liability laws so as to be in well-match with the global regime of CSC.

### **6.1. UNITED STATE'S NUCLEAR LIABILITY FRAMEWORK**

The United States Congress, in 1954, passed the Atomic Energy Act<sup>5</sup> which provided for the development and regulation of civilian and

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<sup>4</sup> *Id.*

<sup>5</sup> *See*, Atomic Energy Act of 1954, Pub. L. No. 83-703, 68 Stat. 919 (1954) 42 U.S.C. §2011 et seq. (1946). The Atomic Energy Act (AEA) established the Atomic Energy Commission (AEC) to promote the "utilization of atomic energy for peaceful purposes to the maximum extent consistent with the common defence and security and with the health and safety of the public." Since the abolition of the AEC, much of the AEA has been carried out by the Nuclear Regulatory Commission and the U.S. Department of Energy. When EPA was formed, however, the AEC's authority to issue generally applicable environmental radiation standards was transferred to EPA. Other federal and state organizations must follow these standards when developing requirements for their areas of radiation protection.

military uses of nuclear materials in the United States<sup>6</sup>. The Act encouraged the private participation in the development of commercial nuclear power plants. The U.S. signed CSC on 29 September 1997 and ratified it on 21 May 2008. Except CSC, the U.S. is not party to any other convention on nuclear liability<sup>7</sup>. The private sector was concerned only about two important issues –

- a. lack of experience in the field of nuclear energy and
- b. issues of liability.

The lack of certainty resulted in resistance from insurance sector to provide commercial liability coverage for private sector involved in nuclear energy. The representative of the private sector stressed to U.S. Congress that they would be compelled to withdraw from the nuclear energy sector if their liability was not limited by legislation.

The U.S. Congress passed the Price-Anderson Act in 1957<sup>8</sup> as an amendment to the Atomic Energy Act, in response to the concerns raised

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<sup>6</sup> See, *Duke Power Co. v. Carolina Environmental Study Group, Inc.*, 438 U.S. 59, 64 (1978), Last visited on August 11, 2016 in <https://supreme.justia.com/cases/federal/us/438/59/case.html> ().

<sup>7</sup> See generally, SOKOLSKI, HENRY, *NUCLEAR POWER'S GLOBAL EXPANSION: WEIGHING ITS COSTS AND RISKS*. Strategic Studies Institute, US Army War College, 2010, <http://www.jstor.org/stable/res>.

<sup>8</sup> The Price-Anderson Act, passed in 1957, limits the liability of civilian producers of nuclear power in the case of a catastrophic nuclear accident. In the case of such an accident, damages would be recovered from two sources: private insurance covering each plant and a common fund created by contributions from each nuclear power plant. This common fund would cover the difference in damages between the private insurance and the liability limit. The act, named for its chief sponsors, Senator Clinton Anderson (NM) and Representative Melvin Price (IL), was passed to encourage private investment in nuclear power production. It was part of a general strategy to encourage and stimulate nuclear power production in the private sector. Without such liability limitations, the risk of nuclear

by private sector regarding nuclear energy. The Price-Anderson Act, 1957 established a nuclear liability indemnity system and encouraged development of commercial nuclear energy in the America. The Act provides liability cap in the event of a nuclear incident. The electricity generation through nuclear energy involves low frequency but high potential risks, especially during early stages of development. The Price-Anderson Act sought to provide sufficient liability and compensation framework to both protect the American population in the event of a nuclear incident as well as provide adequate protection to the nuclear energy sector for its development and growth. The Price-Anderson Act, 1957 requires Nuclear Regulatory Commission(NRC) licensees and Department of Energy contractors to enter into agreements of indemnification to cover personal injury and property damage to those suffered on account of nuclear or radiological incident<sup>9</sup>. It also includes the cost of nuclear incident response or precautionary evacuation and the cost of investigating and claims litigation and settling of suits for damages<sup>10</sup>. The Act covers nuclear incidents in the course of the operation of power reactors; test and research reactors; department of

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power for utilities and manufacturers would be too great. Private insurance companies were not willing to underwrite the risks due to the uncertainty involved and the potential magnitude of damages.

<sup>9</sup> See generally, "The Price-Anderson Act - Crossing the Bridge to the Next Century: A Report to Congress" Prepared by ICF Incorporated for the Nuclear Regulatory Commission. NUREG/CR-6617, August 1998.

<sup>10</sup> *Id.*

nuclear energy and radiological facilities; and transportation of nuclear fuel to and from a covered nuclear facility<sup>11</sup>.

The main purpose of the Price-Anderson Act is to ensure the availability of large pool of funds (about \$10 billion) to provide prompt and orderly compensation of members of the public who incur damages from a nuclear or radiological incident no matter who might be liable. The Price-Anderson Act, 1957 provides three-tiered structure to cover nuclear liability. The first tier requires each nuclear plant to secure \$375 million in financial protection<sup>12</sup>. In the event of a nuclear incident exceeds the first tier coverage, the industry-wide pool acts and each nuclear reactor is assessed a prorated share of the excess up to \$111.9 million<sup>13</sup>. The amount of \$111.9 million is adjusted every five years for inflation and represents the maximum retrospective assessment that each insured licensee be assigned per nuclear incident. There is Secondary Financial Protection (SFP) under the second tier, is currently consists of 104 nuclear power reactors and amount of nearly \$12.6 billion<sup>14</sup>. In case the second tier financial coverage is exhausted then the U.S. Congress is committed to assess whether additional relief is required to pay

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<sup>11</sup> See, National Association of Insurance Commissioners, Nuclear Liability Insurance, Last visited on April 24, 2017 in [http://www.naic.org/cipr\\_topics\\_nuclear\\_liability\\_insurance.htm](http://www.naic.org/cipr_topics_nuclear_liability_insurance.htm).

<sup>12</sup> See, United State Nuclear Regulatory Commission, Fact Sheet on Nuclear Insurance and Disaster Relief Funds and Nuclear Insurance: Price-Anderson Act Last visited on June 12 2016 in <http://www.nrc.gov/reading-rm/doccollections/fact-sheets/funds-fs.html>.

<sup>13</sup> *Id.*

<sup>14</sup> See, American Nuclear Insurers, Need for Nuclear Liability Insurance (July, 2011), Last Visited on July 12, 2016 in <http://www.amnucins.com/library/Nuclear%20Liability%20in%20the%20US>.

compensation to the victims of nuclear damage. If the U.S. Congress determines that additional relief is required then the federal government is the indemnifier. The claims resulting from nuclear incidents are covered under the Price- Anderson Act, 1957; for that reason, all U.S. property and liability insurance policies exclude nuclear incidents. This legislation cover claims arising from any incident in transporting nuclear fuel to the reactor site; in storing nuclear fuel or nuclear waste at site; during operation of reactor, including the discharge of radioactive effluents; and in transporting irradiated nuclear fuel and nuclear waste from the reactor<sup>15</sup>. It encourages the private insurance sector to create means by which operators of nuclear power plants could meet their financial protection liabilities. Pooling provides a way to secure large insurance capacity by way of spreading the risks over a number of insurance entities. The American Nuclear Insurers (ANI), which presently provides insurance coverage to nuclear industry is an association created by some of the largest insurance companies in United States. Its job is to pool the financial assets pledged by member companies to provide significant value of property and liability insurance needed for nuclear power plants and other related facilities. ANI retains about one third of the liability exposure under each policy and distribute the remaining two third among reinsurers around the world. The Act has enabled insurers to provide

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<sup>15</sup>See, U.S.NRC, *Nuclear Insurance and Disaster Relief*, Last visited on October 23, 2016 in <http://www.nrc.gov/reading-rm/docollections/fact-sheets/nuclear-insurance>.

adequate financial coverage for nuclear risks. Since 1957, nuclear insurance pools have paid about \$151 million and Department of Energy has paid about \$65 million against claims<sup>16</sup>. The Price-Anderson Act, 1957 has been amended in 1966, 1975 and 1988<sup>17</sup>. The Act was renewed with the passage of the Energy Policy Act of 2005<sup>18</sup>, which extended it till 31 December 2025. This U.S law does not allow the right of recourse to the operator. It explicitly denies the right of recourse of an operator of a covered installation, even if it is an allowed one under CSC. As far as international nuclear liability regime is concerned, the U.S. played a key role in developing the CSC.

The archaic principle behind the Price Anderson Act is in no way a burden in this technologically rejuvenated arena of nuclear industry. On the other hand, the US is pursuing a different agenda, by pushing CSC and existing liability principles as the global solution towards third party

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<sup>16</sup> See *supra* note 7

<sup>17</sup> It is an Act to amend the Price-Anderson provisions of the Atomic Energy Act of 1954 to extend and improve the procedures for liability and indemnification for nuclear incidents. Enactment of an extension of Price-Anderson is the latest step to assure a reliable, expanding supply of nuclear power for the Nation. The Nuclear Regulatory Commission is moving forward to improve the efficiency of its licensing process while still assuring that any safety questions are fully resolved before major new power plants are constructed. The Congress worked to enact legislation that will put in safe place, environmentally sound disposal facilities for the low-level and high-level wastes that are the product of nuclear power plants. Private industry is developing improved nuclear reactor technologies that promise to be simpler, safer, and more economical. These steps are supplemented with this extension of Price-Anderson protections to assure a sound basis for operating these new reactors. See also, The Price-Anderson Act, Position Statement. (November, 2005), <http://www2.ans.org/pi/ps/pdfs/ps54.pdf> (last visited on July 16, 2016)

<sup>18</sup> The Energy Policy Act of 2005 was passed by the 109th United States Congress in July 2005 and signed into law by President George W. Bush in August 2005. Upon its passage, according to the Congressional Research Service, the act marked the first comprehensive national energy legislation in more than 10 years. The act established renewable fuel standards, mandating a two-fold increase in the country's use of biofuels, nuclear liability and provided energy-related tax incentives totalling \$14.5 billion. <http://www.circleofblue.org/waternews/wp-content/uploads/2010/08/CRS-Summary-of-Energy-Policy-Act-of-2005.pdf>



nuclear liability. Although amending an international liability convention is not very easy, recent developments in all other Human rights instruments reflect a renewed commitment in the international community to improve the prospects towards greater adherence to the modernised democratic regimes. The path forward must be bold with a greater commitment by states. More countries must adhere to this democratic principle of simple and conditional application of tortious nuclear liability regimes and adopt consistent legislation. Although there are compelling arguments in favour of a global nuclear liability regime, today more than half of the reactors in operation or under construction worldwide are not currently subject to any of the international nuclear liability regimes in force. The Fukushima Daiichi accident revealed that good practices and improvements in the implementation of new nuclear liability principles should be considered in order to ensure adequate compensation for all the victims of an accident without any discrimination<sup>19</sup>.

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<sup>19</sup> IEA (2019), Nuclear Power in a Clean Energy System, IEA, Paris  
<https://www.iea.org/reports/nuclear-power-in-a-clean-energy-system>

## 6.2. THE NEW CANADIAN NUCLEAR LIABILITY LAW

The Canada's 'Nuclear Liability and Compensation Act 2014 (NLCA)<sup>20</sup> replaced the previous domestic legislation in order to better address the liability and compensation in the event of a nuclear accident in Canada<sup>21</sup>.

On 6 June 2017, Canada ratified the Convention on Supplementary Compensation for Nuclear Damage (CSC). Because Canada is not a member of the Paris Convention or the Vienna Convention, it was required to join as an Annex State. Ratification followed the 1 January 2017 entry into force of the Nuclear Liability and Compensation Act and the Nuclear Liability and Compensation Regulations<sup>22</sup>.

In addition to implementing Canadian membership in the CSC, the NLCA provides that the operator of a nuclear installation is absolutely and exclusively liable for damages arising from an accident at that operator's nuclear installation or from an accident during transportation of nuclear material from the operator's nuclear installation. The legislation also increases the liability limit for operators and broadens the definition of compensable damages to include environmental damages and preventative measures. Finally, the legislation extends the limitation period for making claims for bodily injury and loss of life to 30 years and

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<sup>20</sup> See generally, The Nuclear Law Bulletin Nos. 9213 and 9514. It provides a more detailed description of the NLCA.

<sup>21</sup> See generally, Stanley D. Berger, *Canada's new nuclear liability and compensation Act* A paper presented in the XXII Nuclear Inter Jura Congress November 7-11, 2016/New Delhi.

<sup>22</sup> *Id.*

adapts a dual system for the compensation of claims. To meet its obligations under the CSC, Canada provided the Depositary of the CSC with a copy of the NLCA, which complies with the provisions of the CSC and CSC Annex<sup>23</sup>. Membership in the CSC is important to Canada, as it will address liability and compensation within member countries arising from nuclear accidents occurring at nuclear installations and during the transportation of nuclear material. The CSC also provides legal certainty on jurisdiction in the case of a nuclear incident in Canada or another CSC member country, and limits the liability of Canadian nuclear suppliers and contractors who wish to conduct business in member countries. In addition, it will make available an additional assured amount of compensation to claimants in Canada through the CSC's pooled funding. Canada's contribution to the CSC public fund will be reimbursed by nuclear power plant operators, pursuant to the NLCA<sup>24</sup>. Canada's ratification of the CSC demonstrates the Government of Canada's commitment to the establishment of a global nuclear liability regime.

The governing objective of Canada's 'Nuclear Liability and Compensation Act 2014'<sup>25</sup> includes a balancing between the need for

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<sup>23</sup> See, NEA (2015), *An Act respecting Canada's offshore oil and gas operations, enacting the Nuclear Liability and Compensation Act, repealing the Nuclear Liability Act and making consequential amendments to other Acts (Short title: Energy Safety and Security Act)*, 69-70 Nuclear Law Bulletin, No. 95, OECD, Paris,.

<sup>24</sup> *Id.*

<sup>25</sup> An Act respecting civil liability and compensation for damage in case of a nuclear incident in Canada, repealing the Nuclear Liability Act and making consequential amendments to other Acts,

predictability in liability and risk amongst operators, suppliers and contractors, harmonization of legal outcomes in different jurisdictions and efficient compensation for victims of nuclear incidents etc.<sup>26</sup>

On February 26, 2015, the Act received its Royal Assent. The said Act contains the essential guidelines for defining nuclear installations, to set the different types of nuclear installations and the limit of liability related to each class and their divergent planes of danger. The indemnity agreement between the Canadian Government and the operators for risks which the insurers are not prepared to cover and the approval by the government of the operator's insurance policy are the two more exciting tasks that have been existing in this Act<sup>27</sup>. That means the liability limit for nuclear reactor operators will be phased in over 3 years starting with \$650 million in January 2017, \$750 million in January 2018, \$850 million in January 2019 and a \$1 billion in January 2020 and thereafter until amended<sup>28</sup>. This Act provides such an intermediate legal responsibility for payment of compensation from \$650 million to \$1 billion in between a three year period. Different liability limits have been

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Enacted by section 120 of chapter 4 of the Statutes of Canada, 2015, in force January 1, 2017, see SI/2016-23.

<sup>26</sup> See generally, Dave McCauley & Jacques Hénault, *Strengthening Canada's nuclear liability regime* Presentation by Natural Resources Canada at the 2014 21st INLA Congress entitled Strengthening Canada's nuclear liability regime.697-705 Last visited on 28-02-2020 in <http://www.nuclearsafety.gc.ca/eng/pdfs/acts-and-regulations/strengthening-nuclear-liability-regime-eng.pdf>

<sup>27</sup> *Id.* at 703

<sup>28</sup> *Id.* at 704

prescribed in it for different nuclear incidents which are considered to have lower risk profiles<sup>29</sup>.

Court costs or interest on compensation and the costs of administering these claims etc. are nowhere connected to liability at any levels of liability<sup>30</sup>. The liability limit for damage due to nuclear power plants must be revised by the Minister in charge at least once every 5 years having regard to the Consumer Price Index<sup>31</sup>. The liability limit for nuclear power plants also may be enlarged by federal Cabinet. Achieving a balance between the probability of liability and well-organized reimbursement for all the victims could be addressed just by upholding the globally recognised principle of legal channelling whereby the operator is totally and completely responsible for different heads of nuclear damage protected by the law and up to the approved limit of liability<sup>32</sup>. Apart from these liability limits and heads of damage, the Act also offers the following:

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<sup>29</sup> For example, a nuclear fuel waste management facility, where nuclear fuel has been removed from the reactor unit and has specified volumes of uranium isotopes, has an operator liability limit of only \$13 million, while a nuclear fuel waste processing facility has a liability limit of \$40 million

<sup>30</sup> See, clause 3 of §.60, of Canadian Nuclear Liability and Compensation Act 2015, regarding the Costs and interest:-

(3) The amount of the award must not include any costs awarded to the claimant in any proceeding that is before the Tribunal or any interest payable on that award.

<sup>31</sup> See, The Canadian Nuclear Liability and Compensation Act 2015, see §.26 (1) The Minister must review the limit of liability, referred to in sub§. 24(1) on a regular basis and at least once every five years, of the said Act

<sup>32</sup> See *supra* note.26 at 704

“An operator is not liable for damage that is caused by a nuclear incident except for any liability that is provided for under this Act.”<sup>33</sup>

The Convention on Supplementary Compensation for Nuclear Damage 1997, which Canada signed on December 3, 2013 and ratified in 2017 along with the new Canadian nuclear liability law, could address the issue of ever-increasing damages emerging from a nuclear incident as follows<sup>34</sup>:

- Claims are to be apportioned with by an expert tribunal rather than the courts of law as according to the federal cabinet. Having regard to the magnitude and expected cost of the recompenses it must be assumed through the public interest.
- Succeeding such an announcement the Minister in charge should have to table a report approximating the value of the expected compensation before both Houses of Parliament. If according to the Minister in charge public fund is necessary for the reimbursement conferred by a court or tribunal to surpass the operator's liability limits and he should instantaneously deliver notice to all other contracting

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<sup>33</sup> See, §.8 of Canada's Nuclear Liability and Compensation Act 2015.

<sup>34</sup> See, Jasmine Saric, *Canada's Ratification of the Convention on Supplementary Compensation for Nuclear Damage*, Counsel Canadian Nuclear Safety Commission Nuclear Law Committee Meeting Nuclear Energy Agency Paris, France – Last visited on June 21–22, 2017 in [nuclearsafety.gc.ca](http://nuclearsafety.gc.ca)

parties under the CSC to get contributions according to the provisions in the Convention.

- With the Minister of Finance's consent, an amount that is sufficient to meet the deficit is to be paid from the Consolidated Revenue Fund to cover the difference.

The salient features of the said Act are as listed below:-

### **6.2.1. Injuries eligible for compensation under the Act**

Under the Act, the injuries<sup>35</sup> eligible for compensation are listed as

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<sup>35</sup> See, §. 14 to 23 of Canada's Nuclear Liability and Compensation Act 2015.

14 Bodily injury or death and damage to property that are caused by a nuclear incident are compensable.

Marginal note: Psychological trauma

15 Psychological traumas that are suffered by a person is compensable if it results from bodily injury to that person that was caused by a nuclear incident.

Marginal note: Liability for economic loss

16 Economic loss that is incurred by a person as a result of their bodily injury or damage to their property and that is caused by a nuclear incident, or psychological trauma that results from that bodily injury, is compensable.

Marginal note: Costs and wages

- 17 (1) The costs that are incurred by a person who loses the use of property as a result of a nuclear incident and the resulting wage loss by that person's employees are compensable.

- Marginal note: Power failure

(2) If a nuclear incident occurs at a nuclear installation that generates electricity, the costs resulting from a failure of the installation to provide electricity are not compensable under subsection (1).

Marginal note: Environmental damage — Canada

18 Reasonable costs of remedial measures that are taken to repair, reduce or mitigate environmental damage that is caused by a nuclear incident are compensable if the measures are ordered by an authority acting under federal or provincial legislation relating to environmental protection.

Marginal note: Environmental damage — Contracting State other than Canada

- Bodily injury, loss of life and property damage
  - Psychological trauma resulting from bodily injury
  - Economic loss from the above
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19 Unless the damage is insignificant, reasonable costs of remedial measures that are taken to repair, reduce or mitigate environmental damage that is caused by a nuclear incident are compensable if the measures are ordered by an authority of a Contracting State other than Canada acting under the laws of that State relating to environmental protection.

Marginal note: Preventive measures — Canada

- 20 (1) If an authority — acting under a nuclear emergency scheme established under federal or provincial legislation — has recommended that measures be taken in a specified area to prevent damage, the following costs and losses of persons who live in, carry on business in, work in or are present in the area are compensable:
  - (a) the reasonable costs of the measures; and
  - (b) the costs and economic loss — including lost wages — arising from the loss of use of property.
- Marginal note: Non-application

(2) For greater certainty, any federal, provincial or municipal authority, or any of its agencies, that establishes or implements a nuclear emergency scheme is not to be compensated under subsection (1).

Marginal note: Preventive measures — Contracting State other than Canada

- 21 (1) If an authority — acting under an emergency scheme established under the laws of a Contracting State other than Canada — has recommended that, because of grave and imminent danger of damage, measures be taken in a specified area to prevent such damage, the following costs and losses of persons who live in, carry on business in, work in or are present in the area are compensable:
  - (a) the reasonable costs of the measures; and
  - (b) the costs and economic loss — including lost wages — arising from the loss of use of property.
- Marginal note: Non-application

(2) For greater certainty, any authority, or any of its agencies, that establishes or implements a nuclear emergency scheme is not to be compensated under subsection (1).

Marginal note: Damage attributable to concomitant nuclear incidents

22 Any damage resulting from a nuclear incident and any concomitant non-nuclear incident is deemed to be damage that is caused by the nuclear incident to the extent that it cannot be identified as having been caused only by the non-nuclear incident.

Marginal note: Damage to means of transport, structure or site

23 If a nuclear incident occurs during the transportation of nuclear material to or from a nuclear installation, or any storage incidental to the transportation, damage to the means of transport or the structure or site where the nuclear material is stored is not compensable under this Act.



- Costs from the loss of the use of property and wage loss to employees,
- Except costs from failure to provide electricity
- As per the order of an authority pursuant to environmental protection law the repair of environmental damage and the reasonable costs of remedial measures
- When preventative measures are taken under an emergency scheme, the reasonable costs arising from loss of use of property. It must be a nuclear emergency scheme in Canada, while in a Contracting State the scheme may be acclaimed for grave and imminent danger.
- Subject to the terms of a contract all types of nuclear accidents during transportation both within Canada and its economic zone and in a Contracting State. The operator from the place of the nuclear material is being shipped, is liable until control of the nuclear material is assumed by the receiving party whether within Canada, or to a Contracting State.
- Subject to contract terms the Canadian operator to whom the nuclear material is being shipped from outside Canada alone could be liable, from the time at which the operator takes control of the property.
- If the dangerous radiation is released from the Canadian operator's nuclear installation or any source under his control, those operators are

liable for damage caused within a Contracting State or within that State's economic zone.

### **6.2.2. Injuries not eligible for compensation under the Act**

The injuries which are not eligible for getting compensation under the NLCA are<sup>36</sup>

- The Act is fitting only for terrorist activities as defined in the Canadian Criminal Code. It is not pertinent to nuclear incidents arising from war, hostilities, civil war, or insurrection.
- The Act does not apply to damage to the nuclear installation or to any property at the installation used in connection with the nuclear installation.

### **6.2.3. Periods of limitation**

Limitation period<sup>37</sup> according to NLCA is

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<sup>36</sup>See, §.5(1) and (2) of the Canadian Nuclear Liability and Compensation Act 2015, Non-application — war, etc.

- 5 (1) This Act does not apply to a nuclear incident that results from an act of war, hostilities, civil war or insurrection, other than a terrorist activity as defined in subsection 83.01(1) of the Criminal Code.
- Marginal note: Non-application — damage to nuclear installation

(2) This Act does not apply to damage to the nuclear installation of an operator who is responsible for that damage or to any property at the installation that is used in connection with the installation, including property under construction.

<sup>37</sup>See, §.35(1),(2),(3) and (4) of the Canadian Nuclear Liability and Compensation Act 20110  
Limitation on bringing actions and claims

- 35 (1) An action or claim must be brought within three years
  - (a) in the case of an action or claim for loss of life, after the day on which the person bringing the action or making the claim had knowledge or ought

- After the three year discoverability limitation period, the separate limitation period for claiming the compensation related to bodily injury or death is thirty years. It starts from the day on which the nuclear incident to which the action or claim related is occurred.
- From the day on which the nuclear incident to which the action or claim related is occurred, the limitation period for bringing a claim is 10 years in all other cases like economic loss, property damage etc.

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reasonably to have had knowledge of both the loss of life and the identity of the operator who is responsible for the loss of life;

- (b) in the case where conclusive evidence of the loss of life is not available, after the day on which both an order presuming the person to be dead is made by a court having jurisdiction and the person bringing the action or making the claim had knowledge or ought reasonably to have had knowledge of the identity of the operator who is responsible for the presumed loss of life; and
- (c) in any other case, after the day on which the person bringing the action or making the claim had knowledge or ought reasonably to have had knowledge of both the damage and the identity of the operator who is responsible for the damage.
- Marginal note: Absolute limit
  - (2) No action or claim is to be brought
    - (a) in relation to bodily injury or death, 30 years after the day on which the nuclear incident to which the action or claim relates occurred; and
    - (b) in any other case, 10 years after the day on which the nuclear incident to which the action or claim relates occurred.
- Marginal note: Exception
  - (3) Despite subsection (2), if the damage is the result of a nuclear incident involving nuclear material that was, at the time of the nuclear incident, lost, stolen, jettisoned or abandoned, no action or claim is to be brought 20 years after the day on which the loss, theft, jettison or abandonment occurred.
- Marginal note: Extension of period
  - (4) The Governor in Council may, by regulation, extend the period set out in subsection (1).

#### 6.2.4. Provision for financial securities

To realise the responsibilities under the Act a financial security up to the maximum limits of liability must be there<sup>38</sup>, in the form of insurance taken from an appropriate insurer subject to the satisfaction of the respective Minister. A standard insurance policy according to the ministerial approval is to be set out with appropriate terms and conditions. On the other hand, other instruments of financial security also might be adapted in order to secure up to 50% of the operator's liability. Nuclear incidents happening inside Canada or its exclusive economic zone, including nuclear incidents resulting from terrorist activity and all other compensable damages are all covered by these approved insurance policies. In case of compensable damages there are some notable exceptions:

- Day to day emissions from an installation which causes an increase in a person's effective dose of radiation
- Damages or demise exposed and sketched as an effect of a nuclear incident after 10 to 30 years subsequent to it;

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<sup>38</sup> See, §. 77 (1) of the Canadian Nuclear Liability and Compensation Act 2015

‘An operator who contravenes subsection 27(1) or who does not hold financial security in the form and manner required by section 28 commits an offence and is liable on summary conviction to a fine of not more than \$300,000 for each day on which the offence is committed or continued’.

- A transportation nuclear accident that occurs outside Canada or its exclusive economic zone and if caused some Injuries or compensable damage.
- Government indemnity

By making a straight contract between the Government and the operator, Canada's new Nuclear Liability and Compensation Act changed the existing indemnity scheme which was there from 1976 onwards. A re-insurance agreement had created by the Canadian Government with an approved insurer whereby the Government enclosed all provisions that the insurers were not prepared to cover under the then applicable Nuclear Liability Act. Fees for the indemnity could be charged by the government according to this. The Government indemnifies operators whose liability is set by the Regulation at a level below the limit for power reactor operators, consistent with the Act and under the current arrangement. For the liability they retain under the Act for any damage above their lower prescribed limit, up to and including the liability cap for power reactor operators. The government indemnity does not cover nuclear incidents occurring outside Canada or its exclusive economic zone. It only covers the routine emissions from the reactor and injuries or demise in between 10 and 30 years following a nuclear incident. The parties' contractual

arrangements with Canadian government might thus decide about the transportation accident's liability in another contracting state.

#### **6.2.5. Provision for Recourse Right of operator**

Canadian law has limited the operator's right of recourse even if somebody deliberately instigated a nuclear incident by an act or omission, even though the Annex of CSC allows national law to deliver a right of recourse to an operator, through contract against responsible third parties such as suppliers and contractors<sup>39</sup>.

#### **6.2.6. Provisions regarding Jurisdiction**

A single competent court must hear any and all claims in a country where the nuclear incident occurred according to the Canadian Act. Government acknowledged the significance of providing a single authority to provide compensation. Such précised court could be achieved by the countries affected by a nuclear incident in the case of trans-boundary and transportation issues including more than one country only by international conventions. Then only the law courts of these countries shall bound to track the laws of the convention and accept the exclusive jurisdiction of the courts of the country from which the nuclear incident originated. Even Canada was geographically isolated from the Paris and Vienna Convention states, its proximity to the United States demanded

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<sup>39</sup> See *supra* note. 20

the same. In the interests of both nuclear operators and their contractors and suppliers certainty of law and jurisdiction is very important. Once the United States ratified the CSC, it was Canada's interest to subscribe to the IAEA's the same in 2008 itself. The inadequacy of the statutory liability limits imposed is evident by the experience of Fukushima incident and stands as a dispiriting reminder of it. Hence some nations such as Switzerland, Germany and Japan have adopted unlimited liability regimes in their domestic legislation to address this challenge. Since insurance and other financial guarantees available to operators are not unlimited, the financial security offered by these efforts is more ostensible than actual<sup>40</sup>.

### **6.3. THE NUCLEAR DAMAGE COMPENSATION ACT OF JAPAN AFTER RATIFYING CSC**

As an aftermath of Fukushima Daiichi incident in 2011, Japan decided to take steps for the conclusion and implementation of the CSC and it was happened in 2015 on 15th April<sup>41</sup>. It was actually an imperative step to build up and reinforce the global nuclear liability regime. The Convention on Supplementary Compensation for Nuclear Damage had entered into force subjected to the ratification of Japan to it. As soon as, Japan ratified

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<sup>40</sup> *Id.*

<sup>41</sup> See generally, Koichi Murukami, *Conclusion of the CSC and its domestic implementation in Japan*. 2-9 Paper presented and published in XXII Nuclear Inter Jura Congress, November 7-11 /New Delhi.

the CSC, the circumstances of the entry into force of the CSC were fulfilled<sup>42</sup>.

While Japan was doing its internal studies regarding the finest mode to deal their civil nuclear liability system, before the Fukushima incident occurred, the option of connecting to a comprehensive nuclear damage compensation regime was there under consideration. Then the investigation revealed the fact that, CSC could be an expected support of legal foundation to expand the Japan-U.S. common nuclear industry to an international standard. The three reasons for Japan for considering CSC to be a legal foundation are the following<sup>43</sup>.

- Firstly as compared with other international regimes, such as the Vienna Convention and the Paris Convention the matters to be followed in CSC are easy to conclude.
- Secondly, CSC organizes the structure to form a complementary and supplementary aid to avoid lack of financial security by availing adequate contributions from the Contracting Parties.
- Thirdly the Contracting Parties of the Vienna Convention, not parties to the international convention and newly introduced countries of nuclear power may join the CSC universally.

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<sup>42</sup> *Id.*

<sup>43</sup> See generally, Terabayashi, Y. (2015), *On conclusion of the Convention on Supplementary Compensation for Nuclear Damage*, 46-51 Legislation and Researches, Vol.361, Office of House of Councillors of the National Diet of Japan, Tokyo.



At that time Japan had a vibrant domestic reparation system comparable to all well-known advanced nuclear countries<sup>44</sup>. It was really essential to give exposure to the problems of CSC and to prepare for future full-scale investigations regarding it, as a realistic choice for Japan. Actually, the ratification of Japan was significant for the conclusion and the entry into force of the CSC. So it is meaningful in terms of the prospect of support to the creation of an international compensation system of nuclear damage. This will definitely help the enhancement of the compensation at the time of a nuclear incident in a manner of speedy and justifiable relief to victims. It also will improve the legal predictability of civil nuclear liability system<sup>45</sup>.

### **6.3.1. Japan's conclusion of the CSC- a Legal examination**

CSC was accepted by the National Diet on 19th November 2014. After that, the rapport between the domestic law<sup>46</sup> and the CSC were discussed. Then the associated law had been enacted and amended in order to ensure proper employment of the CSC. These are interesting in terms of watching the domestic implementation of the CSC in Japan, details of which are described below.

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<sup>44</sup> See, §. 3 to 5 of the Act on Compensation for Nuclear Damage (Act No. 147 of 1961) of Japan

<sup>45</sup> See *supra* note 43 at 49

<sup>46</sup> The Act on Compensation for Nuclear Damage (Act No. 147 of 1961) of Japan

### ***6.3.1.1. Domestic legal points of view***

With reference to the problems of civil nuclear liability in Japan, the CSC provides reliable and improved law than other international conventions. A case where damage is caused by a grave natural disaster of an exceptional character is an exception to the liability of the nuclear operator according to the domestic law in Japan. Even if the 2004 Paris Convention and the 1997 Vienna Convention do not tolerate immunity from reparation for nuclear damage, countries are able to join the CSC by way of having a suitable domestic law which allows exemption by a "grave natural disaster of an exceptional character"<sup>47</sup>.

Japan required certain scrutiny regarding its domestic law as it is a member of CSC. Similarly the CSC as a global regime to which Japan is connected, has like-mindedness with the Act on Compensation. Before the conclusion of the CSC the Government had pointed out the main legal issues with regard to it, and then introduce the enactment and amendment of the law for its domestic implementation. The main argument was about the dissimilarity in the description and meaning of 'nuclear damage' given in the CSC and in the compensation Act of Japan. Certain kinds of injuries that fall under the definition of nuclear damage were listed

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<sup>47</sup> See, Osaka, Eri, *Current Status and Challenges in the Fukushima Nuclear Disaster Compensation Scheme: An Example of Institutional Failure?*100, Last visited on January 19, 2019 at SSRN: <https://ssrn.com/abstract=3318877> or <http://dx.doi.org/10.2139/ssrn.3318877>.

specifically in Article I (f) of the CSC. But according to the Act of Japan on Compensation, nuclear damage is “any damage caused by the effects of the fission process of nuclear fuel, or of the radiation or of the toxic nature of such materials” only. So that the primary effects that give rise to noxiousness or its secondary effects on the human body by consumption or breathe in such materials are considered as nuclear damage. The Government judged that, even if the description and the definition of nuclear damage provided in the Act on Compensation was dissimilar from the one in the CSC, the meaning and range of nuclear damage in the Act on Compensation was dependable and reliable with the one in the CSC. According to state, the scope of ‘compensation for nuclear damage’ wouldn’t change even after Japan joins the CSC<sup>48</sup>.

Further according to the provisions of mandatory financial security in Annex to the CSC, the installation state may create a lesser amount of financial security of the operator not less than 5 million SDRs with respect to the type of the nuclear installation or the nuclear materials involved and to the likely consequences of an incident originating there from. Also it is provided that the Installation State is liable to ensure the disbursement of claims for recompense for nuclear damage which have been established against the operator. It could be arranged by giving

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<sup>48</sup> *Id.* at 101

needed funds up to the magnitude that the profit of insurance or other financial security is inadequate to satisfy such claims. It must be limited up to the maximum of the financial security as specified in Article 5.1(a). With respect to the provisions of CSC, if an accident occurs during nuclear reactor operations etc., a sum of 300 million SDRs is warranted to the installation state, which is supplementary to the financial security of JPY 24 billion and JPY 4 billion provided by the Act on Compensation. A big and considerable change will be there due to this. To achieve this, the Compensation Act recommends a nuclear operator aid as is required by the Government. Based on this, the Government determined that the points prerequisite by the CSC are properly fortified in Japan<sup>49</sup>.

Third point is concerning the channelling of jurisdiction. Actually in case if an action considered as tort is committed by somebody in a place inside Japan, according to its Code of Civil Procedure the suit may be filed against the wrongdoer within a court of Japan. However the CSC commends in its Article 13, that jurisdiction for suits about nuclear damage from nuclear incidents shall lie only with the courts of the Contracting Party within which the nuclear incident happens. So, if an accident caused by a nuclear incident in a Contracting Party other than Japan occurs in Japan, sufferers in Japan must sue in a court in the

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<sup>49</sup> See generally, Tokyo Electric Power Company (2016), *Outline of Change of Special Business Plan*, [http://www.tepco.co.jp/en/press/corp-com/release/be\\_tu16\\_e/images/160331e0201.pdf](http://www.tepco.co.jp/en/press/corp-com/release/be_tu16_e/images/160331e0201.pdf) (accessed 11th July 2016).

Contracting Party, not in Japan. In this respect, it is really tough for sufferers to substantiate their claims of negligence of the nuclear operator and even if the victims obtain a judgement of success in a domestic trial the Government mentioned that in case of pursuit of tort liability on the Civil Code because of not being able to apply the Act on Compensation to a foreign nuclear operator, it doesn't mean that they can enforce it. And the Government explained that it thought channelling of jurisdiction by the CSC was reasonable and positive because the Contracting Parties of the Convention have prepared the compensation system conforming to international standards, ensured financial support of damage, and ensured enforcement of a judgement the court ruled<sup>50</sup>.

Further according to Article 14(2) of the CSC recommends that the appropriate law shall be the law of the competent court. So, it can apply Japanese law too, if a nuclear damage caused by an accident in Japan happens within a Contracting Party other than Japan. But according to Article 17 of the Act on General Rules for Application of Laws in Japan, it recommends that "the formation and effect of a claim arising from a tort shall be governed by the law of the place where the result of the wrongful act occurred". And in Article 20, it provides that the creation and consequence of an entitlement ascending from a tort shall be administered by the law of the place with which the tort is clearly more

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<sup>50</sup> *Id.*

closely connected. The Government also elucidated that application of the provision in the Act on Compensation; say "the law of the place with which the tort is obviously more closely connected", fits within the spirit of the Convention<sup>51</sup>.

Japan has specified three more hesitations, apart from the above considerations, regarding the conclusion of the CSC, to qualify the execution of the CSC in agreement with its national legislation. They are<sup>52</sup>:-

- With respect to nuclear installations and small quantities of nuclear material, any exclusion by an Installation State satisfies the criteria by the Board of Governors of the IAEA.
- The operator is liable in accordance with the national laws and regulations of Japan in the case of where a nuclear incident involving nuclear material carried between a Japanese operator and an operator of another Contracting Party occurs within the territory of the area of the exclusive economic zone of Japan.
- The operator is liable for nuclear damage to any property on that same site which is used or to be used in connection with any such

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<sup>51</sup> See generally, Japan Energy Law Institute (JELI). (2014), *Future's subject of investigation on nuclear liability systems: focusing on the accident of the Fukushima Daiichi nuclear power plant of the Tokyo Electric Power Company*, 55 JELI-R-129, JELI, Tokyo.

<sup>52</sup> See, McRae, B., *Entry into force of the Convention on Supplementary Compensation for Nuclear Damage: Opening the umbrella*, 7-8 Nuclear Law Bulletin, No.95, NEA, (2015) Paris.

installation except the operator's damage in accordance with the national laws and regulations of Japan.

***6.3.1.2. Legislation and modification of national law for implementation of CSC***

CSC was legislated as the commandment to regulate the assistance of fund and additional indispensable matters in order to pay compensation for victims of nuclear damage in its member countries. The Act on Compensation was enacted and amended in order to create the prerequisites for entering into the CSC umbrella. In case if the total amount of entitlements of nuclear damage of a nuclear operator exceeds 300 million SDRs the Act on Compensation recommends the Government assistances to cover the liability by providing a part of the fund for compensation of nuclear damage. Government is able to collect exceptional contributions from a nuclear operator who receives claims of nuclear damage for more than 300 million SDRs for covering the price of donations to which the sum is planned by the provisions of the CSC article IV.1 (b) and also to bring together general contributions from nuclear operators who operate a reactor each year for covering the price

of donations to which the sum is planned by the provisions of article IV.1(c)<sup>53</sup>.

Moreover, for adapting the reparation structure of Japan to that of CSC, the Act on Compensation<sup>54</sup> and the Act on Indemnity Agreements for Compensation of Nuclear Damage<sup>55</sup> were amended. Their precise subjects are as follows<sup>56</sup>:

- According to article 3.2 in the Act on Compensation, the ‘Special agreement of matters relating to liability for nuclear damage’ with respect to conveyance of fissionable materials in between nuclear operators shall be in writing.
- According to article 5 in the Act on Compensation, an operator shall have an entitlement to sue the supplier, if the nuclear damage happens by the act of "individuals". For this purpose the special agreement of right of recourse should be in inscription.
- According to article 9 of 2 in the Act on Compensation and article 16 in the Act on Indemnity Agreements, the agreement with the Government for this purpose in accordance with the conveyance of fissionable material, may not be annulled during transference.

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<sup>53</sup> See *supra* note 51, at 59.

<sup>54</sup> See, The Act on Compensation for Nuclear Damage (Act No. 147 of 1961) of Japan

<sup>55</sup> See, The Act on Indemnity Agreements for Compensation of Nuclear Damage (Act No. 148 of 1961)

as Amended by Act No. 19 of 17 April 2009

<sup>56</sup> See *supra* note 52, at 7.



### **6.3.2. Fukushima incident and the conclusion of CSC**

It is noteworthy to revise the chapter of Fukushima occurrence as one of the global instances of reparation for nuclear damage, even though the CSC is not at all functional in retrospective manner to it in Japan.

#### ***6.3.2.1. The civil nuclear liability system in Japan subsequent to the Fukushima episode***

With respect to the Comprehensive Special Business Plan of the Tokyo Electric Power Company (TEPCO), there is a rough idea of the Essential Sum of money for reimbursement is about ‘JPY 7,658.5 billion’. Thus it is required to recompense some enormous sum of damage that will surpass the existing financial security in aggregate<sup>57</sup>. Even though there is unlimited liability for a nuclear operator according to the Act, it also prescribes in Article 16, that an aid should be provided by the Government to help the nuclear operator to compensate the damage. This will be available only if the genuine extent he has to pay for the nuclear damage goes beyond the financial security amount and when the Government deems it necessary in order to attain the objectives of this Act.

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<sup>57</sup> See, The Sasakawa Peace Foundation, *The Fukushima Nuclear Accident and Crisis Management — Lessons for Japan-U.S. Alliance Cooperation* September, 2012. This report is the culmination of a research project titled *Assessment: Japan- US Response to the Fukushima Crisis*, which the Sasakawa Peace Foundation launched in July 2011.

After the Fukushima incident, on 10th May 2011, TEPCO requested aid from the Government citing problems of funding on the basis of Article 16 of the Act on Compensation. In response to this, the Government examined the framework of aid on the assumption that TEPCO has the liability uniquely, and as the framework for the embodiment of the Government's aid on the basis of Article 16 of the Act on Compensation, the "Nuclear Damage Compensation Facilitation Corporation Act" (after the revision, the "Nuclear Damage Compensation and Decommissioning Facilitation Corporation Act") (hereinafter the "Corporation Act") was enacted in August, in the same year. The recompense system based on the Corporation Act is concisely indicated as below<sup>58</sup>:

- If the Required Amount of Compensation is expected to exceed the amount of financial security, the nuclear operator may make an application for financial assistance to the Nuclear Damage Compensation and Decommissioning Facilitation Corporation (hereinafter the "Corporation"). If the Corporation has received the application, the Corporation decides whether to provide financial assistance as well as deciding on the substance and the amount of such financial assistance.

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<sup>58</sup> See, Ximena Vásquez-Maignan , *The Japanese nuclear liability regime in the context of the international Nuclear liability principles* OECD 2012, NEA No. 7089 NUCLEAR ENERGY AGENCY ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT <https://www.oecd-nea.org/law/fukushima/7089-fukushima-compensation-system-pp.pdf>

- The Corporation prepares a Special Business Plan for the nuclear operator's implementation of compensation as well as for the financial assistance, working jointly with the nuclear operator. The Special Business Plan receives the approval of the competent minister.
- The Corporation receives delivery of government bonds for the necessary funds to conduct granting funds in connection with the financial assistance based on the Approved Special Business Plan.
- The nuclear operator receiving the financial assistance pays the Special Contribution and nuclear operators engaged in reactor operation, etc. including the nuclear operator receiving the financial assistance pay the General Contribution to the Corporation.
- The Corporation receiving the payment of contribution pays the difference of the profit and loss calculation to the Treasury.

According to the 2015 Fiscal Year Report of TEPCO, TEPCO had paid a cumulative total of approximately JPY 6,043.8 billion as of the 31st March 2016. Whereas TEPCO receives JPY 7,469.5 billion after deducting the received amount of money, which is the amount of financial security, from JPY 7,658.5 billion, which is the prospect of the required amount of Compensation to the Corporation. But the Special Contribution and the General Contribution have been given to the Corporation every year. It is worth noting, in the Fiscal Year 2015 the

amount of the Special Contribution paid by TEPCO was JPY 70 billion, and the total amount of the General Contribution was JPY 163 billion. It can be said that the mechanism by the Corporation Act is a mechanism of mutual assistance including irrelevant nuclear operators to an incident and nuclear damage by the Fukushima incident have been compensated under the mechanism of mutual assistance. In addition to this, the Corporation is the largest shareholder of TEPCO holding about 54% of its shares. The Corporation is planning to pay a percentage of its profit from sale of shares as a benefit, in addition to the contribution of nuclear operators.

***6.3.2.2. Objective is to increase the quantity of compensation for nuclear damage***

All the nuclear states become familiar with the significance of sufficient compensation for nuclear damage and were wishing for instituting an international liability regime to supplement and enhance the same. It was all with an outlook to raise the volume of compensation for nuclear damage as according to the Preamble of the CSC. The Installation State shall confirm the readiness of 300 million SDRs as recompense under Article III (a) (i) of CSC with respect to any nuclear damage defined in it.

Japan's aggregate sum of financial security is more than 300 million SDRs and actually equal to an amount of JPY 120 billion.<sup>59</sup>

So it is plausible that even the CSC will increase the quantity of financial security from 300 million SDRs. But in the case of the contemporary insurance market, it is not practical to arrange such an enormous economic reserve as a remedy for an incident like the Fukushima one. Although the CSC resolves that the sum of financial security is set to a little more than EUR 700 million, it is essential to deliberate it judiciously, just because of this huge amount of financial security may cause a real hurdle to joining the CSC. While in view of increasing the sum of reparation for nuclear damage, it is important to study the Fukushima incident. Such an excessive concern may make one lose sight of an anticipated figure of a nuclear damage compensation system. Also, Japan has established a domestic compensation scheme founded on the Corporation Act later. Since the required amount of compensation for Fukushima victims exceeds the amount of financial security, it is significant to scrutinise the global compensation scheme for nuclear civil liability again and again<sup>60</sup>.

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<sup>59</sup> *Id.*

<sup>60</sup> See generally, X. Vázquez-Maignan, *Fukushima: liability and compensation* Facts and opinions, NEA News 2011 – No. 29.2, for the technical description of the event, see NEA News No. 29.1 Available also in [www.tepco.co.jp/en/press/corp-com/release/11083007-e.html](http://www.tepco.co.jp/en/press/corp-com/release/11083007-e.html).

### ***6.3.2.3. Reconsiderations about civil nuclear liability system in Japan and the CSC***

According to the ‘Corporation Act<sup>61</sup>’, the Government has an obligation to revise the provisions for the best way of dealing these liability matters under this system of compensation for nuclear damage. And also to review the establishment of organizations for the prompt and appropriate resolution of disputes involving compensation for nuclear damage, and shall take necessary measures based on the results of these reviews. It includes some necessary reassessment of the amended law and of the Act on Compensation in Article 6 of the Supplementary Provisions<sup>62</sup>.

In response to this, the Japan Atomic Energy Commission established an expert committee on the compensation system for nuclear damage, and the best way of the compensation system for nuclear damage has been examined from professional and comprehensive points of view since May, 2015. Concerning the discussion of the best nuclear damage compensation system in Japan, with respect to the CSC, strict liability, channelling of liability and limitation of a right of recourse are the

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<sup>61</sup> Taking into account the possible payment of a large amount of nuclear damage compensation related to the nuclear business, the government shall build, under the concept of mutual support among nuclear operators, a framework by which to establish a support organization (the Nuclear Damage Compensation Facilitation Corporation) that enables nuclear operators to deal with future compensation payment for nuclear damage and associated transactions.

<sup>62</sup> See, Committee on Lessons Learned from the Fukushima Nuclear Accident for Improving Safety and Security of U.S. Nuclear Plants; Nuclear and Radiation Studies Board; Division on Earth and Life Studies; National Research Council. Lessons Learned from the Fukushima Nuclear Accident for Improving Safety of U.S. Nuclear Plants. Washington (DC): National Academies Press (US); Summary. Last visited on Oct 29 2014 in: <https://www.ncbi.nlm.nih.gov/books/NBK253923/>

common principles of international conventions, including the CSC, and will be maintained in light of the CSC, which Japan joined. The core discussion in the expert committee seems to be whether liability of a nuclear operator should be limited or not and how to design a system that best fits a State responsibility in light of the scope of the nuclear operator's liability. And there is also an opinion that the compensation scheme based on the Corporation Act can be sustainable, but after the electricity market's liberalization, it will be difficult to continue to maintain the system of contribution based on the fully distributed cost method before the electricity market is liberalized<sup>63</sup>.

Japan originally had domestic law not inferior to the demands of the international nuclear damage compensation system. In addition to this, when Japan joined the CSC, it carried out the development of some of its legal system with an awareness of being consistent with domestic law and the CSC, and further enhanced consistency with the CSC. And Japan constructed the scheme of mutual assistance based on the Corporation Act for huge compensation for nuclear damage by the Fukushima incident and is going to pay the compensation. On the other hand, re-examination of the best way to handle the new nuclear damage

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<sup>63</sup> *Id.*

compensation system in light of the Fukushima incident is still being developed in the framework of the CSC<sup>64</sup>.

The Government of Japan, being the State that caused the Fukushima incident, taking it as the responsibility of the country to contribute to the construction of an international nuclear damage compensation system, joined the CSC. Currently, nuclear reactors which are under the CSC are more than those which are under the Vienna Convention or the Paris Convention. It can be said that the presence of the CSC as an international nuclear damage compensation system is very high. In future, it will be required to focus on the further universalization of the international nuclear damage compensation system<sup>65</sup>.

#### **6.4. THE BELGIAN NUCLEAR LIABILITY LAW**

Belgium is a federal state in Western Europe, composed of three regions (Flemish, Walloon and Brussels Capital Region) and three communities (Dutch, French and German speaking). The federal state is responsible for nuclear energy policy and radiological protection, but there are interfaces with the regional regulations (non-radiological aspects of safety and environmental protection) and the community

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<sup>64</sup> *Id.*

<sup>65</sup> *See*, Dr. Noboru Takamura, Dr. Makiko Orita, and Dr. Shunichi Yamashita, Prof. Tadanori Inomata, “Eight Years after Fukushima Nuclear Accident -Community Recovery and Reconstruction from Nuclear and Radiological Disasters –A Case of Kawauchi Village and Tomioka Town in Fukushima Office for Global relations\_Nagasaki University; and Atomic Bomb Disease Institute / “Nagasaki – University –Kawauchi Village Reconstruction Promotion Base” in [https://www.preventionweb.net/files/66471\\_f44finalinomatasevenyearsafterfukus.pdf](https://www.preventionweb.net/files/66471_f44finalinomatasevenyearsafterfukus.pdf)



regulations (education, preventive health care). Belgium is a member state of the European Union and the European Atomic Energy Community. Hence, all regulations that are based on the Treaty establishing the European Atomic Energy Community is applicable. Belgium is a contracting party to many international conventions governing different aspects of the nuclear and radioprotection policy<sup>66</sup>.

The main regulatory authority for the safety of nuclear facilities and activities in Belgium is the Federal Agency for Nuclear Control (FANC/AFCN), a public agency under the political responsibility of the Minister for Home Affairs. In 2007, a private foundation, named Bel V, was created as a subsidiary of the FANC to support it. The legislative and regulatory framework has evolved in line with the developments in nuclear science and technology. Until 2001, the main pillar of the Belgian nuclear legislation was the Law of 29 March 1958 regarding the Protection of the Population against the Hazards of Ionizing Radiation<sup>67</sup>. In implementation of this law, Royal Decree of 28 February 1963, laying down general regulations concerning the protection of the public and workers against the

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<sup>66</sup> See, KINGDOM OF BELGIUM, *Sixth meeting of the Contracting Parties to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management*, NATIONAL REPORT October 2017.in, <https://www.iaea.org/sites/default/files/joint-convention-rapport-be-2017-final-noannex.pdf>

<sup>67</sup> See, Marc Beyns, *The New Belgian Law on nuclear third party liability: anticipation of the entry into force of the revised Paris Convention and the need for a state guarantee of nuclear operator's liability* Paper presented in XXII Nuclear Inter Jura Congress, November 7-11, New Delhi.

hazards of ionizing radiation constituted the basic regulations for the safety of nuclear activities. In particular, it governed the licensing of nuclear facilities, the inspection and control regime, radiological protection, the safety of radioactive waste management, the medical applications of ionizing radiation, the import, transit and distribution of radioactive substances as well as their transport<sup>68</sup>.

On 15 April 1994, a new Law on the Protection of the Population and the Environment against the Hazards of Ionizing Radiation and on the Federal Agency for Nuclear Control was promulgated<sup>69</sup>. This law, which has been amended several times, repeals and replaces Law of 29 March 1958 and constitutes the legal basis for the FANC as regulatory body. On 1 September 2001, Royal Decree of 20 July 2001 laying down the general regulations on the protection of the public, the workers and the environment against the hazards of ionizing radiation came into effect. This royal decree replaces Decree of 28 February 1963. As of 1 September 2001, FANC became fully operational. This royal decree has been amended several times, in particular to transpose

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<sup>68</sup> *See generally*, A Report on Nuclear Legislation in OECD and NEA Countries, “Regulatory and Institutional Framework for Nuclear Activities in Belgium” Corrigenda to OECD publications Last visited on march 14 2020, in [www.oecd.org/publishing/corrigenda](http://www.oecd.org/publishing/corrigenda)

<sup>69</sup> Law of 15 April 1994 on the protection of the public and the environment against the dangers of ionizing radiation and on the Belgian Federal Agency for Nuclear Control (FANC/AFCN), repealing and replacing the Law of 29 March 1958. This law constitutes the legal basis for the FANC/AFCN as regulatory body, its role being defined in articles 15, 21 and 22, and sets out the basic elements for protecting the workers, the public and the environment against the adverse effects of ionizing radiation, as amended by the Law of 22 December 2008, allowing the FANC/AFCN to create Bel V in order to perform regulatory missions that can be legally delegated by the FANC/AFCN, without having to use a public tender procedure.

European directives (high activity sources, trans boundary movement of radioactive waste and spent nuclear fuel) and to take account of feedback experience<sup>70</sup>.

There are currently seven nuclear power reactors in Belgium, four located in Doel and three in Tihange, with a total installed capacity of 5936 MWe. All are pressurised water reactors (PWR). They are owned and operated by Electrabel and provided approximately 55% of the electricity in 2008<sup>71</sup>.

There are also three research reactors operating in Belgium. At the Nuclear Research Centre Studiecentrum voor Kernenergie (SCK•CEN) in Mol there is the zero - power reactor BR1, the material test reactor BR2 and VENUS. The former pressurised water research reactor BR3, at the site of SCK•CEN, is being decommissioned. The research reactor THETIS at the University of Ghent is no longer in operation. Decommissioning of the reactor has started<sup>72</sup>.

In the Law of 22 July 1985 on Third Party Liability in the Field of Nuclear Energy, as modified by Law of 11 July 2000, the Rules on nuclear third party liability are kept in check. This law implements the

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<sup>70</sup> *Id.*

<sup>71</sup> From the website of “ENGIE Electrabel: a local player in the energy transition”, Since 1905, our company has constantly been evolving so that it is always where it is needed: as an energy supplier close to its customers, as a responsible producer of electricity and as a committed societal player. Alongside our ENGIE Group, we have the ambition to be in Belgium the leader in the energy transition to a low-carbon economy, in <https://corporate.engie-electrabel.be/local-player/nuclear-3>

<sup>72</sup> *Id.*

1960 Paris Convention and the 1963 Brussels Supplementary Convention as well as its protocols. The 1985 law, as modified, lays down the principle of strict liability, limited liability in amount and time, channelled to the operator of a nuclear installation. In this respect, Article 7(1) of the law establishes the maximum amount of the operator's liability for nuclear damage at 12 billion Belgium Francs (BEF) . This sum is equivalent to approximately EUR 300 million. According to Article 7(2) of the Act, the royal decree can increase or reduce this amount in order to fulfil Belgium's international obligations as well as to take into account low risk installations or transport, however it may not set a level lower than that required by the Paris Convention . Pursuant to the terms of Articles 9 to 13 of the Act, the operator is obliged to take out insurance or another form of financial guarantee in order to cover Nuclear Legislation in OECD Countries his liability up to the amount set in the law. The law further establishes, as a corollary of this obligation, a procedure whereby the King recognises the operator. Currently, the 1985 Law on nuclear third party liability is modified and amended to make the Law of 29 June 2014 into force in Belgium on January 1st 2016. Article 33 of the new law of 2014 had specified about its enforcement after publication in the official journal on 18 June 2014. Surely this will counter the 1st law of January 2016. It was unexpected to the legislator that the new Etiquettes revising the Paris Convention and

the Brussels Supplementary Convention would remain to be ratified by 2016<sup>73</sup>.

The necessity of concurrent ratification by the Member States of the European Union and the inevitability to organize state intervention and estimate an adequate remuneration for the same are the main reasons leading to the adjournment of the ratification process by the Contracting Parties to the Paris and Brussels Conventions<sup>74</sup>. The scope of the third party liability of the nuclear operators is extended more by the new Belgian law taking effect on January 1st, 2016 extended. This was intended to find exposure for all the nuclear accidents as well-defined in the revised international conventions and to compensate them adequately. These modifications to the international conventions include some new heads of damage relating to environmental damage too in it. The Belgian Law also provided for a 30-year prescription period for the liability of the nuclear operator for loss of life or personal injury. The existing system of damages for the claims made between the tenth and the thirtieth year after the nuclear accident was being amended by the Belgian State. For the time being it is found already in line with the requirements of the revised

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<sup>73</sup> *Id.*

<sup>74</sup> “Implementation of changes to the Paris and Brussels Conventions on nuclear third party liability”, Working Paper on Paris Brussels Convention’s Changes, August 2010, available in, [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/42750/1372-changes-to-paris-and-brussel-convention.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/42750/1372-changes-to-paris-and-brussel-convention.pdf)

conventions in a previous law of 13 November 2011 and amount to 1, 2 billion euros<sup>75</sup>.

The Belgian nuclear operators have been met with some exceptional problems regarding coverage of their liability as a result of the modification of the Belgian nuclear third party liability law since the insurance sector or any other alternative in the financial markets would not provide coverage for all modifications foreseen in the newly applicable law as expected. But these are of concern beyond the Belgian context because the restraint of the worldwide insurance and financial markets to provide the total coverage as required by the revised Paris and Brussels Supplementary Conventions. It is an issue confronting all nuclear operators in Contracting Parties to these international conventions<sup>76</sup>.

#### **6.4.1. A regime to support continued liability with instant outcome**

This 2016 enactment of Belgian government increased the space for the civil nuclear liability of Belgian nuclear sector. According to this the liability is not only for the sole operator of nuclear power plants for the production of electricity. All developing activities relating to the nuclear fuel cycle like the treatment of irradiated fuel, the research reactor SCK,

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<sup>75</sup> *Id.*.

<sup>76</sup> *Id.*

the producer of radioisotopes for medical use, corporations active in the area of transport of nuclear materials etc. also creates liability for smaller operators engaged in it. A meeting of all these operators were held with an object to find insurance coverage or any other financial guarantee to cover their extended nuclear liability in January 2016. After entry into force of the new law of 2014, its Article 32 insists the operators to get a recognition certificate from the Minister of Energy as ‘nuclear operator’ within ninety days in order to ensure that they adapted the insurance or other financial guarantee to cover their liability to the requirements of the new law<sup>77</sup>.

An operator could appeal the Belgian State to extend a State guarantee, on condition of payment of remuneration for the coverage of these risks as per Article 8 of the law of 2014, provided he could establish that the market did not offer insurance or a financial guarantee for certain risks needing to be covered under the law<sup>78</sup>. Then Minister of Energy could extend the ninety day period for the duration necessary to examine the request for a State guarantee as under Article 32<sup>79</sup>. If the threat to lose ‘recognition as a nuclear operator’ for deficiency of coverage did not instantly happen, in case of nuclear accident, the nuclear operator who

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<sup>77</sup> See, OECD/NEA, Nuclear Energy Data 2013, Country Reports: Belgium (p. 37), <http://www.oecd-nea.org/ndd/pubs/2013/7162-bb-2013.pdf>

<sup>78</sup> *Id.*

<sup>79</sup> See generally, Philip Woolfson and Alexander Hamels, *Insurance and reinsurance in Belgium: overview* in International Comparative Legal Guide to: Insurance & Reinsurance 2019 Steptoe & Johnson LLP, April 8, 2019

did not dispose of full insurance coverage for all heads of nuclear damage or for the totality of the 30 year prescription period was already exposed for its full nuclear liability as newly defined and had its own balance sheet at risk for this exposure<sup>80</sup>.

#### **6.4.2. Instances of State intervention**

In general the nuclear operators of Belgium are expected to protect their civil liability for all the defined nuclear damage via the private insurance market. But it is true that some of the newly defined things in ‘nuclear damage’ as per the modified Paris Convention cannot be covered by insurance. Authorities of Belgium have suggested a ‘state guarantee scheme’ to cover those damages. Accordingly the nuclear operator has to remit an annual premium in order to benefit from this state guarantee. If this scheme is used following a nuclear accident, even if the operator would persistently liable for damages, Belgium state could recover the amount paid under the guarantee for the reimbursement<sup>81</sup>.

#### **6.4.3. Ambiguity on the modalities of the state guarantee**

Belgium's public guarantee for nuclear operators is supposed to find a financial remedy for uncovered nuclear incidents to get effective civil liability coverage for them too. Actually this guarantee does not involve

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<sup>80</sup> *Id.*

<sup>81</sup> *See*, OECD (2018), *Documents and Legal Texts*, 105-112 NUCLEAR LAW BULLETIN, vol. 2017/1, [https://doi.org/10.1787/nuclear\\_law-2017-5j8jpss81c9x](https://doi.org/10.1787/nuclear_law-2017-5j8jpss81c9x)



state aid and does not infringe the European ‘market free competition principle’. This parameter only wishes to improve the compensation of victims in the case of an accident and does not grant any economic advantage to the domestic nuclear operators. Currently, the Belgian legislation provides that the responsible nuclear operator will have to compensate the victims of a nuclear accident up to €1.2bn for up to 30 years after it occurred. The compensation covers personal injury and property damage as well as environmental damage and economic losses<sup>82</sup>.

In case if the operators of Belgium are able to establish that the market did not offer an insurance or financial guarantee for certain risks, they will get the opportunity to put on for the State guarantee explicitly according to article 8 of the new Belgian law of 2014. According to Article 10/1 § 1 al. 3 of the revised law of July 22nd, 1985 on third party liability in the field of nuclear energy, after deliberation in the Council of Ministers the King can establish a Royal Decree to determine particulars stipulating the appropriate scheme for such a State Guarantee<sup>83</sup>.

This legislation also establishes the following things<sup>84</sup>

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<sup>82</sup> See generally, Makiko Tazaki, *A Nuclear Third Party Liability Regime of a Multilateral Nuclear Approaches Framework in the Asian Region* 1-13 Nuclear Non-Proliferation Research Laboratory, Department of Nuclear Engineering and Management, School of Engineering, Last visited on 15 January 2014 / Published: 21 January 2014

<sup>83</sup> *Id.* at 10

<sup>84</sup> See, IAEA, Integrated Regulatory Review Service (IRRS) Mission to Belgium, 10-163. Belgium 2013, [https://www.iaea.org/sites/default/files/documents/review-missions/irrs\\_belgium\\_mission\\_2013\\_report.pdf](https://www.iaea.org/sites/default/files/documents/review-missions/irrs_belgium_mission_2013_report.pdf)

- The commission for insurance, FSMA and treasury administration are required to give their advice regarding the sum due by the operator to the Belgian State for availing the benefit of the provision for State guarantee, within a reasonable delay fixed by the Minister of Finance before the remuneration is fixed in the Royal Decree established upon deliberation in the Council of Ministers.
- This yearly remuneration should cover the risk carried by the Belgian state as well as the costs for expertise required for the calculation thereof.
- This remuneration should also cover the expenses for reviewing the conditions for invoking the guarantee and for the effective realization of the damage due to loss including the expenditures for disbursement of the damage while the said guarantee is used.
- In case if the state guarantee provision is once invoked the Belgian State is subrogated for the paid amounts as well as all the rights and claims of the victims' in respect of the operator.

Hence the operator is never discharged from its duty to indemnify the victims for their loss due to a nuclear incident even if state intervention is possible by law for it. It is only an added compromise to the victim. It is a complementary guarantee to compensate them even in an unfortunate case of bankruptcy of the operator just after the nuclear incident. Still, the

Belgian nuclear operators are waiting for a final decision by Royal Decree on the modalities of such a guarantee<sup>85</sup>.

After the signature of the revision Protocols to the Paris and Brussels Conventions by Belgium, the 2014 Belgian law on nuclear third party liability has been arrived into force. Actually it is believed that the Act took effect slightly prematurely. The revision Protocols to the Paris and Brussels Conventions are yet to be ratified by all other the EU Member States. Even the entry into force of the revision Protocols were pending at the time of enforcement of the Belgian Law. A system is not yet enacted to properly regulate the modalities of the state intervention. As long as it proves unmanageable to obtain full coverage from the commercial insurance markets or other financial markets, the state intervention remains necessary<sup>86</sup>.

All Member States of the European Union that have operating nuclear reactors on their territory are facing the same problems of universal lack of private insurance cover for the period between the tenth and the

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<sup>85</sup> *Id.* at 154

<sup>86</sup> Actually, a model law is under planning to provide some new meanings and descriptions of certain terms, just like the definition given to nuclear damage in the revised concepts enclosed in the revised Paris Convention. It will enter into force only in future. Actually the King is enabled to fix such date of entry into force at an earlier or later date by a Royal Decree deliberated in the Council of Ministers. And this must be done in function of the date of entry into force of the revision Protocols to the Paris and Brussels Conventions after its ratification by a sufficient number of states. Similarly, the reparation of nuclear damage through bodily injury would again, as was the case before the entry into force of the 2014 law, be the responsibility of the Belgian State for the delay between ten and thirty years counting from the nuclear accident, until a Royal Decree determines the date at which this liability will be at charge of the nuclear operators.

thirtieth year after the nuclear accident and, to a lesser extent, for the coverage of the environmental damage. Thus all these countries face some issues to deal the state intervention. Belgium is looking forward now to extend the State guarantee where as some other countries like the UK think along the lines of a reinsurance of nuclear liability by the State where there is a market failure. To extend this State aid it is necessary to impose an adequate remuneration from the operators in the nuclear field. It also poses the problem of computing such remuneration appropriately. Once the ratification process of the revision Protocols to the Paris and Brussels Convention comes to an end and the revisions enter into force, the insurance sector will be forced to evolve and come up with practical commercial insurance solutions suitable in a transformed marketplace<sup>87</sup>.

## 6.5. CONCLUSION

The international Liability frameworks, including the CSC, become more and more functional and the lessons learned from the Fukushima incident by Japan is utilized more globally<sup>88</sup>. To fully address the uncertainties underlying in these international nuclear liability conventions, it requires the existence large degree of organization and contribution. It is fairly acceptable to ensure the partaking of all countries having the reactors in

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<sup>87</sup> See *supra* note 84 at 112.

<sup>88</sup> See, Fukushima Prefecture, *Steps for Revitalization in Fukushima* Last visited on December 25, 2018 in <http://www.pref.fukushima.lg.jp/uploaded/attachment/307870.pdf>.

those countries in international nuclear liability conventions. Giving up the monetary insinuations of the national recompense amount, the CSC does not comprise anything that creates excessive burden on developing countries say nuclear or non-nuclear, wishing to take part in the regime of CSC. Certain features of the CSC, such as the opportunity to control bilateral or regional agreements to execute obligations, with respect to the national amount, may enable developing countries' partaking in the CSC. To generate and augment some more consciousness of the benefits of CSC a constant international edification on the CSC is essential. The CSC delivers an opening to both developing and advanced nuclear and non-nuclear countries to participate in the international nuclear liability regime. While on moving ahead it will be proved if the CSC reaches the unquestionable prospective that it embraces. Actually the unsuccessful experiences and time have revealed that this global regime concerning to civil liability for nuclear damage requires some substantial development. As the international conventions were established at the embryonic stage of nuclear industry, where its insinuations were not completely implicit it is not quite surprising. Nevertheless, States are now trying to find solutions for all the prevailing difficulties by aggressively involved in the practice of renovating and escalating the global civil nuclear liability system. It is true that the process might have sustained for some more years due to the diverse interests and approaches of the States involved in

it. It is obvious that, many of the important nuclear energy-producing countries remain outside the purview of these conventions, and many national laws differ from their provisions, thus impeding harmonization efforts. Further, some countries have limited liability requirements, and others have unlimited liability regimes, which also complicates the goal of achieving harmonization.

No neutral tribunal is established globally and claimants are generally required to file claims in the courts where the nuclear installation is located, even with respect to nuclear transports on the high seas, with attendant costs, concerns about neutrality of the courts and law, and limitations of recoverable damages. Liability is limited in time and in amount, amounting to a subsidy of the nuclear industry; the definition of damage is narrow and likely to be interpreted by the courts of the installation state; and the treaties that are there enjoy very narrow participation.

**CHAPTER 7****INDIA'S CIVIL NUCLEAR LIABILITY LAW: A CRITICAL ANALYSIS**

**“A static hero is a public liability. Progress grows out of motion”**

**Richard E. Byrd<sup>1</sup>**

India's civil nuclear power sector was under a lot of hopes regarding the flow of foreign investment into India after the effective negotiation of the Indo-US civil nuclear cooperation agreement in 2008<sup>2</sup>. Conversely, those hopes have not seen the light of day for a long time after the said agreement, mostly due to the suspected 'lack of precision' in India's law regarding civil nuclear liability regime<sup>3</sup>. CSC<sup>4</sup> was allegedly the inventiveness having the single-mindedness of enabling business of foreign and private suppliers all over the world and to make the most of

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<sup>1</sup> Richard Evelyn Byrd Jr. (October 25, 1888 – March 11, 1957) was an American naval officer and explorer. He was a recipient of the Medal of Honor, the highest honor for valor given by the United States, and was a pioneering American aviator, polar explorer, and organizer of polar logistics.

<sup>2</sup> It is popularly known as 123 Agreement. Section 123 of the United States Atomic Energy Act of 1954, titled "Cooperation with Other Nations", establishes an agreement for cooperation as a prerequisite for nuclear deals between the US and any other nation. Such an agreement is called a 123 Agreement. Till date, the U.S. has entered into roughly twenty-three 123 Agreements with 48 countries.

<sup>3</sup> See generally, Ben McRae, *Entry into force of the Convention on Supplementary Compensation for Nuclear Damage: Opening the umbrella* 7 NUCLEAR LAW BULLETIN No. 95, VOL. 2015/1, NEA No. 7252, © OECD 2015 available in <https://www.oecd-nea.org/law/nlb/nlb95.pdf> on 20-08-2019.

<sup>4</sup> Date of adoption: 12 September 1997; Place of adoption: Vienna, Austria; Date of entry into force: 15 April 2015; Depository: Director General of the International Atomic Energy Agency (IAEA) from <https://www.iaea.org/topics/nuclear-liability-conventions/convention-supplementary-compensation-nuclear-damage>

their profit. It dumps the whole liability on the shoulders of buyer country or the operator of the installation<sup>5</sup>.

Being a Democratic Republic, Indian parliament is answerable to the voters for every law it enacts. So India is not able to take an approach against supplier liability by law<sup>6</sup>. Civil Liability for Nuclear Damage Act 2010 (CLNDA) was believed in no way consistent with the principle of legal channelling of civil nuclear liability underlined in CSC. Two important sections of the CLNDA 2010, Section 17(b)<sup>7</sup> dealing with the “Right of Recourse” and Section 46 dealing with potential claims against the supplier were attributed as the specific reason behind this charge<sup>8</sup>. Section 17(b) of the Nuclear Liability Act is said to be repugnant to the Annex in the Art.10<sup>9</sup> of the CSC. So in case if any nuclear accident

<sup>5</sup> See, Doeker, Günther, and Thomas Gehring. *Private or international liability for transnational environmental damage—the precedent of conventional liability regimes* 1-16 JOURNAL OF ENVIRONMENTAL LAW 2, no. 1 (1990): Last visited February 7, 2020. [www.jstor.org/stable/44247865](http://www.jstor.org/stable/44247865).

<sup>6</sup> See *supra* note 4. Article III (9) 9. The right to compensation for nuclear damage may be exercised only against the operator liable, provided that national law may permit a direct right of action against any supplier of funds that are made available pursuant to provisions in national law to ensure compensation through the use of funds from sources other than the operator.

<sup>7</sup> See; § 17(b) of CLNDA 2010.

17. (b) Operator's right of recourse. - The operator of the nuclear installation, after paying the compensation for nuclear damage in accordance with section 6, shall have a right of recourse where—

(b) the nuclear incident has resulted as a consequence of an act of supplier or his employee, which includes supply of equipment or material with patent or latent defects or sub-standard services

<sup>8</sup> See generally, G. Balachandran, *Some issues in respect of India's nuclear liability law – II*, *India and the Convention on Supplementary Compensation* IDSA ISSUE BRIEF Institute for Defence Studies and Analyses, New Delhi. [https://idsa.in/system/files/issuebrief/IB\\_IndiaandtheConvention\\_gbalachandra\\_190215.pdf](https://idsa.in/system/files/issuebrief/IB_IndiaandtheConvention_gbalachandra_190215.pdf) on 02-02-2018

<sup>9</sup> See *supra* note. 4,

Annex to Article 10, National law may provide that the operator shall have a right of recourse only:-

(a) if this is expressly provided for by a contract in writing; or

(b) If the nuclear incident results from an act or omission done with intent to cause damage, against the individual who has acted or omitted to act with such intent.



happens in India, the prevailing provisions would be that of the national law viz. the CLNDA 2010. It would override the CSC and it has some superseding effect here, even though India had ratified the CSC. But Indian authorities successfully proceeded to make the world have faith in CLNDA and it is well-matched with the articles of CSC. Now India succeeded to be a party to this transnational manuscript grounded on this two dimensional impression. India's intention to become a part of Nuclear Energy Industry and the intense pressure out of this plan was the only reasoning for this dual face taken up by the country<sup>10</sup>.

Though the 'Convention on Supplementary Compensation' was adopted by IAEA on 12 September 1997, it came into force on 15 April 2015. At that time, there were about 431 Nuclear Power Plants (NPP) in the commercial sector of nuclear energy all over the world<sup>11</sup>. Considering the status up to 14 April 2015, only 193 of them were covered by any one of the existing nuclear liability instruments. It means that out of those 431 NPPs, there are 118 reactors covered by the Paris Convention and 75 by the Vienna Convention. But after the execution of CSC into force on 15 April 2015, the total number of NPPs protected by an international nuclear liability instrument has become greater than 340. Thus the

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<sup>10</sup> See generally, A. Vinod Kumar and Kapil Patil, *Resolving India's Nuclear Liability Impasse*, IDSA Issue Brief, December 06, 2014. Last visited on February 01, 2020 in <https://idsa.in/askanexpert/why-did-India-ratify-the-Convention>

<sup>11</sup> IAEA Releases of 2019 Data on Nuclear Power Plants Operating Experience in <https://www.iaea.org/newscenter/news/iaea-releases-2019-data-on-nuclear-power-plants-operating-experience>

implementation of Convention on Supplementary Compensation is the most important and considerable landmark in the direction of the creation of a 'global nuclear liability regime'. According to this Convention the absolute liability is laid on the operator himself along with the right to use this additional reserve for cleaning and reparation. And it reduces or cut off the obligation of private nuclear reactor supplier to compensate a nuclear damage. Establishing a worldwide liability regime in order to raise the total quantity of reimbursement accessible to the targets of nuclear-powered mishaps is the sole objective of this 1997 Convention on Supplementary Compensation for Nuclear Damage (CSC)<sup>12</sup>. It also spots the fact that, this type of a global liability regime would boost the regional as well as global co-operation to encourage the establishment of a higher level of global well-being of nuclear plants in congruence with the ideologies of global enterprise, co-operation and unanimity<sup>13</sup>.

A state could become a party to the CSC, if it is a party to either the 1963 Vienna Convention or the 1960 Paris Convention. Just by enacting a national law on civil nuclear liability in compliance with the provisions of the supplementary compensation convention and its annex, it is possible for a state to become a party to the CSC even if it is not a member to

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<sup>12</sup> See generally, Goedde, Patricia., *In search of a civil nuclear liability regime for north Korea* 225-59. Asian Perspective 27, no. 1 (2003): Accessed February 4, 2020 [www.jstor.org/stable/42704403](http://www.jstor.org/stable/42704403).

<sup>13</sup> *Id.* at 229-30

either of these conventions<sup>14</sup>. India, a country having 21 live Nuclear reactors was not a member of any of these conventions till 2016. IAEA is supposed to be the international nuclear watch dog and depositary of CSC. The instrument of ratification of the Convention on Supplementary Compensation was handed over by India to the International Atomic Energy Agency (IAEA) at Vienna in Austria, on 4th February 2016. Now the CSC has been in force in India from 4th May 2016, just 90 days later the date of entrustment of the ratification instrument. But in fact it is a debated international law which allegedly allows nuclear suppliers to discharge liability<sup>15</sup>. Based on India's national law namely the 'Civil Liability for Nuclear Damage Act' which is said to be in conformity with CSC, India signed the document on 29 October 2010 even if not being a party to the Vienna or the Paris Conventions. Unfortunately U.S. suppliers were reluctant to tolerate India's ratification of CSC, based on

<sup>14</sup> See, the full text of CSC , available in [https://www.iaea.org/publications/documents/treaties/convention-supplementary-compensation-nuclear-damage\\_](https://www.iaea.org/publications/documents/treaties/convention-supplementary-compensation-nuclear-damage_)

According to Article XVIII of CSC, regarding Ratification, Acceptance, Approval

1. 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. 19 2.The instruments of ratification, acceptance or approval shall be deposited with the Director General of the International Atomic Energy Agency who shall act as the Depositary of this Convention.

3. A Contracting Party shall provide the Depositary with a copy, in one of the official languages of the United Nations, of the provisions of its national law referred to in Article II.1 and amendments thereto, including any specification made pursuant to Article III. I(a), Article XI.2, or a transitional amount pursuant to Article III.1(a)(ii). Copies of such provisions shall be circulated by the Depositary to all other Contracting Parties.

See, the full text of CSC , at

[https://www.iaea.org/publications/documents/treaties/convention-supplementary-compensation-nuclear-damage\\_](https://www.iaea.org/publications/documents/treaties/convention-supplementary-compensation-nuclear-damage_)

<sup>15</sup> See *supra* note 3. at 9-10

the charge that the domestic nuclear liability law of India was not in toeing the line with the CSC requirements<sup>16</sup>. After making a detailed study of Indian Act<sup>17</sup> for civil nuclear liability, in the background of this international document called CSC, by considering its historical and human rights perspective the present picture of global nuclear liability regime will become more clear, perspicuous and transparent.

### **7.1. THE IMPACT OF CONVENTION ON SUPPLEMENTARY COMPENSATION**

The adoption of the Convention on Supplementary Compensation for Nuclear Damage (Compensation Convention) opens a new chapter in international nuclear liability law. The Compensation Convention provides 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 (nonnuclear 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

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<sup>16</sup> See generally, G. Balachandran, *Some issues in respect of India's nuclear liability law – II*, *India and the Convention on Supplementary Compensation* IDSA ISSUE BRIEF Institute for Defence Studies and Analyses, New Delhi. [https://idsa.in/system/files/issuebrief/IB\\_IndiaandtheConvention\\_gbalachandra\\_190215.pdf](https://idsa.in/system/files/issuebrief/IB_IndiaandtheConvention_gbalachandra_190215.pdf) on 02-02-2018

<sup>17</sup> Fixing civil liability for nuclear damage Act, 2010, Acts of Parliament, act no. 38 of 2010 (India).

international cooperation in nuclear projects, while guaranteeing the availability of meaningful compensation in the event of a nuclear incident. The Compensation Convention is a free-standing instrument open to all States. 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<sup>18</sup>.

The Compensation Convention maintains 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)<sup>19</sup>.

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

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<sup>18</sup> See generally, Johnson, Larry D. *International atomic energy agency: diplomatic conference to adopt a protocol to amend the Vienna convention on civil liability for nuclear damage and to adopt a convention on supplementary funding*. *International Legal Materials* 36, no. 6 (1997): 1454–91. <http://www.jstor.org/stable/20698739>.

<sup>19</sup> *Id.*

Convention, while it includes provisions to ensure more meaningful compensation for nuclear damage. This more balanced approach is fundamental to attracting the broad adherence necessary for a global regime. Whether a nuclear accident affects only the territory of the installation state, as with the Fukushima Daiichi accident, or has trans-boundary effects, such as the Chernobyl accident, it is important that victims are adequately and timely compensated<sup>20</sup>.

A Public Interest Litigation challenging various aspects of the CLND Act and Rules *Yash Thomas Mannully v. Union of India & others*<sup>21</sup> was filed in the Supreme Court of India on 21 October, 2011. This PIL is filed in the background of Fukushima nuclear incident. The petitioners in this matter requested the Supreme Court to declare the CLND Act unconstitutional and ‘void ab initio’ considering that it caps the maximum amount of liability of the operator, excludes the liability of the operator in certain circumstances, and contains the principle of legal channelling to the operator, which deprives the option of right to sue suppliers by the victims. It is also argued that these provisions violates the “polluter pays” principle and the principle of absolute liability, which the Supreme Court

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<sup>20</sup> *Id.*

<sup>21</sup> W.P.C.No.27960/2011, 422 K LW 240 (21 August 2015). The constitutional validity of the Civil Liability for Nuclear Damage Act, 2010 (CNLD Act, 2010) was upheld. It does not interfere with the Indian Constitution’s guarantee of the right to life of the citizens under Article 21. Further, the court held that there is no reason to doubt the independence of the Atomic Energy Regulatory Board (AERB); since the AERB operates according to internationally accepted standards and codes, the Board can prescribe its own methodology for deciding the existence of nuclear damage; the CLND Act provides sufficient flexibility to raise claims and that there is no error in the provision since the “law of limitation” is well-accepted; and constituting a Special Tribunal is not arbitrary

has recognized under Article 21 of the Constitution of India in its various judgments by widening the concept of “right to life”. Although, during the preliminary hearing, the Supreme Court orally observed that it may not have the experience to rule on highly technical matters, but the issue of an adequate regulatory mechanism could be addressed<sup>22</sup>.

While considering the question of incompatibility of CLND Act with the CSC, a position can be taken that the Indian approach is fully in line with the evolution of the international nuclear liability law i.e. importance of domestic law in the evolution of the CSC. There is no priority principle either in the CLND Act or the CSC. The CLND Act did not totally ignore the principle of legal channelling of liability for nuclear damage to the operator as such, but widened the scope of right of recourse of the operator for nuclear damage by inserting additional ground when the nuclear incident has resulted as a consequence of “supply of equipment or material with patent or latent defects or sub-standard services”<sup>23</sup>.

Comparing the law related to fixing civil liability for nuclear damages of different countries those who have ratified CSC and made domestic law in accordance with it, the CLND Act which recognises supplier liability is in a better position than any other law. Thus the participation by nuclear countries in the various international nuclear liability conventions,

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<sup>22</sup> See *supra* Note. 16

<sup>23</sup> See generally, Ben McRae, *The Compensation Convention: Path to a Global Regime for Dealing with Legal Liability and Compensation for Nuclear Damage*, 61 NUCLEAR LAW BULLETIN 25, 33 (1998).

including the CSC, without waving its right to recourse leaves something to be desired. Still, large degree of organization and contribution is required for the international nuclear liability conventions to fully address the uncertainties underlying in their existence. It can be said that the participation in international nuclear liability conventions by all countries relative to the number of reactors in those countries is fairly acceptable<sup>24</sup>.

Leaving aside the financial implications of the national compensation amount, the CSC does not contain provisions that are overly burdensome on developing countries (nuclear or non-nuclear) wishing to participate in the CSC. Some of the features of the CSC, such as the opportunity to leverage bilateral or regional agreements to implement obligations, in respect of the national amount, may facilitate developing countries' participation in the CSC. Further, continuous worldwide education on the CSC is required to create and enhance awareness of the benefits it contains. The CSC provides an opportunity to nuclear and non-nuclear countries (both developing and advanced) to participate in the international nuclear liability regime and time will tell if the CSC attains the undoubted potential that it holds. Time and unfortunate experience have shown that the international regime relating to liability for nuclear damage is in need of considerable improvement. This is hardly surprising, as the international conventions were developed when the nuclear

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<sup>24</sup> *Id.*



industry was in its infancy and its implications were not fully understood. However, States are now actively engaged in the process of modernising and expanding the liability system to overcome the existing problems. Due to the varied interests and attitudes of the States involved, the process may continue for some years<sup>25</sup>.

A nuclear liability regime should compensate civil liabilities for the torts including environmental liability and trans-boundary liability for nuclear damage. Considering a brief history of nuclear accidents worldwide, it is obvious that serious accidents have been very few and far between. A specific obligation to provide restitution and compensation when nuclear activities cause trans-boundary injuries is to be recognised separately from the body of customary international environmental law. Considering better criteria for a better liability regime where it includes elements like unlimited liability, a broad definition of recoverable damage, absolute liability with few or no exceptions, all responsible parties bear joint and several liabilities and a neutral tribunal for the adjudication of claims is to be made. Actually the failure to develop a comprehensive and adequate liability compensation regime is the equivalent of providing an enormous subsidy to support this energy sector. An international regime on liability and redress should be based on the polluter pays principle, according to

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<sup>25</sup> *Id.*

Principle 16 of the Rio Declaration. Polluter should provide means to prevent or remedy environmental damage and should directly and fully compensate victims. An effective and comprehensive liability regime must contain all the standard essential elements<sup>26</sup>.

A review as to whether the progress is a pointer towards some new norms and has the potential to contribute to a progressive development of a universal global regime or is retrogressive to the growth thereof and therefore is a deterrent to nuclear power development. Research into the possibilities of such enactments and their effect on the international law therefore, becomes a genuine area for research. This research paper aims at analysing those legal issues regarding civil liability, with a view to explore all matters with regard to formation of a strong Indian nuclear liability regime as well as in the universal scenario<sup>27</sup>.

There is no doubt that those principles are laid down by the Paris and Vienna Conventions and they form the bedrock of international nuclear liability law. Contracting states have the option either to transform the principles of the conventions into domestic laws or to directly implement the convention as self-executing. Even then the international nuclear liability regime is extremely patchy, complicated and features sparse participation. While the recent amendments to the Vienna and Paris

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<sup>26</sup> See generally, Jon M. Van Dyke, *Liability and Compensation for Harm Caused by Nuclear Activities*, 35 Denv. J. Int'l L. & Pol'y 13 (2006)

<sup>27</sup> *Id.*

Conventions are much heralded, they are heavily hedged with exceptions and the amended Protocols enjoy even more sparse participation than the original Conventions. Others, such as the Convention on Supplementary Convention, are not in force; and for those that are in force, many major nuclear countries are not party to them. So discussion of Conventions must take into account their membership<sup>28</sup>.

Also to clear out a reasonable doubt regarding the effectiveness of the present liability regime including both Paris and Vienna regimes and CSC, the practicability of its provisions for prompt and adequate compensation payment for those places which are affected by an accident is being examined. It is obvious that, many of our important nuclear energy-producing countries remain outside the purview of these conventions, and many national laws differ from their provisions, thus impeding harmonization efforts. Further, some countries have limited liability requirements, and others have unlimited liability regimes, which also complicates the goal of achieving harmonization. Characteristics of the system include that no neutral tribunal is provided and claimants are generally required to file claims in the courts where the nuclear installation is located, even with respect to nuclear transports on the high seas, with attendant costs, concerns about neutrality of the courts and law, and limitations of recoverable damages. Liability is limited in time and in

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<sup>28</sup> *Id.*

amount, amounting to a subsidy of the nuclear industry; the definition of damage is narrow and likely to be interpreted by the courts of the installation state; and the treaties that are there enjoy very narrow participation<sup>29</sup>.

## **7.2. INDIA'S 'CIVIL LIABILITY FOR NUCLEAR DAMAGE ACT, 2010**

Due to the solid involvement of India in international nuclear commerce after the Indo-US civil nuclear cooperation, the 'Civil Liability for Nuclear Damage Bill' was introduced in Lok Sabha on May 7, 2010<sup>30</sup>.

This piece of law was hosted in order to accomplish the requirements of the stakeholders i.e. suppliers and public<sup>31</sup>. Largely the people of India are concerned to ensure that they are able to get adequate compensation from an adverse impact of an accident and the suppliers must entail confidence on the extent of liability<sup>32</sup>. The initial version of the bill proposed by legislature was a usual representation of what everyone can catch from Paris Convention, Vienna Convention or CSC. It was strictly in compliance with all these conventions. Strong opposition was resulted in Parliament and on May 13, 2010 the said bill was recommended to the

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<sup>29</sup> *Id.*

<sup>30</sup> *See*, Mudgal, Alka, *From civilian nuclear deal to civil nuclear liability bill* 823-36. *The Indian Journal of Political Science* 71, no. 3 (2010): Last visited on February 8, 2020 in [www.jstor.org/stable/42748412](http://www.jstor.org/stable/42748412).

<sup>31</sup> *See*, Lee, Maria. *Civil liability of the nuclear industry* 317-32. *Journal of Environmental Law* 12, no. 3 (2000): Accessed February 8, 2020 [www.jstor.org/stable/44251668](http://www.jstor.org/stable/44251668).

<sup>32</sup> *Id.*

‘Standing Committee on Science and Technology, Environment and Forests’ for analysis<sup>33</sup>. The committee after three months submitted a detailed report on this.

**TABLE 7.1: The issues considered by the standing committee while reviewing the original bill and the amendments made accordingly**

The table below is to compare the issues and recommendations according to the report submitted by the Standing Committee on Science & Technology and the amendments introduced to the Civil Liability for Nuclear damage Bill, 2010<sup>34</sup>.

	ISSUE	RECOMMENDATION	AMENDMENT	REMARKS
1.	Whether private operators are permitted. The Bill did not have a provision stating the same. Clause 2(1) of the Bill defined an operator as any person designated by the central government to operate a nuclear installation.	New sub-clause specifying that only entities owned or controlled entities controlled by the government either directly or indirectly through any authority or corporation owned by it, or a government company (as defined in the Atomic Energy Act, 1962) will be allowed to operate nuclear installations.	Clause 3A has been inserted accepting the Committee’s recommendations.	The government has accepted the Committee’s recommendations. Government companies are defined as companies where the government owns at least 51 percentage of the share capital of the company. This implies that joint ventures between government and private entities may be permitted with the private company being a minority shareholder.
2.	(Clause 6 of the Bill): The total liability for a nuclear incident may be insufficient in some cases. The total liability for a nuclear incident was capped at 300	The Committee wanted to give the central government the power to notify a higher amount of total liability if required.	The central government has been empowered to take additional measures beyond the capped amount if the amount of compensation	The government has accepted the recommendations of the Committee and can now provide additional relief if the cap of 300 million SDR is insufficient in some cases.

<sup>33</sup> See *supra* note 29 at 824.

<sup>34</sup> Sources: 212 Report of the standing Committee on Science and Technology; Civil liability for Nuclear damage Bill, 2010; Notice of Amendments to the Civil liability for Nuclear damage Bill, 2010, as introduced in the Lok Sabha; PRS.

	million Special Drawing Rights.(approximately Rs 2,100 crore).		exceeds 300 million SDR.	
3.	(Clause 6(2)): The operator's liability is low. The liability of the operator was capped at Rs 500 crore.	The operator's liability should be raised to Rs 1,500 crore. The Committee stated that the government may create a separate category for small reactors, research facilities and reprocessing plants.	a.Operators of nuclear installations producing more than 10 MW of energy shall be liable up to Rs 1,500 crore; b.For spent fuel re-processing plants, the liability is Rs 300 crore; c.For, a research reactor producing energy below 10 MW the liability is Rs. 100 crore.	Most nuclear installations producing nuclear energy generate more than 10 MW of thermal energy. The central government has the power to increase these amounts by notification.
4.	(Clause7): Liability of the central government. The central government is liable in cases where the damage exceeds the liability cap of the operator, where the installation causing nuclear damage is owned by it, or in cases of grave natural disasters, civil wars or terrorism.	No recommendation. The government may assume the liability of a nuclear installation by notification if it feels that doing so in the public interest.		If the operator is a joint venture government company, this clause implies that the government may take over the liability of the private shareholders.
5.	Clause17 provided for recourse under three conditions: (a) if there is a written contract giving such a right, (b) if the suppliers or his employee causes damage through gross negligence or a wilful act, or (c) damage has resulted from the act or omission of a person with intent to cause damage.	Two recommendations: a. Clause 17(b) should cover latent or patent defects in the equipment, or gross negligence of the supplier. The requirement of committing a "wilful act" was removed. b. Clause 17(a) should end with an "and" so a written contract is necessary for having recourse under the other two conditions.	a. The operator has a right of recourse only after paying compensation, b. Clause 17(b) requires (a) intent to cause damage on the part of the supplier or his employees, and (b) latent or patent defects.	The Committee had recommended the removal of proving intent. The proposed amendments do not do so. The Committee's recommendation of inserting "and" in sub - clause (a) of Clause 17 has not been accepted.

### 7.3. SALIENT FEATURES OF THE 2010 ACT

The ‘Civil Liability for Nuclear Damage Act’ was enacted by the legislature and received the Presidential approval on Sept. 21, 2010 (Act No. 38 of 2010). The Act was notified and came into force on Nov. 11, 2011, a year and two months after the enactment. The ‘Civil Liability for Nuclear Damages Rules, 2011’ were framed and also notified with the Act on same date. The main features of the 2010 Act are<sup>35</sup>:

#### 7.3.1. Important definitions

Section 2 of the Act encompasses the definitions of nuclear incidents, nuclear damage, nuclear fuel, nuclear material, nuclear installations, and the operators of nuclear installations as according to the international civil nuclear liability conventions prevailing now<sup>36</sup>. According to clause (d)

<sup>35</sup> See, the enactment, The civil liability for nuclear damage act, 2010, full text available online in <http://legislative.gov.in/actsofparliamentfromtheyear/civil-liability-nuclear-damage-act-2010>

<sup>36</sup> *Id.* in the definitions given in § 2 of the Act,

2. Definitions.—In this Act, unless the context otherwise requires,— (a) "Chairperson" means the Chairperson of the Commission appointed under sub-section (1) of section 20; (b) "Claims Commissioner" means the Claims Commissioner appointed under sub-section (2) of section 9; (c) "Commission" means the Nuclear Damage Claims Commission established under section 19; (d) "environment" shall have the same meaning as assigned to it in clause (a) of section 2 of the Environment (Protection) Act, 1986 (29 of 1986); 4 (e) "Member" means a Member of the Commission appointed under sub-section (1) of section 20; (f) "notification" means a notification published in the Official Gazette and the term "notify" shall be construed accordingly; (g) "nuclear damage" means— (i) loss of life or personal injury (including immediate and long term health impact) to a person; or (ii) loss of, or damage to, property, caused by or arising out of a nuclear incident, and includes each of the following to the extent notified by the Central Government; (iii) any economic loss, arising from the loss or damage referred to in sub-clauses (i) or (ii) and not included in the claims made under those sub-clauses, if incurred by a person entitled to claim such loss or damage; (iv) costs of measures of reinstatement of impaired environment caused by a nuclear incident, unless such impairment is insignificant, if such measures are actually taken or to be taken and not included in the claims made under sub-clause (ii); (v) loss of income derived from an economic interest in any use or enjoyment of the environment, incurred as a result of a significant impairment of that environment caused by a nuclear incident, and not included in the claims under sub-clause (ii); (vi) the costs of preventive measures, and further loss or damage caused by such measures; (vii) any other economic loss, other than the one caused by impairment of the environment referred to in sub-clauses (iv) and (v), in so far as it is permitted by the general law on civil liability in force in India and not claimed under any such

section 2, "environment" shall have the same meaning as assigned to it in clause (a) of section 2 of the Environment (Protection) Act, 1986 (29 of 1986). Claims Commissioner, commission, chairperson, member, notification etc. are defined with clarity. It also defines preventive measures, radioactive product or waste and Special Drawing Rights in this section itself.

### **7.3.2. Atomic Energy Regulatory Board to notify nuclear incident**

The Atomic Energy Regulatory Board constituted under the Atomic Energy Act, 1962 (33 of 1962) shall, within a period of fifteen days from

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law, in the case of sub-clauses (i) to (v) and (vii) above, to the extent the loss or damage arises out of, or results from, ionizing 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; (h) "nuclear fuel" means any material which is capable of producing energy by a self-sustaining chain process of nuclear fission; (i) "nuclear incident" means 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; (j) "nuclear installation" means— (A) any nuclear reactor other than one with which a means of transport is equipped for use as a source of power, whether for propulsion thereof or for any other purpose; (B) any facility using nuclear fuel for the production of nuclear material, or any facility for the processing of nuclear material, including re-processing of irradiated nuclear fuel; and (C) any facility where nuclear material is stored (other than storage incidental to the carriage of such material). Explanation.—For the purpose of this clause, several nuclear installations of one operator which are located at the same site shall be considered as a single nuclear installation; 5 (k) "nuclear material" means and includes— (i) nuclear fuel (other than natural uranium or depleted uranium) capable of producing energy by a self-sustaining chain process of nuclear fission outside a nuclear reactor, either by itself or in combination with some other material; and (ii) radioactive products or waste; (l) "nuclear reactor" means any structure containing nuclear fuel in such an arrangement that a self-sustaining chain process of nuclear fission can occur therein without an additional source of neutrons; (m) "operator", in relation to a nuclear installation, means the Central Government or any authority or corporation established by it or a Government company who has been granted a licence pursuant to the Atomic Energy Act, 1962 (33 of 1962) for the operation of that installation; (n) "prescribed" means prescribed by rules made under this Act; (o) "preventive measures" means any reasonable measures taken by a person after a nuclear incident has occurred to prevent or minimise damage referred to in sub-clauses (i) to (v) and (vii) of clause (g), subject to the approval of the Central Government; (p) "radioactive products or waste" means any radioactive material produced in, or any material made radioactive by exposure to, the radiation incidental to the production or utilisation of nuclear fuel, but does not include radioisotopes which have reached the final stage of fabrication so as to be usable for any scientific, medical, agricultural, commercial or industrial purpose; (q) "Special Drawing Rights" means Special Drawing Rights as determined by the International Monetary Fund.



the date of occurrence of a nuclear incident, notify such nuclear incident: Provided that where the Atomic Energy Regulatory Board is satisfied that the gravity of threat and risk involved in a nuclear incident is insignificant, it shall not be required to notify such nuclear incident. The Board must give wide publicity to the occurrence of such nuclear incident immediately after issuing the said notification in such manner as it may deem fit<sup>37</sup>.

### **7.3.3. Responsible authorities and their liabilities**

Act contains the provisions regarding the responsible authorities for nuclear damage.<sup>38</sup> The operator of the nuclear installation shall be liable for nuclear damage caused by a nuclear incident, (a) in that nuclear installation; or (b) involving nuclear material coming from, or originating in, that nuclear installation. The operator is liable only if the said incident occurs before – (i) the liability for nuclear incident involving such nuclear material has been assumed, pursuant to a written agreement, by another operator; or (ii) another operator has taken charge of such nuclear material; or (iii) the person duly authorised to operate a nuclear reactor has taken charge of the nuclear material intended to be used in that reactor with which means of transport is equipped for use as a source of power, whether for propulsion thereof or for any other purpose; or (iv)

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<sup>37</sup> See, The civil liability for nuclear damage act, 2010, §.3 of the Act

<sup>38</sup> See, The civil liability for nuclear damage act, 2010, §.4 of the Act

such nuclear material has been unloaded from the means of transport by which it was sent to a person within the territory of a foreign State. Also if the involving nuclear material sent to that nuclear installation and occurring after— (i) the liability for nuclear incident involving such nuclear material has been transferred to that operator, pursuant to a written agreement, by the operator of another nuclear installation; or (ii) that operator has taken charge of such nuclear material; or (iii) that operator has taken charge of such nuclear material from a person operating a nuclear reactor with which a means of transport is equipped for use as a source of power, whether for propulsion thereof or for any other purpose; or (iv) such nuclear material has been loaded, with the written consent of that operator, on the means of transport by which it is to be carried from the territory of a foreign State.

Where more than one operator is liable for nuclear damage, the liability of the operators so involved shall, in so far as the damage attributable to each operator is not separable, be joint and several: Provided that the total liability of such operators shall not exceed the extent of liability specified under sub-section (2) of section 6<sup>39</sup>. Where several nuclear installations of

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<sup>39</sup> See, The civil liability for nuclear damage act, 2010, §.6 of the Act cl (2) The liability of an operator for each nuclear incident shall be— (a) in respect of nuclear reactors having thermal power equal to or above ten MW, rupees one thousand five hundred Crores; (b) in respect of spent fuel reprocessing plants, rupees three hundred Crores; (c) in respect of the research reactors having thermal power below ten MW, fuel cycle facilities other than spent fuel reprocessing plants and transportation of nuclear materials, rupees one hundred Crores: Provided that the Central Government may review the amount of operator's liability from time to time and specify, by notification, a higher amount under this sub-section: Provided further that the amount of liability shall not include any interest or cost of proceedings.

one and the same operator are involved in a nuclear incident, such operator shall, in respect of each such nuclear installation, be liable to the extent of liability specified. The liability of the operator of the nuclear installation shall be strict and shall be based on the principle of no-fault liability. If the nuclear damage is caused by a nuclear incident occurring in a nuclear installation on account of temporary storage of material-in-transit in such installation, the person responsible for transit of such material shall be deemed to be the operator. Also if a nuclear damage is caused as a result of nuclear incident during the transportation of nuclear material, the consignor shall be deemed to be the operator. In case if any written agreement has been entered into between the consignor and the consignee or, as the case may be, the consignor and the carrier of nuclear material, the person liable for any nuclear damage under such agreement shall be deemed to be the operator. Supposedly if the nuclear damage and damage other than nuclear damage have been caused by a nuclear incident or, jointly by a nuclear incident and one or more other occurrences, such other damage shall, to the extent it is not separable from the nuclear damage, be deemed to be a nuclear damage caused by such nuclear incident.

#### **7.3.4. Instances where operator is not at all liable**

An operator shall not be liable for any nuclear damage where such damage is caused by a nuclear incident directly due to- (i) a grave natural disaster of an exceptional character; or (ii) an act of armed conflict, hostility, civil war, insurrection or terrorism. An operator shall not be liable for any nuclear damage caused to (i) the nuclear installation itself and any other nuclear installation including a nuclear installation under construction, on the site where such installation is located; and (ii) to any property on the same site which is used or to be used in connection with any such installation; or (iii) to the means of transport upon which the nuclear material involved was carried at the time of nuclear incident: Provided that any compensation liable to be paid by an operator for a nuclear damage shall not have the effect of reducing the amount of his liability in respect of any other claim for damage under any other law for the time being in force. If the nuclear damage is suffered by a person on account of his own negligence or from his own acts of commission or omission, the operator shall not be liable to such person<sup>40</sup>.

#### **7.3.5. Limited liability of the operator**

The maximum amount of liability in respect of each nuclear incident shall be the rupee equivalent of three hundred million Special Drawing Rights

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<sup>40</sup> See, The civil liability for nuclear damage act, 2010, §.5 of the Act

or such higher amount as the Central Government may specify by notification. Provided that the Central Government may take additional measures, where necessary, if the compensation to be awarded under this Act exceeds the amount specified. The liability of an operator for each nuclear incident shall be:

(a) In respect of nuclear reactors having thermal power equal to or above ten MW, rupees one thousand five hundred Crores;

(b) In respect of spent fuel reprocessing plants, rupees three hundred Crores;

(c) In respect of the research reactors having thermal power below ten MW, fuel cycle facilities other than spent fuel reprocessing plants and transportation of nuclear materials, rupees one hundred Crores:

Also it is mandatory that the Central Government review the amount of operator's liability from time to time and specify, by notification, a higher amount if requires. Also the law instructs that the amount of liability shall not include any interest or cost of proceedings<sup>41</sup>.

### **7.3.6. Liability of Central Government**

The Central Government shall be liable for nuclear damage in respect of a nuclear incident, in the following instances:

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<sup>41</sup> See, The civil liability for nuclear damage act, 2010, §.6 of the Act

- (a) Where the liability exceeds the amount of liability of an operator specified under sub-section (2) of section 6, to the extent such liability exceeds such liability of the operator;
- (b) If it is occurring in a nuclear installation owned by it; and
- (c) If it is occurring on account of causes specified in clauses (i) and (ii) of sub-section (1) of section 5<sup>42</sup>.

It is also provided that the Central Government may, by notification, assume full liability for a nuclear installation not operated by it if it is of the opinion that it is necessary in public interest. And the Central Government is allowed to establish a fund to be called the Nuclear Liability Fund by charging such amount of levy from the operators, in such manner, as may be prescribed<sup>43</sup>.

### **7.3.7. Provision to mandatorily maintain insurance or financial securities by the operator**

The operator shall, before he begins operation of his nuclear installation, take out insurance policy or such other financial security or combination of both, covering his liability under sub-section (2) of section 6, in such manner as may be prescribed. The operator shall from time to time renew

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<sup>42</sup> See, The civil liability for nuclear damage act, 2010, §.5 of the Act Cl. (1) An operator shall not be liable for any nuclear damage where such damage is caused by a nuclear incident directly due to-

(i) a grave natural disaster of an exceptional character; or

(ii) An act of armed conflict, hostility, civil war, insurrection or terrorism.

<sup>43</sup> See, The civil liability for nuclear damage act, 2010, §.7 of the Act.

this insurance policy or other financial security, before the expiry of the period of validity thereof. This shall not apply to a nuclear installation owned by the Central Government itself. In this the "financial security" means a contract of indemnity or guarantee, or shares or bonds or such instrument as may be prescribed or any combination thereof<sup>44</sup>.

Indian nuclear insurance pool ("INIP") is launched on 12 June, 2015 with corpus of INR 1,500 crore (approximately USD 211.65 million) by General Insurance Corporation of India ("GIC-Re") along with several other Indian insurance companies. The INIP was formed as a risk transfer mechanism to cover/transfer the risks of operators' and suppliers' liability according to the CLND Act, Section 6(2) and Section 17, respectively. It was instituted to address liability concerns of the suppliers and paves the way for Indian as well as foreign supplier's to participate in the Indian nuclear power projects.

### **7.3.8. Compensation for nuclear damage and its adjudication**

It makes authorities to assess claims and dispense the reparation for victims in all cases of nuclear damage. It also describes how compensation can be claimed and distributed<sup>45</sup>. Also specifies the persons

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<sup>44</sup> See, The civil liability for nuclear damage act, 2010, §.8 of the Act.

<sup>45</sup> See, The civil liability for nuclear damage act, 2010, §.9 of the Act , Compensation for nuclear damage and its adjudication.–(1) whoever suffers nuclear damage shall be entitled to claim compensation in accordance with the provisions of this Act.

(2) For the purposes of adjudicating upon claims for compensation in respect of nuclear damage, the Central Government shall, by notification, appoint one or more Claims Commissioners for such area, as may be specified in that notification.

having a claim for compensation in case of the happening of a nuclear incident. An application for claiming compensation can be made by<sup>46</sup> a person sustaining the injury, owner of the damaged property, legal representative of a deceased person, or an authorised agent.

### **7.3.9. Restrictions and limitations for claiming compensation**

It also defines the limitation periods and certain other consequences for not observing with the provisions of the Act, or any instructions given out<sup>47</sup>. According to the CLND Act the nuclear incident has to be reported within 15 days from the date of that accident by the Atomic Energy Regulatory Board<sup>48</sup>. An application can be made within three years from the date of the person having knowledge of nuclear damage. This right to make an application however exhausts after a period of ten years from the date of the notification of the nuclear incident.

### **7.3.10. Rights and liabilities of the operator of the reactor**

The operator of a nuclear installation will be liable for nuclear damage caused by a nuclear incident in that installation or if he is in charge of nuclear material. If more than one operator is liable for nuclear damage, all operators shall be jointly, and also individually liable to pay compensation for the damage. The Act also provides certain exceptions to

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<sup>46</sup> See, The civil liability for nuclear damage act, 2010, §.14 of the Act

<sup>47</sup> See, The civil liability for nuclear damage act, 2010, §.15 of the Act

<sup>48</sup> See, The civil liability for nuclear damage act, 2010, §.3 of the Act



an operator's liability<sup>49</sup>. The operator possesses a controversial and unusual right of recourse against the supplier and other individuals responsible for the damage under certain conditions according to this Act<sup>50</sup>.

**7.3.11. The Act allows the central government to create two authorities by notification:**

***7.3.11.1. Claims Commissioner***

The Claims Commissioner will have certain powers of a civil court. Once a nuclear incident is notified, the Commissioner will invite applications for claiming compensation<sup>51</sup>.

***7.3.11.2. Nuclear Damage Claims Commission***

If the central government thinks that with regard to a nuclear incident (a) the amount of compensation may exceed Rs 500 crore, or (b) it is necessary that claims will be heard by the Commission and not the Claims Commissioner, or(c) that it is in public interest, it can establish a Nuclear Damage Claims Commission. The Commission shall have the same powers as that of a Claims Commissioner<sup>52</sup>.

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<sup>49</sup> See, The civil liability for nuclear damage act, 2010, §.17 of the Act

<sup>50</sup> See, The civil liability for nuclear damage act, 2010, § 17 (a),(b) and(c) of the Act

<sup>51</sup> See, The civil liability for nuclear damage act, 2010, §.9(b) of the Act

<sup>52</sup> See, The civil liability for nuclear damage act, 2010, §.19 of the Act

**7.3.12. Adjudication procedure and powers of Claims Commissioner**

For the purposes of adjudication of claims under this Act, the Claims Commissioner shall follow such procedure as may be prescribed. For the purpose of holding inquiry, the Claims Commissioner may associate with him such persons having expertise in the nuclear field or such other persons and in such manner as may be prescribed. The Claims Commissioner shall, for the purposes of discharging his functions under this Act, have the same powers as are vested in a civil court under the Code of Civil Procedure, 1908 (5 of 1908), while trying a suit, in respect of the following matters. He shall (a) summon and enforce the attendance of any person and examine him on oath; (b) insist the discovery and production of documents; (c) receive evidence on affidavits; (d) demand any public record or copies thereof from any court or office; (e) issue a commission for the examination of any witness; (f) do any other matter which may be prescribed.

The Claims Commissioner shall be deemed to be a civil court for the purposes of section 195 and Chapter XXVI of the Code of Criminal

Procedure, 1973 (2 of 1974)<sup>53</sup>. All the awards made by the claims commissioner are final<sup>54</sup>.

### **7.3.13. Right of recourse for operator**

Nowadays the nuclear power sector cannot claim special privileges distinctive from general tort law since it is not in its take off stage as before. So the basic principle of channelling exclusive liability to the operator according to this entire international nuclear liability regime needs a change. The operator is allowed to seek remedies against its supplier only under some special circumstances according to the three prevailing nuclear liability conventions i.e. Paris Convention, Vienna Convention and CSC. The principle of legal channeling of third party liability to the operator is under serious criticism. The supplier's liability and the operator's right of recourse against the supplier provided in section 17(b) of Indian Act is called unusual one and is the most suspected provision in it<sup>55</sup>.

### **7.3.14. Operator's liability is joint and several**

The operator of the nuclear installation shall be responsible for the nuclear damage and liable to repayment caused by a nuclear incident in this installation according to section 4(1) of the CLND Act. Where there

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<sup>53</sup> See, The civil liability for nuclear damage act, 2010, §.12 of the Act

<sup>54</sup> See, The civil liability for nuclear damage act, 2010, §.16 of the Act

<sup>55</sup> See, Parliamentary Standing Committee on Science & Technology, Environment and Forests, Report on Civil Liability for Nuclear Damage Bill, 2010 (August 2010) accessed 17th August 2014 ('Standing Committee Report on the CLND Bill'); M R Madhavan, 'The House always wins' (Indian Express, 3 September 2010) accessed 26 August, 2014; Political Bureau, 'With 18 changes, fate of nuke liability bill hangs in balance' (Times of India, 22 August 2010) accessed 26 August, 2014.

is more than one operator in a particular reactor, section 4(2) is applicable and it recognizes the ‘principle of joint and several liability.’ Also it includes the principle of strict liability of the operator in section 4(4)<sup>56</sup>.

### **7.3.15. Includes supplier liability and product liability**

Three main occasions where the operator of the NPP, is intended to obligate the right of recourse against the supplier, after disbursing the due recompense for nuclear damages as according to their limit is provided in Section 17 of the CLND Act. According to the clauses given under section 17, the operator shall have right to recourse only if:

- a. These rights are brought specifically in a written agreement
- b. An act of supplier or his employee comprising the supply of equipment or material with patent or latent defects or sub-standard services due to which the nuclear mishap has caused;
- c. An act committed or omitted by an individual with an intention to cause the nuclear damage is the reason for particular nuclear incident.

In this Section 17(a) and (c) are typical in nature and analogous to Article X of the Vienna Convention, Article 6(f) of the Paris Convention and Article X of the CSC Annex. But the provision in Section 17(b) causes

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<sup>56</sup> *Id.*

the main disagreement and debate regarding the Indian Act at every national and international platform<sup>57</sup>. Originally, the CLND Bill had contained other words in Section 17(b) so as to target the situations in which “the nuclear incident has resulted from the wilful act or gross negligence on the part of the supplier of the material, equipment or services, or of his employees”. In track with provisions from product liability laws that hold the supplier liable for product liability, fault design, faulty manufacture etc. most of the authorities reflected a view in front of the Parliamentary Standing Committee that the provision required a rephrasing to make it compatible with CSC. It would be challenging to introduce the liability for “wilful act or gross negligence” on the part of the supplier in nuclear sector, according to the report of the Parliamentary Standing Committee. Such an express ‘mens rea’ phrase as used in criminal and taxation laws would be “grossly inadequate and misplaced” in the context of compensation claims. The same view was put forward by Ministry of Law and Justice also, which really means- according to the parliament committee the supplier of nuclear equipment/material should have a clear liability in case if they are found to be defective<sup>58</sup>. In those times of debate in the Lok Sabha regarding the CLND Bill, Supreme Court had delivered the decision in the much

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<sup>57</sup> *Id.*

<sup>58</sup> See generally, Sanjana Kala, *Nuclear Power: Yay or Nay* 201 in ENERGY LAW & POLICY IN INDIA Edited by Sairam Bhat and others NATIONAL LAW SCHOOL OF INDIA UNIVERSITY, BENGALURU BOOK SERIES-2 (2016) .

debated ‘Bhopal Gas leak case’. Unfortunately due to the lack of proper law, even after more than twenty five years, the victims of ‘Bhopal Gas Tragedy’ were suffering greatly without of proper compensation and rehabilitation. The Lok Sabha debates and decisions were influenced very much by this. A strong push for incorporating some adequate supplier’s liability provisions into the Act was provided by this correct timing of the decision and the resultant public opinion<sup>59</sup>.

### **7.3.16. Extinction of right to claim.**

The right to claim compensation for nuclear damage shall extinguish, if such claim is not made within a period of– (a) ten years, in the case of damage to property; (b) twenty years, in the case of personal injury to any person, from the date of occurrence of the notified incident. Provided that where a nuclear damage is caused by a nuclear incident involving nuclear material which, prior to such nuclear incident, had been stolen, lost, jettisoned or abandoned, the said period of ten years shall be computed from the date of such nuclear incident, but, in no case, it shall exceed a period of twenty years from the date of such theft, loss, jettison or abandonment<sup>60</sup>.

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<sup>59</sup> *Id.*

<sup>60</sup> *See*, The civil liability for nuclear damage act, 2010, §.18 of the Act

**7.3.17. Recourse under tort law also is expressly permitted**

According to Section 46 of CLNDA,

- a. The provisions of the Act must be read in addition to and not in derogation of any other law in force, and
- b. Nothing in the Act “shall exempt the operator from any proceedings which might, apart from this Act, be instituted against such operator”.

Consequently it was put up with the fact that, under tort law the victim of a nuclear incident may even challenge the supplier in his litigation and could be able to fetch a reparation claim against the operator in a court of law. The long-standing principle of legal channeling of the liability looked as if to be undermined due to this possibility under Section 46. Section 46 is slightly in contradiction with the preamble of the CLND Act, which states that, it is an Act to provide for “civil liability for nuclear damage and prompt compensation to the victims of a nuclear incident through a no-fault liability regime channelling liability to the operator<sup>61</sup>.”

Based on the principle that a later specific statute overrides the provisions of a prior general statute, in this case of clash between the general rules of

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<sup>61</sup> See generally, Els Reynaers Kini, *India's Nuclear Trade — Inching forward?* 101-129. Chapter 6 of KEY DEVELOPMENTS IN ENVIRONMENTAL LAW 2014.

Available online in <https://nuclearlaw.files.wordpress.com/2015/04/consolidated-2014-edition-ch6els.pdf>

Also see M P Ram Mohan, Els Reynaers Kini, *Right of recourse claims based on latent defects in the nuclear energy sector in India: brace yourself for fact-intensive disputes* W. P. No. 2019-05-01, May 2019, Research and publications, IIMA, Ahmedabad.

tort law and the CLND Act, the specific provisions of CLND Act would prevail. Hence, in effect the recourse under tort law is never excluded by the present Act. However, Section 46 which is precisely intended to avoid a more narrow application of the nuclear civil liability principles as contained specifically in the CLND Act would deny the effect of such narrow interpretation.<sup>62</sup>

### **7.3.18. Exclusion of jurisdiction of civil courts**

Save as otherwise provided in section 46, no civil court (except the Supreme Court and a High Court exercising jurisdiction under Articles 226 and 227 of the Constitution) shall have jurisdiction to entertain any suit or proceedings in respect of any matter which the Claims Commissioner or the Commission, as the case may be, is empowered to adjudicate under this Act and no injunction shall be granted by any court or other authority in respect of any action taken or to be taken in pursuance of any power conferred by or under this Act<sup>63</sup>.

Thus the CLND Act appears to bid a novel understanding of the notion of legal channeling. The Act recognises the no-fault liability principle based on which the civil liability for nuclear damage regime is developed. While CLNDA allows channelling the whole liability towards the operator, it also recognizes that the operator may also be held liable under

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<sup>62</sup> *Id.*

<sup>63</sup> *See*, The civil liability for nuclear damage act, 2010, §.36 of the Act



other tort and criminal laws. The right to sue the operator under the criminal law or other penal provisions under environmental laws would in no way be altered according to section 46 of the CLND Act. Legal channeling has not been construed like this before in any of the national legislations or any international nuclear civil liability regime<sup>64</sup>.

#### **7.4. CONSTITUTIONALITY OF CLNDA 2010**

Constitutionality of the CLND Act and the CLND Rules has been challenged in the courts in India by many, as soon as it is enacted. The Kerala High Court in the case of Yash Thomas Mannully and Ors v. Union of India and Ors<sup>65</sup> upheld the constitutionality of certain provisions of the CLND Act, which has been challenged. Common Cause & Ors v. Union of India & Ors was a separate writ petition filed before the Supreme Court of India to challenge the constitutionality of the CLND Act and is sub-judice. Another petition inter alia challenging Rule 24 of the CLND Rules ‘as being ultra vires the CLND Act’ was filed before the Supreme Court in the case of Centre for Public Interest Litigation & Ors v. Union of India. This Public Interest Litigation (PIL) challenging various aspects of the CLND Act and Rules was filed in 2011 in Supreme Court of India by former senior government officials and eminent

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<sup>64</sup> See *supra* note 60

<sup>65</sup> See, *Yash Thomas Mannully and Ors. vs. Union of India and Ors.* W.P.C. No. 27960 of 2011, Decided on August 21, 2015; 2015 SCC OnLine Ker 25670

scientists. It is filed against the Act, in the background of Fukushima nuclear incident. The petitioners in this matter requested the Supreme Court to declare the CLND Act unconstitutional and ‘void ab initio’ considering that it caps the maximum amount of liability of the operator, excludes the liability of the operator in certain circumstances, and contains the principle of legal channelling to the operator, which deprives the option of right to sue suppliers by the victims. It is also argued that these provisions violates the “polluter pays” principle and the principle of absolute liability, which the Supreme Court has recognized under Article 21 of the Constitution of India in its various judgments by widening the concept of “right to life”. Although, during the preliminary hearing, the Supreme Court orally observed that it may not have the experience to rule on highly technical matters, but the issue of an adequate regulatory mechanism could be addressed.

#### **7.5. RIGHT OF RECOURSE OF THE OPERATOR: PROVISION UNDER THE ‘CLND RULES, 2011’**

The right of recourse for the operator of a NPP could be based on an agreement under section 17(a) of the CLND Act. The extent of this right of recourse might be the limitation period for liability of operator or up to the validity of the contract itself, ‘whichever is less’. The ‘CLND Rules

2011' also construed to restrain the possibility of right of recourse of the operator to some extent by defining in Rule 24(1)<sup>66</sup>. According to Rule 24(2)<sup>67</sup> the provision for the right of recourse referred to in Rule 24(1) shall be for the duration of five years or for the product liability period, 'which is longer'. The 'product liability period' defined in Rule 24 as 'the period for which the supplier has undertaken liability for patent or latent defects or sub-standard services under the contract'<sup>68</sup>. If so, by making a safeguard that the product liability period is no longer than the five years the suppliers could bind their liability to a period less than five years according to Rule 24. With respect to Rule 24 along with Section 17(a), it seems that the two other situations covered under Section 17 of the Act have no time limit of five years on the operator's right of recourse. The right of recourse of the operator against the supplier could be exercised beyond the five years' time period in the situations covered under Section 17(b) when the nuclear incident resulted as a consequence of an act of supplier or his employee, which includes supply of equipment or material with patent or latent defects or sub-standard services, and Section 17(c)

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<sup>66</sup> Rule 24 of the CLND Rules states that the contract referred to in Section 17(a) "shall" include a provision for right of recourse: i. For an amount not less than the (i) operator's liability under the CLND Act (approximately USD 211.65 million) or (ii) contract value, whichever is less; and ii. For a period of (i) initial license period under the Atomic Energy (Radiation Protection) Rules, 2004, currently 5 years, or (ii) the product liability period, whichever is longer. Further, Product Liability Period is defined in Explanation I to Rule 24 as: RIGHT OF RECOURSE AGAINST THE SUPPLIER 15 (a) "product liability period" means the period for which the supplier has undertaken liability for patent or latent defects or sub-standard services under a contract.

<sup>67</sup> *Id.*

<sup>68</sup> *See generally*, The Report of the committee on subordinate legislation on the CLND Rules 2011, chaired by P.Karunakaran on 27-08-2012 .available in <http://www.indiaenvironmentportal.org.in/files/file/SC-report-on-Rules-for-CLND.pdf>.

when the nuclear incident has resulted from the act of commission or omission of an individual done with the intent to cause nuclear damage. Nevertheless, it is true that a similar language is used in section 17(b) and in the explanation to Rule 24(2) relating to the meaning of ‘product liability period’. It does not simplify the impact of such product liability clause on the right of recourse of the operator<sup>69</sup>.

#### **7.6. THE EXTENT OF COMPATIBILITY OF CLNDA 2010 WITH OTHER INTERNATIONAL LIABILITY CONVENTIONS WITH A SPECIAL ATTENTION ON CSC**

All the right occasions for reimbursement arrangements in the happening of nuclear accident is carried by the Civil Liability for Nuclear Damage Act 2010 (CLNDA). The real objective of Indian legislature was to ensure the Indian victims of a nuclear disaster to get equal right of compensation like that of the victims in foreign courts. It also offers the establishment of statutory bodies like ‘claims commission’ to pick the volume of recompense. In fact most of the significant sections of the CLNDA 2010 are in acquiescence with all the ‘international conventions for compensation’ by allocating the responsibility of compensation on the

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<sup>69</sup> *Id.*

operator<sup>70</sup>. Just as in CSC, in this Act also the liability is created on the basis of ‘principle of no fault or strict liability<sup>71</sup>’. Another similarity between the Indian and the international liability system is the provision for security through insurance. CLNDA insists the operator to take insurance before operating the nuclear reactor. CSC also provides in its annex CSC about the requirement of having an insurance pool for ensuring the fund for compensation. Each operator has to deposit an amount equivalent to three hundred million special drawing rights. The compensation shall be awarded to each victim without considering their nationality or domicile<sup>72</sup>. The CSC is an independent nuclear civil liability regime supported by IAEA, which is separated from the other existing liability regimes – the Paris Convention and Vienna Convention. India signed CSC on Oct. 27, 2010 and ratified it on Feb. 4, 2016. India is not party to Paris Convention or Vienna Convention but eligible to become party on the ground provided in CSC as “or a State which declares that’s its national law was construed as it comply with the

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<sup>70</sup> See generally, G. Balachandran, *Some issues in respect of India's nuclear liability law – II, India and the Convention on Supplementary Compensation*, Institute for Defence Studies and Analyses, New Delhi. February 19, 2015 IDSA ISSUE BRIEF Summary

There is a general feeling among analysts that while US government lawyers may have been satisfied that the CLNDA is compatible with CSC in light of explanations offered by the Indian government, this view is being reportedly challenged by nuclear industry lawyers. The three issues that need to be discussed in this regard are: (i) Is it necessary that concurrence between the CLNDA and CSC be established and recognised as such by others? (ii) How important is the formal recognition by the US of such an agreement between CLNDA and CSC? (iii) How important is CLNDA and CSC conformity necessary for global nuclear industry to engage in nuclear commerce with India?

<sup>71</sup>*Id.*

<sup>72</sup> See generally, Summaiya Khan, *International civil nuclear liability regime and india: a comparative assessment* ISSSP Reflections No. 28, July 13, 2015. Available online in <http://issp.in/international-civil-nuclear-liability-regime-and-india-a-comparative-assessment/>

provisions of the Annex to the convention” and is also a contracting state to the 1994 Convention on Nuclear Safety.

According to the explanations specified by officials of Atomic Energy Regulatory Board of India (AERB), each provision provided in the domestic legislation of India is said to be fundamentally in compliance with the CSC and its Annex. The whole thing are in rapport with each other including the limitations of the liability in amount and time, definitions of nuclear installation, damage etc., the legal channelling of strict/absolute legal liability to the operator, liability cover by insurance or financial security and all. Thus the foundation for India’s amalgamation with a relevant international liability regime such as the CSC is provided by the CLND Act<sup>73</sup>.

**7.6.1.** The major points of compatibility are the following:-

***7.6.1.1. Appointment of claims commission***

In case if a nuclear incident has occurred within the scope or geographic borderline of India a ‘claims commission’ is appointed to award compensation according to the Act. This is moulded to make the reparation of victims as similar as in the international liability regime. Truly, the CLNDA of India which is based on the civil procedure and tort

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<sup>73</sup>*Id.*

law creates it relaxed for the affected person in a nuclear accident to assert reimbursement according to this law<sup>74</sup>.

#### *7.6.1.2. Minimum limits of compensation of nuclear damage*

The IAEA drafted Explanatory Texts on the CSC, provides that there are some basic requirements for becoming party to the CSC that are not contained in the Annex, but in the main body of the CSC, with which all states desires to ratify the CSC would need to comply, including the minimum limits of compensation of nuclear damage at national level under Article III, the uniform rules on jurisdiction provided under Article XIII, Article III.1 (a) of the CSC requires the installation state to ensure the availability of SDR 300 million or more amount for compensation. Section 6(1) of the CLND Act specifies that the minimum amount of liability in respect of each nuclear incident shall be the Indian rupee equivalent to SDR 300 million or such higher amount as may be notified.

Section 2(g) of the CLND Act confirms to the definition of nuclear

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<sup>74</sup> “Civil Liability for Nuclear Damage: Advantages and Disadvantages of Joining the International Nuclear Liability Regime” A paper by the International Expert Group on Nuclear Liability (INLEX) available online in <https://www.iaea.org/sites/default/files/17/11/liability-regime.pdf>

INLEX is a body established in 2003 and serves three major functions, namely to: (a) Create a forum of expertise to explore and advise on issues related to nuclear liability; (b) Enhance global adherence by nuclear and non-nuclear States to an effective nuclear liability regime, inter alia, on the basis of the Convention on Supplementary Compensation for Nuclear Damage and the Annex thereto, the Vienna Convention on Civil Liability for Nuclear Damage, the Paris Convention on Third Party Liability in the Field of Nuclear Energy, the Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention, and the amendments thereto; and (c) Assist in the development and strengthening of the national nuclear liability legal frameworks in IAEA Member States to protect the public and the environment, and to enhance nuclear safety.

damage given as per the CSC. The creation of the institutions of Claims Commissioner under Section 9-12 and the Nuclear Damage Claims Commission under Section 19-38 as well as the explicit recognition that the scope of writ petition before the High Courts and the Supreme Court of India remains intact by incorporating Section 35 are all in line with the exclusive jurisdiction principle set out in Article XIII of the CSC. Therefore, the CLND Act's provisions are in compliance with the basic provisions of the CSC<sup>75</sup>.

### **7.6.2. The major points of non-compatibility are the following:-**

#### ***7.6.2.1. The operator's right to recourse the supplier***

In fact, the Sections 46 and 17 (b), are the two significant provisions of the Act which forms the base of disagreement by the potential suppliers. Making the suppliers liable for the patent and latent defects of materials supplied is the purpose of these two sections. They provide the operator a right to recourse. These provisions had hindered many contractors from conveyance of nuclear installations. Nuclear countries like Russia (Kudankulam 3 and 4) and France are examples. The provisions of Convention on Supplementary Compensation for Nuclear Damage (CSC)

<sup>75</sup> See, Convention on Supplementary Compensation for Nuclear Damage, Sept. 29, 1997, 36 I.L.M. 1473 (entered into force Apr. 15, 2015), <https://www.iaea.org/sites/default/files/infocirc567.pdf> [<https://perma.cc/YNK2-D27Q>],

See also, Latest Status of the Convention on Supplementary Compensation for Nuclear Damage, INT'L ATOMIC ENERGY AGENCY [IAEA] (Apr. 21, 2015), [https://www.iaea.org/Publications/Documents/Conventions/supcomp\\_status.pdf](https://www.iaea.org/Publications/Documents/Conventions/supcomp_status.pdf) [<https://perma.cc/K8Z7-JFHK>] [hereinafter CSC Latest Status];



are found incongruous to these two provisions according to international nuclear communities.

As per section 17 (b) of the CLND Act, where the nuclear incident has resulted as a consequence of an act of supplier or his employees including the supply of equipment or material with patent or latent defects or substandard services, the operators shall have right to recourse against the supplier. But, Article 10 of the annex to the CSC provides for right to recourse only for eventualities stated in its sub clauses (a) and (c). Section 17 (b) is not compatible with these provisions. This provision is absolutely absent in the CSC and to that point it is undoubtedly in disagreement with the said Act. And obviously, it is of no doubt that, notwithstanding whether India ratifies the CSC or not, India's domestic nuclear liability regime and its supplier liability clause will prevail over the CSC in case of a dispute in India<sup>76</sup>.

It could be argued that Section 17(b) still operates within the intended framework of limiting the grounds of the operator's right of recourse. Whereas Section 46 with its sweeping implications that the CLND Act is merely "in addition to and not in derogation of any other law for the time being in force" is another such provision. This provision implies that the general principles of tort law are not barred, thus much more problematic

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<sup>76</sup> See, Evelyne Ameye, *Channeling of Nuclear Third Party Liability towards the Operator: Is it Sustainable in a Developing Nuclear World or is there a Need for Liability of Nuclear Architects and Engineers?* European Energy and Environmental Law Review 19 (1) (2010): 33- 35.

as it calls into question the principle of legal channelling of liability under nuclear law<sup>77</sup>.

**7.6.2.2. *Section 4(1) and Section 4(4) are not in conformity with the main body of the Convention but only with the Annex to it and also with the long title of the Act***

Section 4(1) of the Act says that the operator of the nuclear installation shall be liable for nuclear damage caused by nuclear incident. Again, section 4(4) provides that the liability of the Operator of the nuclear installation shall be strict and shall be based on the ‘principle of no fault liability’. And also section 8(1) provides that before commencing the operation of the nuclear installation, the operator shall take out insurance policy or such further financial security to cover the required liability. It is clear and confirm that the liability is strict, and channelled to the operator through a no fault liability regime according to the sections given above, which are not in conformity with the main body of the Convention but only with the Annex to it and also with the long title of the Act<sup>78</sup>.

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<sup>77</sup> *Id.*

<sup>78</sup> *See supra* note 54.

***7.6.2.3. Operator of a nuclear reactor is purely a government entity in India***

In India the operator of a nuclear reactor is purely a government entity. So long, it is expedient for the private overseas corporations and their lobbyists here to request Indian operator to do away with supplier liability and follow the exercise of absolute operator liability. If the nuclear operators in India are non-governmental and private companies just as the way it is in the U.S, this will not be the case involved in it<sup>79</sup>.

It has to be believed by the nuclear community that, the domestic law can be construed in such a way to make it well-matched with the provisions of CSC. India was permitted to submit the instrument of ratification of CSC on 4th February 2016 to IAEA, just because of this strong faith. For the time being it is believed that India's nuclear liability regime is safe under the CSC umbrella of global liability regime. This new umbrella comprises all the jointly attuned international compensation instruments like, the Vienna Convention and the 1988 Joint Protocol, the Paris Convention as supplemented by Brussels supplementary Convention, along with the CSC<sup>80</sup>.

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<sup>79</sup> See generally, Mudgal, Alka. *From civilian nuclear deal to civil nuclear liability bill* 823-36 *The Indian Journal of Political Science* 71, no. 3 (2010):.Accessed February 12, 2020. [www.jstor.org/stable/42748412](http://www.jstor.org/stable/42748412).

<sup>80</sup> *Id.* at 834

**TABLE 7.2: Comparison between Indian law and international civil nuclear liability conventions**

	<b>Paris Convention 1960</b>	<b>Vienna Convention 1963</b>	<b>Revised Paris Convention 2004</b>	<b>Revised Vienna Convention 1997</b>	<b>CSC 1997</b>	<b>CLNDA India 2010</b>
Definition of Nuclear Damage	Loss of life, and personal injury and property damage; and damage during transport of nuclear substance to and from nuclear installations.	Loss of life, and personal injury and property damage.	In addition to damages to persons and to property, other damages including the cost of preventive measures, the cost of measure to reinstate an impaired environment and the economic losses resulted from such an impaired environment were taken into account.	Loss of life, and personal injury and property damage.	In addition to damages to persons and to property, other damages including the cost of preventive measures, the cost of measure to reinstate an impaired environment and the economic losses resulted from such an impaired environment were taken into account.	In addition to damages to persons and to property, other damages including the cost of preventive measures, the cost of measure to reinstate an impaired environment and the economic losses resulted from such an impaired environment were taken into account.
Geographical Scope	Covers the territory of the contracting parties alone	Confined to the contracting party's territory	More restricted geographical application, and does not cover damage caused on the high seas or other areas beyond national jurisdiction.	Extends to all the states including the damages in the non-contracting states.	Territory of contracting party; in or above maritime area beyond the territorial sea of a contracting state; in or above the EEZ of a Contracting Party or on the continental shelf of a contracting Party	It extends to the whole of India; Territory of India; in or above Maritime area beyond the territorial sea of India; in or above the exclusive economic zone of India or on the continental shelf

Liability limit in time	10 years	10 years, but cannot exceed more than 20 years from the date of theft, loss, jettison or abandonment	10 years; exceptional case 20 years	Limit extended to 30 years, but only “with respect to loss of life and personal injury.”	The CSC Convention provides for a t10 years limitation period, or 20 years from the date of the theft, loss, jettison or abandonment.	10 years for loss of property;20 years for personal injury
Liability limit in amount	5 Million SDR min- 15 Million SDR max. (US\$ 7.02-21.06 million)	Not less than US\$ 5 million (no upper limit fixed)	€ 700 million minimum(US \$ 780 million)	300 Million SDR(US\$ 421 million)	300 Million SDR(US\$421 million)	300 Million SDR(US\$ 421 million)
Exceptions	Caused by a nuclear incident directly due to an act of armed conflict, hostilities, civil war, insurrection or a grave natural disaster of an exceptional character.	Act of armed conflict, hostilities, civil war or insurrection, and, subject to the law of the Installation State, damage caused by a grave natural disaster of an exceptional character.	Caused by a nuclear incident directly due to an act of armed conflict, hostilities, civil war, insurrection or a grave natural disaster of an exceptional character.	A grave natural disaster of an exceptional character” has been removed from the exceptions	—	A grave natural disaster of an exceptional character; or an act of armed conflict, hostility, civil war, insurrection or terrorism.

It is also important that some major countries are still reluctant to amend their domestic law as according to the principles of international nuclear liability<sup>81</sup>. In America, nuclear sector operates under a system of

<sup>81</sup> See generally, MOHIT ABRAHAM, “NUCLEAR LIABILITY: A KEY COMPONENT OF THE PUBLIC POLICY DECISION TO DEPLOY NUCLEAR ENERGY IN SOUTHEAST ASIA” published by American academy of Arts and sciences, available in <https://www.amacad.org/publication/nuclear-liability-key-component-public-policy-decision-deploy-nuclear-energy-southeast/section/4#fromNote13>

economic channelling<sup>82</sup> so as any person who may be liable for nuclear damage is under the general law of torts instead of the system of legal channelling by channelling liability exclusively to the operator<sup>83</sup>. To accommodate this unique legal system into the platform of CSC, it contains a special permission to include America to it without changing the national legislation.

According to the preamble of CSC, a worldwide liability regime should encourage regional and global cooperation to promote a higher level of nuclear safety by introducing international partnership and solidarity.<sup>84</sup> For this purpose, CSC also intends to accommodate all the members of Convention on Nuclear Safety<sup>85</sup> (CNS) as members of CSC.

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<sup>82</sup> The economic channeling principle was transformed to a legal principle by a report issued in 1959 by Harvard Law School and the Atomic Industrial Forum, *International Problems of Financial Protection against Nuclear Risk*. The Harvard report took the view that once a supplier had delivered goods/components to an operator, the supplier no longer had control over those goods/components, and hence the liability for the goods/components was completely transferred as well. At the time, this principle was a significant departure from accepted principles of tort law. No other industry had excluded suppliers from the chain of liability in this manner

<sup>83</sup> The Price-Anderson Act embodies the concept of economic channeling of liability. In accordance with the act, nuclear operators agree to bear the burden of strict liability in return for a limitation of liability over time, guaranteed insurance coverage with manageable premiums, and capped damages. Under this concept of economic channeling, while a supplier may in principle be liable, the operator would cover the eventual economic burden by paying any compensation. Therefore, operators would be required to obtain the maximum amount of insurance against nuclear incidents that they can avail from the insurance industry. Any liability over and above that covered under such insurance would be paid through the fund created under the Price-Anderson Act, the main contributors of which are members of the American nuclear industry. This is in contrast with legal channeling, under which victims cannot bring claims against any entity other than the operator, even if such other entity were to be at fault, because all liability has been shifted to the operator. The legal principle insulating the supplier from all liability was developed based on this concept of economic channeling and provided suppliers with further protection from liability.

<sup>84</sup> See, Michael G. Faure and Tom Vanden Borre, *Compensating Nuclear Damage: A Comparative Economic Analysis of the U.S. and International Liability Schemes*, 33 *Wm. & Mary Envtl. L. & Pol'y Rev.* 219

(2008), <https://scholarship.law.wm.edu/wmelpr/vol33/iss1/5>

<sup>85</sup> The Convention on Nuclear Safety (CNS) aims to commit Contracting Parties operating land-based civil nuclear power plants to maintain a high level of safety by establishing fundamental safety

A major example is the eligibility of South Africa to accede CSC.<sup>86</sup> The Fukushima nuclear incident also shows that, finally the government has to bear the cost of any large-scale nuclear disaster, regardless of national legal provisions to the contrary, in greater public interest.

The Compensation Convention is a self-supporting mechanism exposed to all Countries. By providing the opportunity to deal with legal liability and compensation for nuclear damage through a global regime including nuclear as well as non- nuclear countries, CSC provides a new dimension for international nuclear liability law. This global liability regime can remove legal uncertainty, which will act as an impediment to create nuclear power plants. It can ensure the highest level of safety in nuclear activities and arrange international cooperation in nuclear projects. It guarantees the availability of significant compensation in the event of a nuclear incident. As a self-supporting mechanism, it deals a state the opportunity to become a member of this global regime without any prerequisite to be a signatory of the Paris Convention or the Vienna Convention. CSC upholds the elementary ‘principles of nuclear liability

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principles to which States would subscribe. The Convention is based on the Parties’ common interest to achieve higher levels of safety that will be developed and promoted through regular meetings. It obliges Parties to submit reports on the implementation of their obligations for “peer review” at meetings that are normally held at IAEA Headquarters. This mechanism is the main innovative and dynamic element of the Convention. **Date of adoption:** 17 June 1994, **Place of adoption:** Vienna, Austria, **Date of entry into force:** 24 October 1996, **Depositary:** Director general of the IAEA.

<sup>86</sup> See, David B. Davies, *The Convention on supplementary Compensation for Nuclear Damage and Participation by developing countries: A South African Perspective* Nuclear Law Bulletin No. 93/volu.2014/1 NEA No.7181 OECD 2014

law' formulated in the Paris Convention and the Vienna Convention as it is. The Compensation Convention realizes this uniformity by necessitating a member country either to be a Paris State or a Vienna State or to be an Annex State (country having national legislation consistent with the provisions of the Annex to the Compensation Convention). Even though 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, it also contains provisions to confirm more significant recompense for nuclear damage. Such a well-adjusted attitude is important to entice the comprehensive observance essential for a global regime. CSC is supportive to ensure that all victims are sufficiently and timely recompensed in the happening of a nuclear accident even if it affects only the territory of the installation state as in the Fukushima Daiichi accident, or it has trans-boundary effects as in the Chernobyl accident. It is important to adhere to any one of a nuclear liability regime to have the essential contractual relations between the states that may be affected by a nuclear accident. States are able to increase the funds available to compensate the victims by contributing to such an international fund. All contracting states are liable to ensure that their national legislation replicates the nuclear liability regime to which they adhere. This will lead to the synchronization of the nuclear liability legislations and thus provide similar administration of victims and



operators worldwide. CSC provides the framework for establishing a global nuclear liability regime.

### 7.7. COMPARITIVE STUDY OF CERTAIN DOMESTIC LAWS

Comparing the law related to fixing civil liability for nuclear damages of different countries those who have ratified CSC and made domestic law in accordance with it, the CLND Act which recognises supplier liability is in a better position than any other law.

**TABLE 7.3: Liability law of some countries who have ratified CSC**

COMPARISON OF	INDIA	CANADA	BELGIUM	JAPAN
Date of ratification of CSC	On 4 <sup>th</sup> February 2014	On 6 <sup>th</sup> June 2017	On 1 <sup>st</sup> January 2016	On 15 <sup>th</sup> January 2015
Date of enactment or amendment of domestic liability law compatible with CSC	21 <sup>st</sup> September 2010	26 <sup>th</sup> February 2015	29 <sup>th</sup> June 2014	17 <sup>th</sup> April 2009
Name of the Act	The civil liability for Nuclear damages Act 2010	Nuclear liability Compensation Act 2015	Law on Nuclear third party liability 2014	The Act on compensation for Nuclear damage 2009
Compensable damages under the Act	Nuclear damage as defined in CSC	Nuclear damage as defined in CSC	Nuclear damage as defined in CSC	Nuclear damage as defined in CSC
Non-Compensable damages under the Act	Nuclear incidents arising out of war, hostilities, insurrection	Nuclear incidents arising out of war, hostilities, insurrection	Nuclear incidents arising out of war, hostilities, insurrection	Nuclear incidents arising out of war, hostilities, insurrection
Operator's liability	Liability channelled strictly to operator	Liability channelled strictly to operator	Liability channelled strictly to operator	Liability channelled strictly to operator
Type of liability of operator	Absolute liability	Absolute liability	Absolute liability	Absolute liability

Right to recourse of operator	An extraordinary right to recourse is permitted u/sec.17 (b) of Act.	As according to the CSC or contract in respect	As according to the CSC or contract in respect	As according to the CSC or contract in respect
Limitation period	Application can be made within three years from the date of the personal knowledge of nuclear damage. This will be exhausted after a period of ten years from the date of the notification of the nuclear incident.	There is a three year discovery rule and an absolute limit of ten years from the date of the accident.	Within a period between ten and thirty years from the date of the incident. Article 23 of the law establishes a prescription period of thirty years for nuclear physical injuries and of ten years for other nuclear damage from the date of the nuclear incident in respect of the right to claim financial compensation from the operator	Claims must be submitted within ten years of the date of the incident.
Supplier's liability	Recognised by national law under certain circumstances as product liability	Recognised by national law as according to the provisions of CSC and its Annex.	Recognised by national law as according to the provisions of CSC and its Annex.	Recognised by national law as according to the provisions of CSC and its Annex.
Jurisdiction	Exclusively to the courts of victim state	Exclusively to the courts of victim state	Exclusively to the courts of victim state	Exclusively to the courts of victim state

From the table it is clear that no country other than India grants its operators a right to recourse against their suppliers unless such a right is contractually agreed to or the nuclear incident is the result of a supplier's act or omission intended to cause such damage. Thus the involvement of nuclear power countries in many different worldwide civil nuclear

liability conventions, together with the CSC, ‘without waving its right to recourse’ provides us something to be desired.

## **7.8. CONCLUSION**

The CLND Act and Rules creates a situation where on the one hand there is a public outcry backed by political voices, in the background of post-Bhopal tragedy, the Indian government has not gone far enough to protect the interest of its citizens with national legislation on liability. The government is targeted that it bends against international business interests by capping the amount of liability of the operator and limiting the right of recourse of the operator against the supplier. On the other hand, the international nuclear legal and commerce community accuses India of not following the rules set out by the international nuclear liability regimes. While considering the question of discordancy of CLND Act with the CSC, a position can be taken that the Indian approach is fully in line with the evolution of the international nuclear liability law i.e. importance of domestic law in the evolution of the CSC. There is no priority principle either in the CLND Act or the CSC. The CLND Act did not totally ignore the principle of legal channelling of liability for nuclear damage to the operator as such, but widened the scope of right of recourse of the operator for nuclear damage by inserting additional ground when the nuclear incident has resulted as a consequence of

“supply of equipment or material with patent or latent defects or sub-standard services”. The uncertainty regarding the interpretation of Section 17(b) and Section 46 of the CLND Act is of serious concern to Indian nuclear suppliers as well. The government tried to resolve this uncertainty first by giving explanation through CLND Rules, 2011 and subsequently by making arrangements to provide insurance to the suppliers through the establishment of Indian Nuclear Insurance Pool. The discussions on liability law didn't cover India's trans-boundary commitment under the CSC. The right of recourse and its interpretation becomes the crux of debates. Being a state party to the CSC, in the event of a trans-boundary nuclear impact, Indian victims will not have the exclusive right to be compensated from first tier structure due to its non-discriminatory provisions but half of the funds under second tier structure are reserved for trans-boundary victims. The Government may have to take over the additional financing of compensation amount to provide adequate compensation to the victims and reparation of environment.

## CHAPTER 8

### CONCLUSION AND SUGGESTIONS

**“The Fukushima Daiichi nuclear disaster in March 2011 was an immense tragedy that sparked a global response. The international community came forward with aid to the victims and came together to address the broader concerns about nuclear security and safety”.**

**Ban Ki-moon<sup>1</sup>**

All over the world energy sources are either conventional like coal, oil, natural gas, nuclear materials etc. or non-conventional like sunlight, wind, tide etc. The conventional energy sources are reflected as causes of global, regional and local environmental problems. The increased production of energy is observably causing some problems like pollution of air, soil, water, and ocean. It also causes climate change. The twenty times increase in global power consumption from 1850 onwards may be the major reason behind it<sup>2</sup>.

The most recommended modern technology for sustainable supply of energy is of course the nuclear power generation. The prospect of nuclear energy could go one or the other way, within this sphere either by

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<sup>1</sup> Ban Ki-moon is a South Korean politician and diplomat who served as the eighth Secretary-General of the United Nations from January 2007 to December 2016. Before becoming the Secretary-General, Ban was a career diplomat in South Korea's Ministry of Foreign Affairs and in the United Nations.

<sup>2</sup> *Supra* p.1

accepting it or by parting it behind for other available choices of energy. Policies involving nuclear energy vary widely from region to region, due to the difference of attitudes. Countries such as Japan are phasing out nuclear power completely due to their terrible experience with the Fukushima Daiichi disaster, and others like China just starting big expansion so as to combat the overwhelming air pollution problem. The debate between fossil fuels, nuclear energy and renewable energy sources has been going on in one way or another since nuclear energy's start. There is no clear-cut solution, and it is unlikely that a unanimous or even majority, decision or opinion will ever be reached<sup>3</sup>.

India established its Atomic Energy Commission (AEC) in the year 1948 itself for entering into a nuclear age. After a long time, in the year 2005, July 18<sup>th</sup> India agreed to separate its civil and military nuclear facilities into two by placing a joint statement with United States of America. By this India also agreed to place all its civil nuclear facilities under the power of International Atomic Energy Agency (IAEA). The civil nuclear cooperation between these two countries was signed as the 'U.S.-India Civil Nuclear agreement', which is also known as the '123 agreement'. It is believed that the '123 Agreement' between India and US might place a conclusion to the energy crisis in India. Also, it gave many opportunities to India to make a civil nuclear cooperation with America and certain

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<sup>3</sup> *Supra* p.3

other countries as equal partners. Actually the nuclear sector of India was able to produce 3% of the nation's total electrical energy in the year 2017. India has attained a combined net capacity of 6.2 GWe from the 22 operable nuclear reactors here. As a part of its substantial infrastructure expansion programme, Indian government is dedicated to increase its nuclear power capacity. At the beginning of 2018 six reactors were under construction in India, with a combined capacity of 4.4 GWe. The government in 2010 set an ambitious target to possess 14.6 GWe nuclear capacities online by 2024. Many other states are now moving to the use of nuclear power like India. The capacity of nuclear reactors also has enhanced considerably by this time. Over the last 40 years the proportion of reactors having high capacity factors has increased significantly<sup>4</sup>.

Nuclear power generation is never ever portrayed as a risk-free venture in its whole way. 'Nuclear incident' means any occurrence or series of occurrences having the same origin which causes nuclear damage or, but only with regard to preventive measures, creates a grave and imminent threat of causing such damage. All these repercussions of nuclear power could be classified generally into two broad kinds<sup>5</sup>,

- a. The externalities of a safely working power plant', and

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<sup>4</sup> *Supra* pp. 9-10

<sup>5</sup> *Supra* p. 18

b. The problems after occurrence of an accident in a power plant'

The major danger of a nuclear incident is its unpredictable and unseen nature. Also the radioactive fallout and electromagnetic pulse out of it are hazardous to the environment<sup>6</sup>. Apart from these greater risks there are some other well recognized social as well as pecuniary consequences like decreased house values within the vicinity of both nuclear plants and nuclear waste repositories. Finally, there are future externalities that are very difficult to quantify. These externalities include: human health effects, biodiversity loss, land degradation, diverse social costs, etc. For example, the metal walls of a nuclear vessel become radioactive and thus when decommissioned they are buried for several generations. In addition, the nuclear fuels themselves are irreversibly transmuted. This effectively depletes the reserve of base elements available on Earth and will cause an elemental diversity problem, the value of which might be trivial or enormous and is about impossible to calculate or predict<sup>7</sup>.

Even though the biggest issues right now about nuclear power are pollution by radioactive-waste, nuclear safety, environmental justice, and the costs of nuclear energy, NPPs also create massive volumes of radioactive by-products, mainly in the form of used fuel. Since there is no environmentally responsible solution exists yet, the waste depositories

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<sup>6</sup> *Supra* p. 19

<sup>7</sup> *Supra* p. 22-23



currently in use at most reactor sites are allocated for an uncertain period of time<sup>8</sup>.

Actually there are two problems regarding the calculation of cost of nuclear damage. The first is assessing the cost of nuclear accidents using the figures derived from past events is not a robust method. As it fails to account for safety enhancements, progress in mitigation technologies, and learning from past catastrophes; it can drive cost assessments upwards, provide pessimistic numbers and entail overinvestments in safety or an unbalanced electricity technology mix. Secondly all these assessments are focusing only on *ex ante* policy making and *ex post* compensations. The cost assessments should also be used in order to improve mitigation policies. A proper liability regime should be maintained to fix the civil liability for nuclear damage<sup>9</sup>.

The existing nuclear liability regime has its own advantages and disadvantages. The major disadvantages are the lack of clarity regarding jurisdiction of courts, the power of States to set their limits of liability, the unexhausted definition of nuclear damage, and the lack of universal applicability of the liability treaties<sup>10</sup>. By harmonizing the benefits and weaknesses of the nuclear liability conventions there can be substantial change in the liability and protect the victims in a better way compared to

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<sup>8</sup> *Supra* p. 25

<sup>9</sup> *Supra* p. 28

<sup>10</sup> *Supra* pp.32-38

most of the domestic nuclear liability laws. There are provisions like recognition, enforcement of judgement, procedural channelling, free transferability of payable sum, accountability for damage caused by nuclear reactors having state as operator, donations of other countries to reparation funds etc. Domestic laws are not able to attain these benefits very easily<sup>11</sup>.

The Convention for Supplementary Compensation (CSC) provides a lot of expectations in between these fluctuating policies. It is a convention in which member states contribute to create a world pool of funds. It is habitually reinforced with donations from the nuclear industry, including the supplier community. CSC proposes to complement other civil nuclear liability structures, such as the Paris and Vienna Conventions<sup>12</sup>. A liability regime that provides for max recompense must be hailed, and hence CSC appears to be a step in the proper direction.

The present-day strategies of the U.S. and France in this regard is a positive step towards the confidence of the CSC structure and may have a categorically worthy start line to give a future model through which suppliers, operators, and states could be able to make up a close vicinity to contribute fund to compensate nuclear accident. It might contain certain local preparations and an increase of sources of reserves that are

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<sup>11</sup> *Supra* p. 39

<sup>12</sup> *Supra* p.46

accessible in order to handle a nuclear incident. The prototypes embraced by nuclear industry, as a result of the U.S. attitude of seeking backdated pooling of resources from nuclear suppliers, operators and states could organize a prevailing construction with respect to which an imminent nuclear liability regime might be erected<sup>13</sup>.

The Indo-U.S. Civilian Nuclear Agreement was enacted successfully in October, 2008. To fulfil all the requirements of U.S., India became a signatory of Convention for Supplementary Compensation. The entry into this International regime has happened because of the domestic law which is said to be in conformity with the existing norms. The U.S. agreement was to facilitate civilian nuclear partnership between U.S. and India in conjunction with many other mutual benefits on the term that India will separate its civilian and military nuclear facilities and put civilian facilities under the International nuclear energy Agency (IAEA) inspection<sup>14</sup>.

To facilitate nuclear commerce and attract U.S. private companies involved in nuclear commerce, it was necessary to pass the Civil Liability for Nuclear Damage Act in India. Nuclear Liability Act defines the financial and legal liabilities upon the involved groups like manufacturers, operators and government just in case a nuclear accident

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<sup>13</sup> *Supra* p.47

<sup>14</sup> *Supra* pp.48-51

occurs. Since the suppliers and builders are going to be the U.S. private companies and thus the operator is getting to be the Indian government controlled Nuclear Power Corporation of India Limited (NPCIL), fixing civil liability for nuclear damage under law of nations might be essential for defeating violations of right laws by means of a company crime or accident within the field of atomic energy. Civil liability for Nuclear Damage Act 2010 is an Act which mandates civil liability for nuclear damage and prompt compensation to the victims of a nuclear incident through a no- fault liability regime channelling liability to the operator. The operator may be a government entity or a multi-national corporation. It is submitted that these operators have obligations under law of nations also. Even then the implementation of the said Act delivers a series of various legal issues in India<sup>15</sup>.

The Act provides just for the appointment of national level authorities for dispute resolution. But there is no international court to listen to complaints against such entities. Understanding the legal obligations under law of nations is crucial about the situations where national courts have jurisdiction over ‘violations of law of nations’ committed by ‘non-state actors’. Furthermore, it is vital to know the potential of claims of corporate collaborations in international crimes<sup>16</sup>.The objective of this

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<sup>15</sup> *Supra* p.52

<sup>16</sup> *Supra* p.53

research is to know the law concerning the fixing of civil liability for nuclear damage under the CLND Act 2010, and to investigate the significance of India's civil nuclear liability law in general. It also has some special objectives of connecting the following things also to this research in order to get a comprehensive idea regarding the topic of interest<sup>17</sup>.

- To understand the theoretical and jurisprudential perspective of civil liability
- To analyse the judicial development of the concept of civil liability in India.
- To apprehend the concept of nuclear liability.
- To understand and acknowledge the need of civil liability for Trans-boundary nuclear incidents.
- To analyse the provisions of existing International Conventions to regulate the civil liability for nuclear damages, giving preference to Convention for Supplementary Compensation (CSC).
- To critically analyse the CLND Act 2010 and rules.
- To scrutinise the constitutionality of Civil Liability for Nuclear Damage Act, 2010 and the Civil Liability for Nuclear Damage Rules, 2011.

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<sup>17</sup> *Supra* pp.53-54

- To compare the CLND Act with Nuclear liability Laws of some important countries under CSC.
- To study the compliance of the CLND Act and Rules with India's international legal obligations.
- To find out suggestions for ethical implementation of nuclear policy to pave way towards justice.

This study is limited only to Indian perspective and Indian interests relating to Nuclear Liability Law by adopting a purely doctrinal research methodology. The hypothesis formed for this study is that, "The civil liability provisions in the CLND Act 2010 for nuclear damage are not in tune with the international civil nuclear liability treaties which India has ratified. The theories upon which the global policy regarding civil nuclear liability is based are not ample to include the Indian Act."<sup>18</sup>

This research study contains eight chapters altogether. The first Chapter gives an introduction to the whole study. The concept of civil liability for nuclear damages and its jurisprudential facet is explained in the second chapter. The third chapter discusses the trend of Indian Judiciary in deciding the tortious liability of State presently and its impact on nuclear power sector. Fourth Chapter is to examine the civil liability for environmental and trans-boundary nuclear damage including tortious

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<sup>18</sup> *Supra* p.55

liability for it. Chapter V deals with the international conventions for fixing civil liability for nuclear damage and the gradual development of a global nuclear liability regime. Sixth Chapter is a critical analysis of the present scenario of law of civil liability for nuclear damage in India. Seventh one is a chapter having comparison of CLND Act 2010 of India with the Nuclear Liability Acts of some other countries. The last and final chapter summarises the Conclusions and suggestions<sup>19</sup>.

A comparative study and analysis of the Jurisprudence of civil liability in common law and civil law legal system is explained in the second chapter. In fact there are more similarities than differences between these two. Civil law legal system had depicted 'responsibility to compensate' as something which is closely related to an 'illegal act or wilful negligence' of the party<sup>20</sup>. A tort, in common law jurisdiction, is a civil wrong other than breach of contract that causes a claimant to suffer loss or harm, resulting in legal liability for the person who commits the tortious act. It can include intentional infliction of emotional distress, negligence, financial losses, injuries, invasion of privacy, and many other things<sup>21</sup>. Occasionally liability in a tortious condition may encompass many divergent factors. It is necessary to examine those factors to understand the possibilities and scope of all types of liabilities to be

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<sup>19</sup> *Supra* pp.55-56

<sup>20</sup> *Supra* p.60

<sup>21</sup> *Supra* p.61

considered in a tortious action for liability. A number of liability principles were conceptualised and new concepts which are applicable to different types of tortious circumstances and other civil grievances have been derived and discussed instinctively in different legal systems. These theories are expanded naturally and fit into many circumstances<sup>22</sup>. It mainly consists of:

- i. Fault based liability;
- ii. Joint liability
- iii. Vicarious liability
- iv. Liability to/for Third Parties
- v. Plaintiff/victim Liability and
- vi. Product liability based on strict and absolute liability

This is not an exclusive list of all the existing types of liabilities, but only an unpretentious list of various expansions of tortious liabilities which are theoretically connected to nuclear liability regime<sup>23</sup>.

The fault-based principle of liability had verified as insufficient to deal with many of the socio-legal demands of the twentieth century. Eventually, a gradual evolution from this normal concept of guilt-based

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<sup>22</sup> *Supra* p.62

<sup>23</sup> *Supra* p.63



system of liability towards a new concept of ‘Strict liability’ has been happened, through proper judicial interference<sup>24</sup>.

The justification for imposing ‘strict liability’ for hazardous activities is threefold<sup>25</sup>:

- The individual who produces a danger should bear the liability for any of its subsequent impairment for being fair and equitable
- The operator of the reactor is bound to control the risk and to take necessary measures to prevent any accident; and
- To get insurance coverage for making the reparation of nuclear damage, operator should take any such insurance policy beforehand.

The perception of product liability as established in the precedent case of *Donoghue v. Stevenson*<sup>26</sup>, the rule of *Ryland’s v. Fletcher*<sup>27</sup> and all other rules of strict and absolute liability are found contributory to the civil liability in nuclear power sector. Certain industries involve hazardous activities which pose a danger to human life and property. They are not prohibited by law because they are deemed inevitable for the progress and development of human society. Nuclear power production is a major example of such a type of activity. Absolute liability principle is

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<sup>24</sup> *Supra* p.76

<sup>25</sup> *Supra* p.78

<sup>26</sup> [1932] UKHL 100

<sup>27</sup> (1868) LR 3 HL 330

apparently necessary to make these industries liable for payment of damages under all circumstances, without taking a defence<sup>28</sup>.

Nuclear Energy has a long way to go in this industrialised world. At this point of time, the 'liability law' has only three core purposes to serve<sup>29</sup>:

- Compensation for being a victim of a nuclear damage
- The diplomatic perseverance of clashes, and
- Prevention or deterrence of similar discrepancies in the field of civil nuclear energy.

A nuclear liability regime should compensate civil liabilities for the torts including environmental liability and trans-boundary liability for nuclear damage. Considering a brief history of nuclear accidents worldwide, it is obvious that serious accidents have been very few and far between. A specific obligation to provide restitution and compensation when nuclear activities cause trans-boundary injuries is to be recognised separately from the body of customary international environmental law. Considering better criteria for a better liability regime where it includes elements like unlimited liability, a broad definition of recoverable damage, absolute liability with few or no exceptions, all responsible parties bear joint and several liabilities and a neutral tribunal for the adjudication of claims is to be made. Actually the failure to develop a comprehensive and adequate liability compensation regime is the equivalent of providing an enormous

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<sup>28</sup> *Supra* p.88

<sup>29</sup> *Supra* p.90

subsidy to support this energy sector. An international regime on liability and redress should be based on the polluter pays principle, according to Principle 16 of the Rio Declaration. Polluter should provide means to prevent or remedy environmental damage and should directly and fully compensate victims. An effective and comprehensive liability regime must contain all the standard essential elements<sup>30</sup>.

Indian Civil Liability for Nuclear Damage Act, 2010 articulates however, a fault based right of recourse which holds the supplier of nuclear reactor and other materials with patent or latent imperfection or below average services and amenities as liable to the operator. If this is seen to be a trend in the national jurisprudence regarding civil liability for nuclear damage, it will introduce new dimensions to the international nuclear liability regimes and poses hitherto unforeseen issues for evolution of a universal global nuclear liability regime.

A review as to whether the progress is a pointer towards some new norms and has the potential to contribute to a progressive development of a universal global regime or is retrogressive to the growth thereof and therefore is an aiding signal to nuclear power development. Investigation into the possibilities of such enactments and their effect on the international law therefore, becomes a genuine area for research. The aim

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<sup>30</sup> *Supra* p.91

is to analyse those legal issues regarding civil liability, and also to explore all matters with regard to formation of a strong Indian nuclear liability regime as well as in the universal scenario<sup>31</sup>.

It must be noticed that, despite very different legal cultures, processes and institutions, common law and civil law have displayed a remarkable convergence in their treatment of all these liabilities, like many other legal issues. Based on this theoretical background the Indian enactment for Civil Liability for Nuclear Damage Act 2010 was done, which is in compliance with the international treaty requirements. A research as to whether this progress is a pointer towards some new norms and has the potential to contribute to a progressive development of a universal global regime or is retrogressive to the growth thereof and therefore is a deterrent to nuclear power development is of much importance. Study into the possibilities of such enactments and their effect on the international law therefore, becomes a genuine area for research<sup>32</sup>.

The third chapter reiterates the Indian culture of delimiting the tortious liability of State through a series of case laws in post-constitutional period. After dealing the ratios from different cases, it is suggested that, preferably the legislature should initiate with a clean and clear legislation to demarcate the opportunity of immunity and liability of State. The

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<sup>31</sup> *Supra* p.92

<sup>32</sup> *Supra* p.93

definitions of Government liability should have far-reaching effects to cover all the illegal acts of the Government servants of the State committed in the course of their lawful employment. Victims of State atrocities could be served by such strict law. In fact, due to the lack of such legislation, the court dealing with the cases of tortious claims against State and its officials are not following a uniform pattern while deciding those claims. This may lead to undesirable consequences. The out-dated doctrine of sovereign immunity is to be changed. In England, the Crown Proceeding Act, 1947 made the Crown liable for the acts of its servants. In United States of America also the Federal Tort Claims Act, 1946 has been enacted to define the liability of the State for tortious acts. In India, the bill entitled the Government Liability in Tort is drafted on the lines of the Law Commission of India, with certain modifications suggested in 1969 by the Joint Committee of the Parliament. But still it remains to be enacted as a law. The present liability of the government in tort is not only unsatisfactory but also not in tune with the modern jurisprudential thinking. Immediate measures are required in this field<sup>33</sup>.

Supreme Court of India has held that the functions of the State is not only relate to the defence of the country or the administration of justice, but they are extended to many other welfare spheres like education, commercial, social, economic, political etc. so all these activities cannot

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<sup>33</sup> *Supra* p.95

be protected by saying associated to sovereign power. The Court said that the theory of absolute sovereign immunity is no longer in any welfare State. This is done to prevent the State or the public bodies from acting in an arbitrary manner. Supreme Court, in a number of cases, has awarded compensation for the personal injuries caused by the officers of the government, like in *Rudal Shah v. State of Bihar*<sup>34</sup>. Therefore, compensation can be legally awarded in this case also under public law, i.e. Article 226. The Railways are a commercial body of Union of India which is not merely sovereign body and can be held vicariously liable for the damage caused by the employees otherwise there will be responsibility for the government bodies and will behave in arbitrarily<sup>35</sup>.

Actually the Apex Court of India continuously took appropriate remedy to compensate the magnitude of damage by violation of fundamental rights, in constitutional tort. According to the judgement formulated in *Rudal shah's* case, there are certain landmark rules regarding civil liability of State,<sup>36</sup>

1. Civil liability can arise when constitutional rights are violated.
2. Civil liability can also emerge when there is a violation of personal liberty.

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<sup>34</sup> *Supra* p.96

<sup>35</sup> *Supra* pp.97-98

<sup>36</sup> *Supra* p.115

3. The Court also opined “the plaintiff has the right to compensation if there is a violation of their fundamental rights along with penalizing the authorities which acting in the name of public interest, use their powers as a shield to prevent themselves from scrutiny”.

Ultimately, the award of damages by the hands of the judiciary is indeed a creative concept introduced in India but fails at certain stages due to the absence of well-defined criteria. While concluding, it may be stated that the doctrine of Constitutional Tort is a creative jurisprudence which may also have application in nuclear liability cases. The Apex Court will evolve a scientific criterion for future liability cases accordingly. The rule of sovereign invulnerability or any such immunity has no importance in the present-day setting when the idea of sovereignty itself has experienced radical change. Thus, by reading it along with section 46 of CLND Act, the operator of a nuclear power plant could not escape the civil liability for nuclear damage, at any point of intercourse<sup>37</sup>.

Liberty and equality are the demands of the modern times, where human and fundamental Rights are given transcendental position. The State is under an obligation to protect the life, liberty and property of its citizens. It is held that it is the duty of the State to protect the citizens and also to

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<sup>37</sup> *Supra* p.116

compensate them. However justice requires governmental accountability, the Government being in a fit position to pay damages. The courts have repeatedly stated through the decisions that the remedy lies in the hands of legislature and it is necessary to make the law as a predictable working system<sup>38</sup>.

A sovereign state indicates its right to exploit its own natural resources and its simultaneous right to protect the national territory. Both these facets are contained within the 'principle 21' of the 'Declaration of Principles' assumed by the 'UN Conference on the Human Environment' in 1972. The 1972 Stockholm Declaration restated this norm as follows: "States have, in accordance with the Charter of the United Nations and thus the principles of law of countries, the responsibility to form sure that, the activities within their jurisdiction or control doesn't cause damage to the environment of other States or of areas beyond the bounds of national jurisdiction." This norm was originally formulated within the historical decision in 'Trail Smelter arbitration'. This famous decision set the foundations for discussions of responsibility and liability in environmental law, but it left open the question of whether a State exercising all due diligence would be liable if trans-frontier harm results

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<sup>38</sup> *Supra* p.116



despite the State's best efforts<sup>39</sup>. The fourth chapter includes a detailed decision in this regard.

In 2012, during the construction of India's Kudankulam Nuclear Power Plant (KNPP) Sri Lanka raised serious concerns about their environmental safety threats regarding India's new project located near the Tamilnadu coast. KNPP is only 250 kilometres away from this island Nation. Further India also has serious similar concerns about the siting of Bangladesh's newly proposed power project which is only 50 kilometres away from Indian border. Likewise, forthcoming NPPs within the ASEAN region may have advance earnest apprehensions for all bordering states surrounded by the region, notwithstanding whether or not such nations are following a nuclear energy platform<sup>40</sup>.

Formation of a legal regime administering nuclear activities world-wide was categorically indispensable for the progress of the nuclear power production constructed on the theory of 'liability for risk', due to the high amount of risk involved in it. Many developing states were well-thought-out to believe that nuclear power would provide the additional energy essential to conserve their economies after the war, and to stimulate prompt economic progress by the creative research and growth done by

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<sup>39</sup> *Supra* pp.117-118

<sup>40</sup> *Supra* p.120

‘nuclear states’ into the improvement of nuclear power<sup>41</sup>. Although some of these formed the ‘public-sector trades’, some other states desired to boost private-sector inventiveness in the nuclear field. However, budding venture capitalists were reluctant to act because of the ambiguity in law and uncertainties if in case of an accident would occur about the crippling liability claim<sup>42</sup>. Even if the seriousness of nuclear energy was uncertain in those days, it was definitely known to entail huge risks. Accordingly, many states progressed to fill up the lacuna of law by enacting effective domestic legislations in order to govern their nuclear activities, by incorporating provisions to ensure both safety and liability as an intrinsic part. At the same time all these countries desiring to nurture a nuclear power sector were anxious to defend the operators of nuclear power plants from devastating liability claims and also to offer an acceptable reimbursement for the victims of an accident.

A perfect nuclear liability regime should compensate civil liabilities for the torts including its environmental liability and trans-boundary liability by a nuclear damage. Considering a brief history of nuclear accidents worldwide, it is obvious that serious accidents have been very few and far between. A specific obligation to provide restitution and compensation when nuclear activities cause trans-boundary injuries is to be recognised

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<sup>41</sup> *Supra* p.125

<sup>42</sup> *Supra* p.126

separately from the body of customary international environmental law. Considering better criteria for a better liability regime where it includes elements like unlimited liability, a broad definition of recoverable damage, absolute liability with few or no exceptions, all responsible parties bear joint and several liabilities and a neutral tribunal for the adjudication of claims is to be made. Actually the failure to develop a comprehensive and adequate liability compensation regime is the equivalent of providing an enormous subsidy to support this energy sector<sup>43</sup>. An international regime on liability and redress should be based on the polluter pays principle, according to Principle 16 of the Rio Declaration, precautionary principle, and duty to reparation of trans-boundary liability and all. An effective and comprehensive liability regime contains all the standard essential elements<sup>44</sup>.

The following list contains the major international conventions regarding the civil liability for nuclear damage<sup>45</sup>:-

- i. The 1960 Paris convention
- ii. The 1963 Vienna convention on civil liability for nuclear damage
- iii. The 1963 Brussels supplementary convention
- iv. The 1988 Joint Protocol (in order to the Application of the Vienna Convention and the Paris Convention)

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<sup>43</sup> *Supra* p.142

<sup>44</sup> *Supra* pp.142-143

<sup>45</sup> *Supra* pp.153-154

- v. The 1997 Convention on Supplementary Compensation for nuclear damage
- vi. The 2004 protocol to amend the Vienna convention

All the above international endeavours for fixing civil liability for nuclear damage are founded upon some novel ideologies like<sup>46</sup>:

- The responsibility is channelled to one person;
- The number of exemptions from strict liability of this person are very few;
- Liability is limited to a fixed amount irrespective of the existence of fault on the part of the responsible person; and
- Thus introduced a compulsory financial security against nuclear risk

Many of these new principles are adopted by international conventions and are already been a part of domestic law of many countries. Existing nuclear liability principles are revisited in the backdrop of the Fukushima accident. The entry of new players in the international nuclear energy space, such as India, the UAE, and Vietnam is of much importance as it raises more issues and challenges. A robust nuclear liability regime is essential for the growth of nuclear power as well as to enhance its public acceptance. This requires a great deal of cooperation among countries,

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<sup>46</sup> *Supra* p.154

regulators, international institutions, and the nuclear industry<sup>47</sup>. Many questions are being raised against the extant nuclear liability regime, both on the issue of adequacy of compensation and on the issue of supplier liability. After a detailed study of all the existing nuclear liability conventions, it is of no doubt that, all the principles lay down by the Paris and Vienna Conventions form the foundation of the international nuclear liability law. Contracting nations have the option either to renovate these principles of the conventions into domestic laws or to directly implement the convention as self-executing. Also these principles have been duplicated in the domestic laws of states with civilian nuclear energy programs that are not party to any of the conventions<sup>48</sup>.

All these Conventions are based on the civil law concept and share the following main principles<sup>49</sup>:

1. The no-fault liability principle (strict liability as well as absolute liability);
2. Liability is channelled exclusively to the operator of the nuclear installation (legal channelling);
3. Only courts of the state in which the nuclear accident occurs would have jurisdiction (exclusive jurisdiction);

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<sup>47</sup> *Supra* p.155

<sup>48</sup> *Supra* p.188

<sup>49</sup> *Supra* pp.189-190

4. Limitation of the amount of liability and the time frame for claiming damages (limited liability); and
5. The operator is required to have adequate insurance or financial guarantees to the extent of its liability amount (liability must be financially secured or compulsory cover for liability).
6. Non-discrimination of victims on the ground of nationality, domicile or residence.

Liability is 'strict' and 'exclusive' regarding nuclear incidents. It means the liability is routed absolutely to the operator of the nuclear reactor which caused the nuclear accident and nobody may be supposed responsible for any reason. A supplier or contractor may not be held liable, even if he has been negligent or is at fault, except if he has accepted liability by contract, in which case the operator has a right of recourse<sup>50</sup>. The operator also has a right of remedy against an individual who has acted with intention to cause damage. Even then, the operator is completely liable as the victims are concerned. Thus nuclear Liability is based on the principle of 'no fault'. So negligence on the part of the operator need not be evidenced by the plaintiff. There are few exceptions to this general rule of liability. Thus the plaintiff wants simply to prove that he has grieved some injury or damage and that it was caused by this particular nuclear accident. The operator of a nuclear reactor is a person acknowledged or

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<sup>50</sup> *Supra* p.190

nominated as the operator by the competent public authority. The member state is mandatory to entitle an operator for each nuclear reactor on its territory. The operator is exempted from liability for a damage triggered by a nuclear incident straight away due to an action of armed conflict, hostilities, civil war, insurrection or, except in so far as the legislation of the installation state may provide to the contrary, a grave natural disaster of an exceptional character<sup>51</sup>. Presently the existing global liability regime is facing many questions regarding its efficiency and extant. It has problems based both on the issue of adequacy of compensation and on the issue of supplier liability.

The sixth chapter compares the domestic liability laws of certain countries which are recently entered into the international nuclear liability regime with the support of their national law. CSC which is now in force from 15<sup>th</sup> April 2015, is ratified by 9 countries as of now, say Argentina, Morocco, Romania, Canada, Belgium, Japan, UAE, USA and finally by India. As a country standing inside the Global Liability Regime with almost a score and above nuclear power plants, India has to step forward much boldly without compromising its democratic principles. Fukushima Daichi is a path-finder and India has to get an idea regarding the lessons to be learned from it. It is essential to review and possibly reform India's nuclear liability regime to establish a crystal clear perspective regarding

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<sup>51</sup> *Supra* pp.190-191

it. To rule out scepticism in the Nuclear Liability Regime, the law must be without any ambiguity and lacunae<sup>52</sup>. A global nuclear liability regime may be achieved if all states with nuclear installations and as many states as possible that may be affected by a nuclear accident establish treaty relations. Adhering to a nuclear liability regime provides the necessary treaty relations between the states that may be affected by a nuclear accident (e.g. on which territory an accident may occur or damage may be suffered) to clarify which law applies or which court is competent, to establish the recognition and enforcement of judicial decisions and, depending on the applicable convention, to increase the funds available to compensate the victims by contributing to an international fund. In addition, because contracting states should ensure that their national legislation reflects the nuclear liability regime to which they adhere, a broader adhesion to the Paris-Brussels regime, the Vienna regime or the CSC should lead to the harmonisation of the nuclear liability legislation and thus promote similar treatment to victims and operators worldwide<sup>53</sup>. The comparative study includes the domestic laws of America, Canada, Belgium and Japan along with the CLNDA 2010.

The U.S. domestic law about civil nuclear liability, say the Price-Anderson Act, 1957 has been amended in 1966, 1975 and 1988. The Act

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<sup>52</sup> *Supra* p.192

<sup>53</sup> *Supra* pp. 209-210



was renewed with the passage of the Energy Policy Act of 2005, which extended it till 31 December 2025. This U.S law does not allow the right of recourse to the operator. It explicitly denies the right of recourse of an operator of a covered installation, even if it is an allowed one under CSC. As far as international nuclear liability regime is concerned, the U.S. played a key role in developing the CSC<sup>54</sup>.

The archaic principle behind the Price Anderson Act is in no way a burden in this technologically rejuvenated arena of nuclear industry. On the other hand, the US is pursuing a different agenda, by pushing CSC and existing liability principles as the global solution towards third party nuclear liability. Although amending an international liability convention is not very easy, recent developments in all other Human rights instruments reflect a renewed commitment in the international community to improve the prospects towards greater adherence to the modernised democratic regimes. The path forward must be bold with a greater commitment by states. More countries must adhere to this democratic principle of simple and conditional application of tortious nuclear liability regimes and adopt consistent legislation. Although there are compelling arguments in favour of a global nuclear liability regime, today more than half of the reactors in operation or under construction worldwide are not currently subject to any of the international nuclear

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<sup>54</sup> *Supra* p.115

liability regimes in force. The Fukushima Daiichi accident revealed that good practices and improvements in the implementation of new nuclear liability principles should be considered in order to ensure adequate compensation for all the victims of an accident without any discrimination<sup>55</sup>.

The governing objective of Canada's 'Nuclear Liability and Compensation Act 2014' includes a balancing between the need for predictability in liability and risk amongst operators, suppliers and contractors, harmonization of legal outcomes in different jurisdictions and efficient compensation for victims of nuclear incidents etc. The Japanese and Belgian law also found in conformity with the CSC Regime. Comparing the law related to fixing civil liability for nuclear damages of different countries those who have ratified CSC and made domestic law in accordance with it, the CLND Act which recognises supplier liability is in a better position than any other law. The Canada's 'Nuclear Liability and Compensation Act 2014 (NLCA)' replaced the previous domestic legislation in order to better address the liability and compensation in the event of a nuclear accident in Canada. On 6 June 2017, Canada ratified the Convention on Supplementary Compensation for Nuclear Damage (CSC). Because Canada is not a member of the Paris Convention or the Vienna Convention, it was required to join as an

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<sup>55</sup> *Supra* p. 117

Annex State. Ratification followed the 1 January 2017 entry into force of the Nuclear Liability and Compensation Act and the Nuclear Liability and Compensation Regulations<sup>56</sup>.

As an aftermath of Fukushima Daiichi incident in 2011, Japan decided to take steps for the conclusion and implementation of the CSC and it was happened in 2015 on 15th April. It was actually an imperative step to build up and reinforce the global nuclear liability regime. The Convention on Supplementary Compensation for Nuclear Damage had entered into force subjected to the ratification of Japan to it. As soon as, Japan ratified the CSC, the circumstances of the entry into force of the CSC were fulfilled<sup>57</sup>.

In response to this, the Japan Atomic Energy Commission established an expert committee on the compensation system for nuclear damage, and the best way of the compensation system for nuclear damage has been examined from professional and comprehensive points of view since May, 2015. Concerning the discussion of the best nuclear damage compensation system in Japan, with respect to the CSC, strict liability, channelling of liability and limitation of a right of recourse are the common principles of international conventions, including the CSC, and will be maintained in light of the CSC, which Japan joined. The core

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<sup>56</sup> *Supra* p. 121

<sup>57</sup> *Supra* p. 123

discussion in the expert committee seems to be whether liability of a nuclear operator should be limited or not and how to design a system that best fits a State responsibility in light of the scope of the nuclear operator's liability. And there is also an opinion that the compensation scheme based on the Corporation Act can be sustainable, but after the electricity market's liberalization, it will be difficult to continue to maintain the system of contribution based on the fully distributed cost method before the electricity market is liberalized<sup>58</sup>.

Japan originally had domestic law not inferior to the demands of the international nuclear damage compensation system. In addition to this, when Japan joined the CSC, it carried out the development of some of its legal system with an awareness of being consistent with domestic law and the CSC, and further enhanced consistency with the CSC. Japan constructed the scheme of mutual assistance based on the Corporation Act for huge compensation for nuclear damage by the Fukushima incident and is going to pay the compensation. On the other hand, re-examination of the best way to handle the new nuclear damage compensation system in light of the Fukushima incident is still being developed in the framework of the CSC<sup>59</sup>.

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<sup>58</sup> *Supra* p. 228

<sup>59</sup> *Supra* p. 229

The Government of Japan, being the State that caused the Fukushima incident, taking it as the responsibility of the country to contribute to the construction of an international nuclear damage compensation system, joined the CSC. Currently, nuclear reactors which are under the CSC are more than those which are under the Vienna Convention or the Paris Convention. It can be said that the presence of the CSC as an international nuclear damage compensation system is very high. In future, it will be required to focus on the further universalization of the international nuclear damage compensation system<sup>60</sup>.

After the signature of the revision Protocols to the Paris and Brussels Conventions by Belgium, the 2014 Belgian law on nuclear third party liability has been arrived into force. Actually it is believed that the Act took effect slightly prematurely. The revision Protocols to the Paris and Brussels Conventions are yet to be ratified by all other the EU Member States. Even the entry into force of the revision Protocols were pending at the time of enforcement of the Belgian Law. A system is not yet enacted to properly regulate the modalities of the state intervention. As long as it proves unmanageable to obtain full coverage from the commercial

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<sup>60</sup> *Supra* p. 230

insurance markets or other financial markets, the state intervention remains necessary<sup>61</sup>.

All Member States of the European Union that have operating nuclear reactors on their territory are facing the same problems of universal lack of private insurance cover for the period between the tenth and the thirtieth year after the nuclear accident and, to a lesser extent, for the coverage of the environmental damage. Thus all these countries face some issues to deal the state intervention. Belgium is looking forward now to extend the State guarantee where as some other countries like the UK think along the lines of a reinsurance of nuclear liability by the State where there is a market failure. To extend this State aid it is necessary to impose an adequate remuneration from the operators in the nuclear field. It also poses the problem of computing such remuneration appropriately. Once the ratification process of the revision Protocols to the Paris and Brussels Convention comes to an end and the revisions enter into force, the insurance sector will be forced to evolve and come up with practical commercial insurance solutions suitable in a transformed marketplace<sup>62</sup>.

The international Liability frameworks, including the CSC, become more and more functional and the lessons learned from the Fukushima incident by Japan is utilized more globally. To fully address the uncertainties

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<sup>61</sup> *Supra* p. 240

<sup>62</sup> *Supra* p.241

underlying in these international nuclear liability conventions, it requires the existence large degree of organization and contribution. It is fairly acceptable to ensure the partaking of all countries having the reactors in those countries in international nuclear liability conventions<sup>63</sup>. Giving up the monetary insinuations of the national recompense amount, the CSC does not comprise anything that creates excessive burden on developing countries say nuclear or non-nuclear, wishing to take part in the regime of CSC. Certain features of the CSC, such as the opportunity to control bilateral or regional agreements to execute obligations, with respect to the national amount, may enable developing countries' partaking in the CSC. To generate and augment some more consciousness of the benefits of CSC a constant international edification on the CSC is essential. The CSC delivers an opening to both developing and advanced nuclear and non-nuclear countries to participate in the international nuclear liability regime. While on moving ahead it will be proved if the CSC reaches the unquestionable prospective that it embraces. Actually the unsuccessful experiences and time have revealed that this global regime concerning to civil liability for nuclear damage requires some substantial development. As the international conventions were established at the embryonic stage of nuclear industry, where its insinuations were not completely implicit it is not quite surprising. Nevertheless, States are now trying to find

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<sup>63</sup> *Supra* p.242

solutions for all the prevailing difficulties by aggressively involved in the practice of renovating and escalating the global civil nuclear liability system. It is true that the process might have sustained for some more years due to the diverse interests and approaches of the States involved in it. It is obvious that, many of the important nuclear energy-producing countries remain outside the purview of these conventions, and many national laws differ from their provisions, thus impeding harmonization efforts. Further, some countries have limited liability requirements, and others have unlimited liability regimes, which also complicates the goal of achieving harmonization<sup>64</sup>.

No neutral tribunal is established globally and claimants are generally required to file claims in the courts where the nuclear installation is located, even with respect to nuclear transports on the high seas, with attendant costs, concerns about neutrality of the courts and law, and limitations of recoverable damages. Liability is limited in time and in amount, amounting to a subsidy of the nuclear industry; the definition of damage is narrow and likely to be interpreted by the courts of the installation state; and the treaties that are there enjoy very narrow participation<sup>65</sup>.

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<sup>64</sup> *Supra* pp.242-243

<sup>65</sup> *Supra* p.244



The adoption of the Convention on Supplementary Compensation for Nuclear Damage (Compensation Convention) has opened a new chapter in international nuclear liability law. The Compensation Convention provides 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 (nonnuclear 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. The Compensation Convention is a free-standing instrument open to all States. 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<sup>66</sup>.

The Compensation Convention maintains 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

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<sup>66</sup> *Supra* p.250

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)<sup>67</sup>.

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, while it includes provisions to ensure more meaningful compensation for nuclear damage. This more balanced approach is fundamental to attracting the broad adherence necessary for a global regime. Whether a nuclear accident affects only the territory of the installation state, as with the Fukushima Daiichi accident, or has trans-boundary effects, such as the Chernobyl accident, it is important that victims are adequately and timely compensated.<sup>68</sup>

A Public Interest Litigation<sup>69</sup> challenging various aspects of the CLND Act and Rules was filed in 2011 with the Supreme Court of India. This PIL is filed against the background of Fukushima nuclear incident. The petitioners in this matter requested the Supreme Court to declare the CLND Act unconstitutional and ‘void ab initio’ considering that it caps

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<sup>67</sup> *Supra* p.251

<sup>68</sup> *Supra* p.251

<sup>69</sup> *Supra* p. 252; Yash Thomas Mannully v. Union of India& others, W.P.C.No.27960/2011, 422 K LW 240 (21 August 2015)

the maximum amount of liability of the operator, excludes the liability of the operator in certain circumstances, and contains the principle of legal channelling to the operator, which deprives the option of right to sue suppliers by the victims. It is also argued that these provisions violates the “polluter pays” principle and the principle of absolute liability, which the Supreme Court has recognized under Article 21 of the Constitution of India in its various judgments by widening the concept of “right to life”. Although, during the preliminary hearing, the Supreme Court orally observed that it may not have the experience to rule on highly technical matters, but the issue of an adequate regulatory mechanism could be addressed<sup>70</sup>.

While considering the question of incompatibility of CLND Act with the CSC, a position can be taken that the Indian approach is fully in line with the evolution of the international nuclear liability law i.e. importance of domestic law in the evolution of the CSC. There is no priority principle either in the CLND Act or the CSC. The CLND Act did not totally ignore the principle of legal channelling of liability for nuclear damage to the operator as such, but widened the scope of right of recourse of the operator for nuclear damage by inserting additional ground when the

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<sup>70</sup> *Supra* p.253

nuclear incident has resulted as a consequence of “supply of equipment or material with patent or latent defects or sub-standard services<sup>71</sup>”.

Comparing the law related to fixing civil liability for nuclear damages of different countries those who have ratified CSC and made domestic law in accordance with it, the CLND Act which recognises supplier liability is in a better position than any other law. Thus the participation by nuclear countries in the various international nuclear liability conventions, including the CSC, without waving its right to recourse leaves something to be desired. Still, large degree of organization and contribution is required for the international nuclear liability conventions to fully address the uncertainties underlying in their existence. It can be said that the participation in international nuclear liability conventions by all countries relative to the number of reactors in those countries is fairly acceptable<sup>72</sup>.

Leaving aside the financial implications of the national compensation amount, the CSC does not contain provisions that are overly burdensome on developing countries (nuclear or non-nuclear) wishing to participate in the CSC. Some of the features of the CSC, such as the opportunity to leverage bilateral or regional agreements to implement obligations, in respect of the national amount, may facilitate developing countries’ participation in the CSC. Further, continuous worldwide education on the

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<sup>71</sup> *Supra* p.254

<sup>72</sup> *Supra* p.255

CSC is required to create and enhance awareness of the benefits it contains. The CSC provides an opportunity to nuclear and non-nuclear countries (both developing and advanced) to participate in the international nuclear liability regime and time will tell if the CSC attains the undoubted potential that it holds. Time and unfortunate experience have shown that the international regime relating to liability for nuclear damage is in need of considerable improvement. This is hardly surprising, as the international conventions were developed when the nuclear industry was in its infancy and its implications were not fully understood. However, States are now actively engaged in the process of modernising and expanding the liability system to overcome the existing problems. Due to the varied interests and attitudes of the States involved, the process may continue for some years<sup>73</sup>.

Currently, Environmentalists for Nuclear Energy and the World Nuclear Association stand on the pro side of the issue, maintaining that nuclear energy and nuclear power plants are safe and sustainable. The con side has NIRS (Nuclear Information and Resource Service) and Greenpeace International arguing the dangers posed by nuclear power plants to the environment and people<sup>74</sup>.

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<sup>73</sup> *Supra* p.256

<sup>74</sup> *Supra* p.256

A nuclear liability regime should compensate civil liabilities for the torts including environmental liability and trans-boundary liability for nuclear damage. Considering a brief history of nuclear accidents worldwide, it is obvious that serious accidents have been very few and far between. A specific obligation to provide restitution and compensation when nuclear activities cause trans-boundary injuries is to be recognised separately from the body of customary international environmental law. Considering better criteria for a better liability regime where it includes elements like unlimited liability, a broad definition of recoverable damage, absolute liability with few or no exceptions, all responsible parties bear joint and several liabilities and a neutral tribunal for the adjudication of claims is to be made. Actually the failure to develop a comprehensive and adequate liability compensation regime is the equivalent of providing an enormous subsidy to support this energy sector. An international regime on liability and redress should be based on the polluter pays principle, according to Principle 16 of the Rio Declaration. Polluter should provide means to prevent or remedy environmental damage and should directly and fully compensate victims. An effective and comprehensive liability regime must contain all the standard essential elements.<sup>75</sup>

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<sup>75</sup> *Supra* p. 257

A review as to whether the progress is a pointer towards some new norms and has the potential to contribute to a progressive development of a universal global regime or is retrogressive to the growth thereof and therefore is a deterrent to nuclear power development. Research into the possibilities of such enactments and their effect on the international law therefore, becomes an genuine area for research. This research aims at analysing those legal issues regarding civil liability, with a view to explore all matters with regard to formation of a strong Indian nuclear liability regime as well as in the universal scenario.<sup>76</sup>

There is no doubt that those principles lay down by the Paris and Vienna Conventions form the bedrock of international nuclear liability law. Contracting states have the option either to transform the principles of the conventions into domestic laws or to directly implement the convention as self-executing. Even then the international nuclear liability regime is extremely patchy, complicated and features sparse participation. While the recent amendments to the Vienna and Paris Conventions are much heralded, they are heavily hedged with exceptions and the amended Protocols enjoy even more sparse participation than the original Conventions. Others, such as the Convention on Supplementary Convention, are not in force; and for those that are in force, many major

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<sup>76</sup> *Supra* p. 257

nuclear countries are not party to them. So discussion of Conventions must take into account their membership<sup>77</sup>.

Also to clear out a reasonable doubt regarding the effectiveness of the present liability regime including both Paris and Vienna regimes and CSC, the practicability of its provisions for prompt and adequate compensation payment for those places which are affected by an accident is being examined. It is obvious that, many of our important nuclear energy-producing countries remain outside the purview of these conventions, and many national laws differ from their provisions, thus impeding harmonization efforts. Further, some countries have limited liability requirements, and others have unlimited liability regimes, which also complicates the goal of achieving harmonization. Characteristics of the system include that no neutral tribunal is provided and claimants are generally required to file claims in the courts where the nuclear installation is located, even with respect to nuclear transports on the high seas, with attendant costs, concerns about neutrality of the courts and law, and limitations of recoverable damages. Liability is limited in time and in amount, amounting to a subsidy of the nuclear industry; the definition of damage is narrow and likely to be interpreted by the courts of the

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<sup>77</sup> *Supra* p.258



installation state; and the treaties that are there enjoy very narrow participation<sup>78</sup>.

The CLND Act and Rules creates a situation where on the one hand there is a public outcry backed by political voices, in the background of post-Bhopal tragedy, the Indian government has not gone far enough to protect the interest of its citizens with national legislation on liability. The government is targeted that it bends against international business interests by capping the amount of liability of the operator and limiting the right of recourse of the operator against the supplier. On the other hand, the international nuclear legal and commerce community accuses India of not following the rules set out by the international nuclear liability regimes. While considering the question of discordance of CLND Act with the CSC, a position can be taken that the Indian approach is fully in line with the evolution of the international nuclear liability law i.e. importance of domestic law in the evolution of the CSC. There is no priority principle either in the CLND Act or the CSC. The CLND Act did not totally ignore the principle of legal channelling of liability for nuclear damage to the operator as such, but widened the scope of right of recourse of the operator for nuclear damage by inserting additional ground when the nuclear incident has resulted as a consequence of

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<sup>78</sup> *Supra* p. 258

“supply of equipment or material with patent or latent defects or sub-standard services”<sup>79</sup>.

The uncertainty regarding the interpretation of Section 17(b) and Section 46 of the CLND Act is of serious concern to Indian nuclear suppliers as well. The government tried to resolve this uncertainty first by giving explanation through CLND Rules, 2011 and subsequently by making arrangements to provide insurance to the suppliers through the establishment of Indian Nuclear Insurance Pool. The discussions on liability law do not cover India’s trans-boundary commitment under the CSC. The right of recourse and its interpretation becomes the crux of debates. Being a state party to the CSC, in the event of a trans-boundary nuclear impact, Indian victims will not have the exclusive right to be compensated from first tier structure due to its non-discriminatory provisions but half of the funds under second tier structure are reserved for trans-boundary victims. The Government may have to take over the additional financing of compensation amount to provide adequate compensation to the victims and reparation of environment<sup>80</sup>.

In this thesis the liability regime as it now stands, as well as some of the proposals for its improvement have been described.

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<sup>79</sup> *Supra* p. 297

<sup>80</sup> *Supra* p. 298

## SUGGESTIONS

To improve the nuclear energy sector and liability regime in India, in the said model of the CSC, in which states contribute to an international pool of funds, can be further, strengthened with contributions from the nuclear industry, including the supplier community. Any model that provides for maximum compensation must be welcomed, and to this end, the CSC appears to be a step in the right direction. The CSC also intends to supplement other liability frameworks, including the Paris and Vienna Conventions. In fact, Article XII (3) (a) and (b) of the CSC envisages that regional arrangements or agreements can be entered into by contracting parties to the CSC. Thus, while future regional frameworks could provide for principles of liability, trans-boundary incidents, and other critical aspects like siting as well as regional mapping of risk zones and possible risk scenarios within a region, the CSC model along with an additional contribution from the industry would provide a significant boost to these regional frameworks by providing accessible funds. The CSC would therefore be a meaningful base on which a reformed nuclear liability regime could be built. Any discussions on reconsidering international nuclear liability law should also factor in the unique challenges of countries that are new entrants in nuclear energy, in particular those that plan to rely exclusively on foreign operators and suppliers. Since none of

the international or domestic laws deal with this scenario, it is important that some thought is provided on this aspect as well. Another major issue, which is likely to be increasingly raised in the Asia region, is the new model of international nuclear liability law introduced by the CLNDA. If any of the nuclear reactor suppliers agree to function under this law, it could set a precedent for the acceptability of supplier liability that would fundamentally alter commercial practices in the area of nuclear commerce. Wider acceptance of this liability regime would also have a significant impact on countries that are in the process of formulating their own liability laws. Other countries in the ASEAN region, such as Malaysia and Indonesia, may also consider adopting the CLNDA model—particularly in light of the incident at Fukushima, where a large portion of the liability fell to the government and ultimately the Japanese taxpayer. Civil society played a strong role in highlighting the approach taken by India in formulating its liability law, and it is not inconceivable that this aspect of supplier liability would enter the public discourse of countries that are considering liability laws, and would put pressure on governments to strongly consider this aspect. The following are major suggestions in this regard:-

## **I. Regional Cooperation**

Considering the difficulties that the world has already seen in developing a global nuclear liability regime, the focus on regional cooperation and arrangements in the area of international nuclear liability should be developed. Regional initiatives would facilitate a global liability regime through regional efforts. Developing nations in South Asia and the ASEAN region have an intrinsic mutual interest in formulating and strengthening a regional framework, and it may be easier to achieve such a framework with a more modest goal of attaining uniformity and certainty in a region as opposed to the entire world. At the same time, any viable nuclear liability regime would also have to provide sufficiently high levels of compensation and accessible funds. This should not be the responsibility of states alone. Everyone in the nuclear industry including the Supplier community has to step forward in making reasonable contributions to such a regime within acceptable economic parameters that do not discourage the private sector from continuing its important role within the nuclear industry.

## **II. Supplier's contribution**

Supplier community also has to step forward in making reasonable contributions to such a regime within acceptable economic parameters that do not discourage the private sector from continuing its important

role within the nuclear industry. While the supplier community along with other major countries would continue to resist such a liability, it is imperative to recognize that for such liability to be excluded in the manner it presently is, the entire nuclear industry must play a stronger role in contributing to compensation for nuclear accidents. Thus, a system in which funds for nuclear accidents are contributed by all layers—states, operators, and suppliers—would make available more funds than any of the present liability regimes and would be a strong step toward building an effective and fair nuclear liability regime. The joint declaration on Civil Liability for Nuclear Damage by the United States and France on August 29, 2013 is also a positive step toward the realization of the CSC framework and can serve as a very good starting point to provide a future model in which states, operators, and suppliers play a part in contributing funds toward compensating nuclear accidents. The IAEA ought to consider providing INLEX with terms of reference on a re-examination of the existing principles of international nuclear liability, including those in relation to regional arrangements and an expansion of sources of funds that are available in the case of a nuclear incident. The models adopted by CSC and the oil industry, as well as the U.S. approach of seeking retrospective pooling of funds from nuclear suppliers, could provide an existing structure on the basis of which a future nuclear liability model could be built.

- **Renegotiation of contract with suppliers**

India cannot amend its civil nuclear liability law to satisfy the supplier states for political as well as policy reasons. The question that arises is whether the foreign suppliers would accept India's nuclear liability law. Instead of opposing it and insisting on its amendment (as the United States is doing). An alternative model as proposed for France and Russia (one that is reportedly being contemplated by both countries) would be to renegotiate their contracts/agreements with the Indian government. For instance, the following points could be renegotiated:

- **Price escalation**

The present system of excluding supplier liability is primarily driven by a desire to make nuclear energy cost-effective; it allows nuclear operators to channel the costs of insurance so that suppliers do not also have to budget for such insurance. If every supplier were to take out its own insurance, the cost of such insurance (which in the nuclear sector is significantly high) would be passed on to the operator and ultimately to the consumer. Therefore, if supplier liability is accepted as a principle, nuclear supplier countries will insist that the extra cost of such insurance is factored into the costs to be borne by the operator. That is, supplier countries would balance the additional liability being

imposed on them by increasing the cost of their product. Russia ostensibly is adopting this line of negotiation in relation to the reactors at Kudankulam for which construction has not yet begun.

- **Supplier's right to receive a certificate of satisfaction**

At the time of delivery of any product related to a nuclear power plant, suppliers could insist on receiving a certificate of satisfaction from the operator noting that the product meets all specifications and is of the highest quality. The Indian operator could provide the certificate after appropriate testing or even after a period of time of using the product. The supplier would then insist on the operator's assurance that, having tested and deemed itself fully satisfied with the product, the operator agrees contractually that the product of the supplier does not suffer from any "patent or latent" defects as envisaged under section 17(b) of the CLNDA.

- **Documentation of quality assurance programmes**

Compliance of the supplier with quality assurance programs or manuals prescribed by the Indian operator could also be documented to serve as future proof that the product supplied did not suffer from any defects.



- **Supplier's right to be indemnified against third party claim**

The supplier could then also insist that the Indian operator indemnify the supplier against any action or claim that might be brought against the supplier by any third party.

### **III. Full coverage**

A regime should clearly cover all nuclear installations; all nuclear incidents wherever they should apply, and their effects anywhere in the world; damage to the environment per se; should not carry exemptions, particularly for terrorist attacks; should provide for an international tribunal; should provide for a backup fund for providing compensation where a liability regime fails; should not limit liability to an operator and should not provide for limits on liability amounts.

### **IV. Universal acceptability for India's Supplier liability law**

In order to benefit from the massive commercial potential of India's civilian nuclear energy sector, France and Russia may want to focus their resources on contractual negotiations rather than on changing the law. If they do pursue this approach, it would mark a watershed moment in international nuclear liability law. Even tacit acceptance of the concept of supplier liability by countries such as France and Russia would have the effect of inviting a broader examination of the principles of legal

channelling that have underpinned international nuclear liability law for the last five decades. Countries that are on the threshold of accepting civilian nuclear energy might also explore the possibility of adopting laws similar to India's CLNDA. And if major suppliers accept the principle of supplier liability in India, they would have difficulty denying a similar right to other nations. The possibilities and challenges thrown up by the CLNDA, though still in the realm of speculation, are exciting and have the potential to alter in fundamental ways the present discourse on international nuclear liability.

#### **V. Considerable improvement of international nuclear liability regime**

Time and unfortunate experience have shown that the international regime relating to liability for nuclear damage is in need of considerable improvement. This is hardly surprising, as the international conventions were developed when the nuclear industry was in its infancy and its implications were not fully understood. However, States are now actively engaged in the process of modernising and expanding the liability system to overcome the existing problems. Due to the varied interests and attitudes of the States involved, the process may continue for some years.

**VI. Corporate liability under international law**

It's suggested that the scope of the obligations activates the capacity of the corporate also because the State. The Act provides just for the appointment of national level authorities for dispute resolution and also there's no international court to listen to complaints against such entities. Understanding their legal obligations under law of nations is a crucial think about situations where national courts have jurisdiction over violations of law of nations committed by non-state actors. Furthermore, it is vital to know the potential of claims of corporate complicity in international crimes and thus the impact such claims may have within the sector of ethical investment

**VII. Compulsory levy on all operators of nuclear installations**

Contributions from the nuclear industry could, be raised by means of a compulsory levy on all operators of nuclear installations in the Contracting Parties in the case of an accident. This "levy" approach might result in funds for supplementary compensation being raised as follows:

- Up to a specified limit (probably the liability limit in the revised Vienna Convention) or any higher amount applicable under national law, funds from the operator's insurance or other financial security;

- up to a second specified limit, public funds provided by the installation State, as in the Brussels Convention;
- beyond the amount paid by the installation State, funds provided by contributions from the operators of nuclear installations situated in the territories of all the States parties, in accordance with a scale of contributions based upon criteria such as the thermal power of the nuclear installations involved and the particular characteristics of their inventory of radioactive material; and
- If some of the damage still remains uncompensated, public funds to be made available by the States parties.

### **VIII. Third party liability insurance for nuclear installations**

To a certain extent it is a risky proposition for the following reasons:

- at the beginning, very little was known about the potential hazards of nuclear energy because it was an entirely new field;
- although the consequences of an accident could not be quantified, it was suspected that the total amount of damage might be quite considerable;
- the frequency of accidents was unknown and could not be predicted;

- little was known about the type of damage that might be caused;
- however, it was known that personal injury might only become manifest after the passage of a number of years;
- in most countries, there were only a small number of installations, thus limiting the number of potential policy-holders and the amount of premium income available on a national basis;
- the number of installations was relatively small worldwide, thus restricting the total amount of premium income available internationally;
- Nuclear installations differed considerably in size, design and technology; and the value of the installations and hence the material damage cover required was extremely high.

Instead of being provided by individual companies, in each country where nuclear insurance is available, it is provided by a "pool", a group of companies who have joined together voluntarily on a co-insurance basis. The terms and conditions under which business is carried on in each pool are set forth in a pool management agreement. Except for the United States, where there are two pools, there is a single nuclear insurance pool for each country. At present, there are 28 nuclear insurance pools throughout the world, each operating under

different constitutions and procedures, in accordance with local legal, economic, social and market conditions. Since their creation, the capacity of the pools has increased many times over, as more companies join, and with experience they are willing to take more risks.

### **IX. Adherence to green protocol**

While constructing a Nuclear Power Plant, a green protocol is to be followed. The Government of India has, after examination of various options for green growth, reiterated the importance of accelerated development of nuclear energy along with other clean energy technologies.

### **X. Unlimited liability**

Since compensation of damage is a right of every individual, the cap on liability of the authorities shall not serve the purpose. Unlimited liability must be there at least in principle.

### **XI. Greater compensation to more people**

The principal objective of all the Nuclear Liability Conventions was to provide greater compensation to more people for a wider scope of nuclear damage. This is enabled by shifting more of the onus for insurance to industry. The definition of "nuclear damage" was also broadened to

include environmental damage and economic costs, and the scope of application is widened. CSC removed the requirement for a state to restrict the maximum liability of a nuclear operator, allowing for the first time states with a policy preference for unlimited liability to join the convention. The CSC is expected to be ratified by all the nuclear countries once they had consulted with industry stakeholders and then drafted the necessary amending national legislation to enable the global liability regime safely on its own path.

## **XII. Significant Number of nuclear power countries**

The CSC framework would require more nuclear power countries, like China, France and possibly many more European nuclear energy countries that are party to any one of the liability conventions. The reason for this is because the installed capacity required for the CSC to come into effect requires the inclusion of major countries with high installed nuclear capacity. Furthermore, the participation of these countries is also imperative in making the CSC an effective framework, as it would increase access to the amount of funds that may be available in the case of a nuclear accident.

**XIII. Easy enforcement of court awards**

To curb the issues connected to the enforcement of court awards against a foreign entity the liability law should provide that the operator would be under an obligation to obtain and maintain insurance and guarantees as available in the financial markets. The practical considerations of enforcing these obligations against an entity that is not based in the home country need to be factored into any discussions on changes to new international or regional liability arrangements. Further, from the perspective of a foreign operator, it may consider incorporating a local subsidiary company within the jurisdiction of the country in which it will operate and seek to insulate its parent company from the impact of any liability that may arise.

**XIV. Trans-boundary liability and compensation**

Presently, no legal or treaty obligation in India relates to trans-boundary liability and compensation. The situation is akin to the pre-Chernobyl liability framework. It is not advisable or desirable. Particular focus needs to be given to liability thresholds as well as to trans-boundary impacts.

It is important to note that greater globalisation and harmonisation of nuclear liability is not only to the benefit of the potential victims of an accident, but also has beneficial effects on nuclear trade. Although the



Fukushima Daiichi accident led to a number of reviews of the role of nuclear power, it is noteworthy that at the end of 2020 there are 440 power reactors. Participants in an increasingly globalised market understandably want greater legal clarity and certainty to understand the risks to which they will be exposed when participating in a nuclear project, whether for the construction, refurbishment or decommissioning of nuclear installations. The nuclear liability principles set forth in the nuclear liability regimes help to meet those objectives. As Justice Benjamin N. Cardozo states:

**“There comes seldom a crisis in the life of men, of nations, and of worlds, when the old forms seem ready to decay, and the old rules of action have lost their binding force. The evils of existing systems obscure the blessings that attend them, and, where reform is needed, the cry is raised for subversion”.**

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## **ANNEXURES**

**Annexure 1:-** THE CIVIL LIABILITY FOR NUCLEAR DAMAGE ACT, 2010

**Annexure 2:-** Article published in - THE ACADEMY LAW REVIEW 2020 (ISSN 2278-5108): COMPARISON OF CLND ACT 2010 OF INDIA WITH THE NUCLEAR LIABILITY ACTS OF SOME OTHER COUNTRIES

## Annexure 1

### THE CIVIL LIABILITY FOR NUCLEAR DAMAGE ACT, 2010

#### ARRANGEMENT OF SECTIONS

##### CHAPTER I

##### PRELIMINARY

##### SECTIONS

1. Short title, extent, application and commencement.
2. Definitions.

##### CHAPTER II

##### LIABILITY FOR NUCLEAR DAMAGE

3. Atomic Energy Regulatory Board to notify nuclear incident.
4. Liability of operator.
5. Operator not liable in certain circumstances.
6. Limits of liability.
7. Liability of Central Government.
8. Operator to maintain insurance or financial securities.

##### CHAPTER III

##### CLAIMS COMMISSIONER

9. Compensation for nuclear damage and its adjudication.
10. Qualifications for appointment as Claims Commissioner.
11. Salary, allowances and other terms and conditions of service of Claims Commissioner.
12. Adjudication procedure and powers of Claims Commissioner.

##### CHAPTER IV

##### CLAIMS AND AWARDS

13. Inviting application for claims by Claims Commissioner.
14. Person entitled to make application for nuclear damage.
15. Procedure for making application before Claims Commissioner.
16. Award by Claims Commissioner.
17. Operator's right of recourse.
18. Extinction of right to claim.

##### CHAPTER V

##### NUCLEAR DAMAGE CLAIMS COMMISSION

19. Establishment of Nuclear Damage Claims Commission.
20. Composition of Commission.
21. Term of office.
22. Salary, allowances and other terms and conditions of service of Chairperson and Members.
23. Filling up of vacancies.
24. Resignation and removal.

## SECTIONS

25. Chairperson or Member deemed to retire from service.
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THE CIVIL LIABILITY FOR NUCLEAR DAMAGE ACT, 2010

ACT NO. 38 OF 2010

[21st September, 2010.]

An Act to provide for civil liability for nuclear damage and prompt compensation to the victims of a nuclear incident through a no-fault liability regime channeling liability to the operator, appointment of Claims Commissioner, establishment of Nuclear Damage Claims Commission and for matters connected therewith or incidental thereto.

BE it enacted by Parliament in the Sixty-first Year of the Republic of India as follows:—

CHAPTER I

PRELIMINARY

**1. Short title, extent, application and commencement.**—(1) This Act may be called the Civil Liability for Nuclear Damage Act, 2010.

(2) It extends to the whole of India.

(3) It also applies to nuclear damage suffered—

(a) in or over the maritime areas beyond the territorial waters of India;

(b) in or over the exclusive economic zone of India as referred to in section 7 of the Territorial Waters, Continental Shelf, Exclusive Economic Zone and Other Maritime Zones Act, 1976 (80 of 1976);

(c) on board or by a ship registered in India under section 22 of the Merchant Shipping Act, 1958 (44 of 1958) or under any other law for the time being in force;

(d) on board or by an aircraft registered in India under clause (d) of sub-section (2) of section 5 of the Aircraft Act, 1934 (22 of 1934) or under any other law for the time being in force;

(e) on or by an artificial island, installation or structure under the jurisdiction of India.

(4) It applies only to the nuclear installation owned or controlled by the Central Government either by itself or through any authority or corporation established by it or a Government company.

*Explanation.*—For the purposes of this sub-section, "Government company" shall have the same meaning as assigned to it in clause (bb) of sub-section (1) of section 2 of the Atomic Energy Act, 1962 (33 of 1962).

(5) It shall come into force on such date as the Central Government may, by notification, appoint; and different dates may be appointed for different provisions of this Act, and any reference in any such provision to the commencement of this Act shall be construed as a reference to the coming into force of that provision.

**2. Definitions.**—In this Act, unless the context otherwise requires,—

(a) "Chairperson" means the Chairperson of the Commission appointed under sub-section (1) of section 20;

(b) "Claims Commissioner" means the Claims Commissioner appointed under sub-section (2) of section 9;

(c) "Commission" means the Nuclear Damage Claims Commission established under section 19;

(d) "environment" shall have the same meaning as assigned to it in clause (a) of section 2 of the Environment (Protection) Act, 1986 (29 of 1986);

(e) "Member" means a Member of the Commission appointed under sub-section (1) of section 20;  
 (f) "notification" means a notification published in the Official Gazette and the term "notify" shall be construed accordingly;

(g) "nuclear damage" means—

(i) loss of life or personal injury (including immediate and long term health impact) to a person; or

(ii) loss of, or damage to, property,

caused by or arising out of a nuclear incident, and includes each of the following to the extent notified by the Central Government;

(iii) any economic loss, arising from the loss or damage referred to in sub-clauses (i) or (ii) and not included in the claims made under those sub-clauses, if incurred by a person entitled to claim such loss or damage;

(iv) costs of measures of reinstatement of impaired environment caused by a nuclear incident, unless such impairment is insignificant, if such measures are actually taken or to be taken and not included in the claims made under sub-clause (ii);

(v) loss of income derived from an economic interest in any use or enjoyment of the environment, incurred as a result of a significant impairment of that environment caused by a nuclear incident, and not included in the claims under sub-clause (ii);

(vi) the costs of preventive measures, and further loss or damage caused by such measures;

(vii) any other economic loss, other than the one caused by impairment of the environment referred to in sub-clauses (iv) and (v), in so far as it is permitted by the general law on civil liability in force in India and not claimed under any such law,

in the case of sub-clauses (i) to (v) and (vii) above, to the extent the loss or damage arises out of, or results from, ionizing 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;

(h) "nuclear fuel" means any material which is capable of producing energy by a self-sustaining chain process of nuclear fission;

(i) "nuclear incident" means 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;

(j) "nuclear installation" means—

(A) any nuclear reactor other than one with which a means of transport is equipped for use as a source of power, whether for propulsion thereof or for any other purpose;

(B) any facility using nuclear fuel for the production of nuclear material, or any facility for the processing of nuclear material, including re-processing of irradiated nuclear fuel; and

(C) any facility where nuclear material is stored (other than storage incidental to the carriage of such material).

*Explanation.*—For the purpose of this clause, several nuclear installations of one operator which are located at the same site shall be considered as a single nuclear installation;

(k) "nuclear material" means and includes—

(i) nuclear fuel (other than natural uranium or depleted uranium) capable of producing energy by a self-sustaining chain process of nuclear fission outside a nuclear reactor, either by itself or in combination with some other material; and

(ii) radioactive products or waste;

(l) "nuclear reactor" means any structure containing nuclear fuel in such an arrangement that a self-sustaining chain process of nuclear fission can occur therein without an additional source of neutrons;

(m) "operator", in relation to a nuclear installation, means the Central Government or any authority or corporation established by it or a Government company who has been granted a licence pursuant to the Atomic Energy Act, 1962 (33 of 1962) for the operation of that installation;

(n) "prescribed" means prescribed by rules made under this Act;

(o) "preventive measures" means any reasonable measures taken by a person after a nuclear incident has occurred to prevent or minimise damage referred to in sub-clauses (i) to (v) and (vii) of clause (g), subject to the approval of the Central Government;

(p) "radioactive products or waste" means any radioactive material produced in, or any material made radioactive by exposure to, the radiation incidental to the production or utilisation of nuclear fuel, but does not include radioisotopes which have reached the final stage of fabrication so as to be usable for any scientific, medical, agricultural, commercial or industrial purpose;

(q) "Special Drawing Rights" means Special Drawing Rights as determined by the International Monetary Fund.

## CHAPTER II

### LIABILITY FOR NUCLEAR DAMAGE

**3. Atomic Energy Regulatory Board to notify nuclear incident.**—(1) The Atomic Energy Regulatory Board constituted under the Atomic Energy Act, 1962 (33 of 1962) shall, within a period of fifteen days from the date of occurrence of a nuclear incident, notify such nuclear incident:

Provided that where the Atomic Energy Regulatory Board is satisfied that the gravity of threat and risk involved in a nuclear incident is insignificant, it shall not be required to notify such nuclear incident.

(2) The Atomic Energy Regulatory Board shall, immediately after the notification under sub-section (1) is issued, cause wide publicity to be given to the occurrence of such nuclear incident, in such manner as it may deem fit.

**4. Liability of operator.**—(1) The operator of the nuclear installation shall be liable for nuclear damage caused by a nuclear incident —

(a) in that nuclear installation; or

(b) involving nuclear material coming from, or originating in, that nuclear installation and occurring before —

(i) the liability for nuclear incident involving such nuclear material has been assumed, pursuant to a written agreement, by another operator; or

(ii) another operator has taken charge of such nuclear material; or

(iii) the person duly authorised to operate a nuclear reactor has taken charge of the nuclear material intended to be used in that reactor with which means of transport is equipped for use as a source of power, whether for propulsion thereof or for any other purpose; or

(iv) such nuclear material has been unloaded from the means of transport by which it was sent to a person within the territory of a foreign State; or

(c) involving nuclear material sent to that nuclear installation and occurring after—

(i) the liability for nuclear incident involving such nuclear material has been transferred to that operator, pursuant to a written agreement, by the operator of another nuclear installation; or

(ii) that operator has taken charge of such nuclear material; or

(iii) that operator has taken charge of such nuclear material from a person operating a nuclear reactor with which a means of transport is equipped for use as a source of power, whether for propulsion thereof or for any other purpose; or

(iv) such nuclear material has been loaded, with the written consent of that operator, on the means of transport by which it is to be carried from the territory of a foreign State.

(2) Where more than one operator is liable for nuclear damage, the liability of the operators so involved shall, in so far as the damage attributable to each operator is not separable, be joint and several:

Provided that the total liability of such operators shall not exceed the extent of liability specified under sub-section (2) of section 6.

(3) Where several nuclear installations of one and the same operator are involved in a nuclear incident, such operator shall, in respect of each such nuclear installation, be liable to the extent of liability specified under sub-section (2) of section 6.

(4) The liability of the operator of the nuclear installation shall be strict and shall be based on the principle of no-fault liability.

*Explanation.*—For the purposes of this section,—

(a) where nuclear damage is caused by a nuclear incident occurring in a nuclear installation on account of temporary storage of material-in-transit in such installation, the person responsible for transit of such material shall be deemed to be the operator;

(b) where a nuclear damage is caused as a result of nuclear incident during the transportation of nuclear material, the consignor shall be deemed to be the operator;

(c) where any written agreement has been entered into between the consignor and the consignee or, as the case may be, the consignor and the carrier of nuclear material, the person liable for any nuclear damage under such agreement shall be deemed to be the operator;

(d) where both nuclear damage and damage other than nuclear damage have been caused by a nuclear incident or, jointly by a nuclear incident and one or more other occurrences, such other damage shall, to the extent it is not separable from the nuclear damage, be deemed to be a nuclear damage caused by such nuclear incident.

**5. Operator not liable in certain circumstances.**—(1) An operator shall not be liable for any nuclear damage where such damage is caused by a nuclear incident directly due to—

(i) a grave natural disaster of an exceptional character; or

(ii) an act of armed conflict, hostility, civil war, insurrection or terrorism.

(2) An operator shall not be liable for any nuclear damage caused to—

(i) the nuclear installation itself and any other nuclear installation including a nuclear installation under construction, on the site where such installation is located; and

(ii) to any property on the same site which is used or to be used in connection with any such installation; or

(iii) to the means of transport upon which the nuclear material involved was carried at the time of nuclear incident:

Provided that any compensation liable to be paid by an operator for a nuclear damage shall not have the effect of reducing the amount of his liability in respect of any other claim for damage under any other law for the time being in force.

(3) Where any nuclear damage is suffered by a person on account of his own negligence or from his own acts of commission or omission, the operator shall not be liable to such person.

**6. Limits of liability.**—(1) The maximum amount of liability in respect of each nuclear incident shall be the rupee equivalent of three hundred million Special Drawing Rights or such higher amount as the Central Government may specify by notification:

Provided that the Central Government may take additional measures, where necessary, if the compensation to be awarded under this Act exceeds the amount specified under this sub-section.

(2) The liability of an operator for each nuclear incident shall be—

(a) in respect of nuclear reactors having thermal power equal to or above ten MW, rupees one thousand five hundred crores;

(b) in respect of spent fuel reprocessing plants, rupees three hundred crores;

(c) in respect of the research reactors having thermal power below ten MW, fuel cycle facilities other than spent fuel reprocessing plants and transportation of nuclear materials, rupees one hundred crores:

Provided that the Central Government may review the amount of operator's liability from time to time and specify, by notification, a higher amount under this sub-section:

Provided further that the amount of liability shall not include any interest or cost of proceedings.

**7. Liability of Central Government.**—(1) The Central Government shall be liable for nuclear damage in respect of a nuclear incident,—

(a) where the liability exceeds the amount of liability of an operator specified under sub-section (2) of section 6, to the extent such liability exceeds such liability of the operator;

(b) occurring in a nuclear installation owned by it; and

(c) occurring on account of causes specified in clauses (i) and (ii) of sub-section (1) of section 5:

Provided that the Central Government may, by notification, assume full liability for a nuclear installation not operated by it if it is of the opinion that it is necessary in public interest.

(2) For the purpose of meeting part of its liability under clause (a) or clause (c) of sub-section (1), the Central Government may establish a fund to be called the Nuclear Liability Fund by charging such amount of levy from the operators, in such manner, as may be prescribed.

**8. Operator to maintain insurance or financial securities.**—(1) The operator shall, before he begins operation of his nuclear installation, take out insurance policy or such other financial security or combination of both, covering his liability under sub-section (2) of section 6, in such manner as may be prescribed.

(2) The operator shall from time to time renew the insurance policy or other financial security referred to in sub-section (1), before the expiry of the period of validity thereof.



(3) The provisions of sub-sections (1) and (2) shall not apply to a nuclear installation owned by the Central Government.

*Explanation.*—For the purposes of this section, “financial security” means a contract of indemnity or guarantee, or shares or bonds or such instrument as may be prescribed or any combination thereof.

### CHAPTER III

#### CLAIMS COMMISSIONER

**9. Compensation for nuclear damage and its adjudication.**—(1) Whoever suffers nuclear damage shall be entitled to claim compensation in accordance with the provisions of this Act.

(2) For the purposes of adjudicating upon claims for compensation in respect of nuclear damage, the Central Government shall, by notification, appoint one or more Claims Commissioners for such area, as may be specified in that notification.

**10. Qualifications for appointment as Claims Commissioner.**—A person shall not be qualified for appointment as a Claims Commissioner unless he—

(a) is, or has been, a District Judge; or

(b) in the service of the Central Government and has held the post not below the rank of Additional Secretary to the Government of India or any other equivalent post in the Central Government.

**11. Salary, allowances and other terms and conditions of service of Claims Commissioner.**—The salary and allowances payable to and other terms and conditions of service of Claims Commissioner shall be such as may be prescribed.

**12. Adjudication procedure and powers of Claims Commissioner.**—(1) For the purposes of adjudication of claims under this Act, the Claims Commissioner shall follow such procedure as may be prescribed.

(2) For the purpose of holding inquiry, the Claims Commissioner may associate with him such persons having expertise in the nuclear field or such other persons and in such manner as may be prescribed.

(3) Where any person is associated under sub-section (2), he shall be paid such remuneration, fee or allowance, as may be prescribed.

(4) The Claims Commissioner shall, for the purposes of discharging his functions under this Act, have the same powers as are vested in a civil court under the Code of Civil Procedure, 1908 (5 of 1908), while trying a suit, in respect of the following matters, namely:—

(a) summoning and enforcing the attendance of any person and examining him on oath;

(b) the discovery and production of documents;

(c) receiving evidence on affidavits;

(d) requisitioning any public record or copies thereof from any court or office;

(e) issuing of commission for the examination of any witness;

(f) any other matter which may be prescribed.

(5) The Claims Commissioner shall be deemed to be a civil court for the purposes of section 195 and Chapter XXVI of the Code of Criminal Procedure, 1973 (2 of 1974).

## CHAPTER IV

## CLAIMS AND AWARDS

**13. Inviting application for claims by Claims Commissioner.**—After the notification of nuclear incident under sub-section (1) of section 3, the Claims Commissioner, having jurisdiction over the area, shall cause wide publicity to be given, in such manner as he deems fit, for inviting applications for claiming compensation for nuclear damage.

**14. Person entitled to make application for nuclear damage.**—An application for compensation before the Claims Commissioner or the Commission, as the case may be, in respect of nuclear damage may be made by—

- (a) a person who has sustained injury; or
- (b) the owner of the property to which damage has been caused; or
- (c) the legal representatives of the deceased; or
- (d) any agent duly authorised by such person or owner or legal representatives.

**15. Procedure for making application before Claims Commissioner.**—(1) Every application for compensation before the Claims Commissioner for nuclear damage shall be made in such form, containing such particulars and accompanied by such documents, as may be prescribed.

(2) Subject to the provisions of section 18, every application under sub-section (1) shall be made within a period of three years from the date of knowledge of nuclear damage by the person suffering such damage.

**16. Award by Claims Commissioner.**—(1) On receipt of an application under sub-section (1) of section 15, the Claims Commissioner shall, after giving notice of such application to the operator and affording an opportunity of being heard to the parties, dispose of the application within a period of three months from the date of such receipt and make an award accordingly.

(2) While making an award under this section, the Claims Commissioner shall not take into consideration any benefit, reimbursement or amount received by the applicant in pursuance of contract of insurance taken by him or for members of his family or otherwise.

(3) Where an operator is likely to remove or dispose of his property with the object of evading payment by him of the amount of the award, the Claims Commissioner may, in accordance with the provisions of rules 1 to 4 of Order XXXIX of the First Schedule to the Code of Civil Procedure, 1908 (5 of 1908), grant a temporary injunction to restrain such act.

(4) The Claims Commissioner shall arrange to deliver copies of the award to the parties within a period of fifteen days from the date of the award.

(5) Every award made under sub-section (1) shall be final.

**17. Operator's right of recourse.**—The operator of the nuclear installation, after paying the compensation for nuclear damage in accordance with section 6, shall have a right of recourse where—

- (a) such right is expressly provided for in a contract in writing;
- (b) the nuclear incident has resulted as a consequence of an act of supplier or his employee, which includes supply of equipment or material with patent or latent defects or sub-standard services;
- (c) the nuclear incident has resulted from the act of commission or omission of an individual done with the intent to cause nuclear damage.

**18. Extinction of right to claim.**—The right to claim compensation for nuclear damage shall extinguish, if such claim is not made within a period of—

- (a) ten years, in the case of damage to property;
- (b) twenty years, in the case of personal injury to any person,

from the date of occurrence of the incident notified under sub-section (1) of section 3:

Provided that where a nuclear damage is caused by a nuclear incident involving nuclear material which, prior to such nuclear incident, had been stolen, lost, jettisoned or abandoned, the said period of ten years shall be computed from the date of such nuclear incident, but, in no case, it shall exceed a period of twenty years from the date of such theft, loss, jettison or abandonment.

#### CHAPTER V

##### NUCLEAR DAMAGE CLAIMS COMMISSION

**19. Establishment of Nuclear Damage Claims Commission.**—Where the Central Government, having regard to the injury or damage caused by a nuclear incident, is of the opinion that it is expedient in public interest that such claims for such damage be adjudicated by the Commission instead of a Claims Commissioner, it may, by notification, establish a Commission for the purpose of this Act.

**20. Composition of Commission.**—(1) The Commission shall consist of a Chairperson and such other Members, not exceeding six, as the Central Government may, by notification, appoint.

(2) The Chairperson and other Members of the Commission shall be appointed on the recommendation of a Selection Committee consisting of three experts from amongst the persons having at least thirty years of experience in nuclear science and a retired Supreme Court Judge.

(3) A person shall not be qualified for appointment as the Chairperson of the Commission unless he has attained the age of fifty-five years and is or has been or qualified to be a Judge of a High Court:

Provided that no appointment of a sitting judge shall be made except after consultation with the Chief Justice of India.

(4) A person shall not be qualified for appointment as a Member unless he has attained the age of fifty-five years and—

- (a) has held or is holding or qualified to hold, the post of Additional Secretary to the Government of India or any other equivalent post in the Central Government and possesses special knowledge in law relating to nuclear liability arising out of nuclear incident; or
- (b) has been a Claims Commissioner for five years.

**21. Term of office.**—The Chairperson or a Member, as the case may be, shall hold office as such for a term of three years from the date on which he enters upon his office and shall be eligible for re-appointment for another term of three years:

Provided that no person shall hold office as such Chairperson or Member after he has attained the age of sixty-seven years.

**22. Salary, allowances and other terms and conditions of service of Chairperson and Members.**—The salary and allowances payable to and other terms and conditions of service, including pension, gratuity and other retirement benefits, of the Chairperson and other Members shall be such as may be prescribed:

Provided that no salary, allowances and other terms and conditions of service of the Chairperson or other Members shall be varied to his disadvantage after his appointment.

**23. Filling up of vacancies.**—If, for reasons other than temporary absence, any vacancy occurs in the office of the Chairperson or Member, as the case may be, the Central Government shall appoint another person in accordance with the provisions of this Act to fill such vacancy and the proceedings may be continued before the Commission from the stage at which it was, before the vacancy is filled.

**24. Resignation and removal.**—(1) The Chairperson or a Member may, by a notice in writing under his hand addressed to the Central Government, resign his office:

Provided that the Chairperson or the Member shall, unless he is permitted by the Central Government to relinquish his office sooner, continue to hold office until the expiry of three months from the date of receipt of such notice or until a person duly appointed as his successor enters upon his office or until the expiry of his term of office, whichever is earlier.

(2) The Central Government shall remove from office the Chairperson or a Member who—

(a) has been adjudged an insolvent; or

(b) has been convicted of an offence which, in the opinion of the Central Government, involves moral turpitude; or

(c) has become physically or mentally incapable of acting as a Member; or

(d) has acquired such financial or other interest as is likely to affect prejudicially his functions as a Member; or

(e) has so abused his position as to render his continuance in office detrimental to the public interest:

Provided that no Member shall be removed under clause (d) or clause (e) unless he has been given an opportunity of being heard in the matter.

**25. Chairperson or Member deemed to retire from service.**—A person who, immediately before the date of assuming office as a Chairperson or a Member, was in service of the Government, shall be deemed to have retired from service on the date on which he enters upon office as such, but his subsequent service as the Chairperson or a Member shall be reckoned as continuing approved service counting for pension in service to which he belonged.

**26. Suspension of pension.**—If a person who, immediately before the date of assuming office as the Chairperson or a Member was in receipt of or being eligible so to do, has opted to draw, a pension, other than a disability or wound pension, in respect of any previous service under the Central Government, his salary in respect of service as the Chairperson or a Member shall be reduced—

(a) by the amount of that pension; and

(b) if he had, before assuming office, received, in lieu of a portion of the pension due to him in respect of such previous service, the commuted value thereof, by the amount of that portion of the pension.

**27. Prohibition of acting as arbitrator.**—No person shall, while holding office as a Chairperson or a Member, act as an arbitrator in any matter.

**28. Prohibition of practice.**—On ceasing to hold office, the Chairperson or a Member shall not appear, act or plead before the Commission.

**29. Powers of Chairperson.**—The Chairperson shall have the power of superintendence in the general administration of the Commission and exercise such powers as may be prescribed.

**30. Officers and other employees of Commission.**—(1) The Central Government shall provide the Commission with such officers and other employees as it may deem fit.

(2) The salary and allowances payable to and the terms and other conditions of service of officers and other employees of the Commission shall be such as may be prescribed.

**31. Application for compensation before Commission.**—(1) Every application for compensation before the Commission for nuclear damage shall be made in such form, containing such particulars and accompanied by such documents, as may be prescribed.

(2) Subject to the provisions of section 18, every application under sub-section (1) shall be made within a period of three years from the date of knowledge of nuclear damage by the person suffering such damage.

**32. Adjudication procedure and powers of Commission.**—(1) The Commission shall have original jurisdiction to adjudicate upon every application for compensation filed before it under sub-section (1) of section 31 or transferred to it under section 33, as the case may be.

(2) Upon transfer of cases to the Commission under section 33, the Commission shall hear such applications from the stage at which it was before such transfer.

(3) The Chairperson may constitute benches comprising of not more than three Members of the Commission for the purpose of hearing of claims and any decision thereon shall be rendered by a majority of the Members hearing such claims.

(4) The Commission shall not be bound by the procedure laid down in the Code of Civil Procedure, 1908 (5 of 1908) but shall be guided by the principles of natural justice and subject to the other provisions of this Act and of any rules made thereunder, the Commission shall have the power to regulate its own procedure including the places and the times at which it shall have its sittings.

(5) The Commission shall have, for the purposes of discharging its functions under this Act, the same powers as are vested in a civil court under the Code of Civil Procedure, 1908, (5 of 1908) while trying a suit, in respect of the following matters, namely:—

- (a) summoning and enforcing the attendance of any person and examining him on oath;
- (b) the discovery and production of documents;
- (c) receiving evidence on affidavits;
- (d) requisitioning any public record or copies thereof from any court or office;
- (e) issuing of commission for the examination of any witness;
- (f) any other matter which may be prescribed.

(6) The Commission shall, after giving notice of application to the operator and after affording an opportunity of being heard to the parties, dispose of such application within a period of three months from the date of such receipt and make an award accordingly.

(7) While making an award under this section, the Commission shall not take into consideration any benefit, reimbursement or amount received by the applicant in pursuance of any contract of insurance or otherwise.

(8) Where an operator is likely to remove or dispose of his property with the object of evading payment by him of the amount of the award, the Commission may, in accordance with the provisions of rules 1 to 4 of Order XXXIX of the First Schedule to the Code of Civil Procedure, 1908 (5 of 1908), grant a temporary injunction to restrain such act.

(9) The Commission shall arrange to deliver copies of the award to the parties concerned within a period of fifteen days from the date of such award.

(10) Every award made under sub-section (6) shall be final.

**33. Transfer of pending cases to Commission.**—Every application for compensation pending before the Claims Commissioner immediately before the date of establishment of the Commission under section 19 shall stand transferred on that date to the Commission.

**34. Proceedings before Claims Commissioner or Commission to be judicial proceedings.**—Every proceeding before the Claims Commissioner or the Commission under this Act shall be deemed to be judicial proceeding within the meaning of sections 193, 219 and 228 of, and for the purposes of section 196 of, the Indian Penal Code (45 of 1860).

**35. Exclusion of jurisdiction of civil courts.**—Save as otherwise provided in section 46, no civil court (except the Supreme Court and a High Court exercising jurisdiction under articles 226 and 227 of the Constitution) shall have jurisdiction to entertain any suit or proceedings in respect of any matter which the Claims Commissioner or the Commission, as the case may be, is empowered to adjudicate under this Act and no injunction shall be granted by any court or other authority in respect of any action taken or to be taken in pursuance of any power conferred by or under this Act.

**36. Enforcement of awards.**—(1) When an award is made under sub-section (1) of section 16 or under sub-section (6) of section 32,—

(a) the insurer or any person, as the case may be, who under the contract of insurance or financial security under section 8 is required to pay any amount in terms of such award and to the extent of his liability under such contract, shall deposit that amount within such time and in such manner as the Claims Commissioner or the Commission, as the case may be, may direct; and

(b) the operator shall, subject to the maximum liability specified under sub-section (2) of section 6, deposit the remaining amount by which such award exceeds the amount deposited under clause (a).

(2) Where any person referred to in sub-section (1) fails to deposit the amount of award within the period specified in the award, such amount shall be recoverable from such person as arrears of land revenue.

(3) The amount deposited under sub-section (1) shall be disbursed to such person as may be specified in the award within a period of fifteen days from the date of such deposit.

**37. Annual report.**—The Commission shall prepare, in such form and at such time in each financial year, as may be prescribed, an annual report giving full account of its activities during that financial year and submit a copy thereof to the Central Government which shall cause the same to be laid before each House of Parliament.

**38. Dissolution of Commission in certain circumstances.**—(1) Where the Central Government is satisfied that the purpose for which the Commission established under section 19 has served its purpose, or where the number of cases pending before such Commission is so less that it would not justify the cost of its continued function, or where it considers necessary or expedient so to do, the Central Government may, by notification, dissolve the Commission.

(2) With effect from the date of notification of dissolution of Commission under sub-section (1),—

(a) the proceeding, if any, pending before the Commission as on the date of such notification shall be transferred to the Claims Commissioner to be appointed by the Central Government under sub-section (2) of section 9;

(b) the Chairperson and all Members of the Commission shall be deemed to have vacated their offices as such and they shall not be entitled to any compensation for premature termination of their office;

(c) officers and other employees of the Commission shall be transferred to such other authority or offices of the Central Government, in such manner, as may be prescribed:



Provided that the officers and other employees so transferred, shall be entitled to the same terms and conditions of service as would have been held by them in the Commission:

Provided further that where an officer or an employee of the Commission refuses to join the services in such other authority or office, he shall be deemed to have resigned and shall not be entitled to any compensation for premature termination of contract of service;

(d) all assets and liabilities of the Commission shall vest in the Central Government.

(3) Notwithstanding the dissolution of the Commission under sub-section (1), anything done or any action taken or purported to have been done or taken including any order made or notice issued or any appointment, confirmation or declaration made or any document or instrument executed or any direction given by the Commission before such dissolution, shall be deemed to have been validly done or taken.

(4) Nothing in this section shall be construed to prevent the Central Government to establish the Commission subsequent to the dissolution of the Commission in accordance with the provisions of this Act.

## CHAPTER VI

### OFFENCES AND PENALTIES

**39. Offences and penalties.**—(1) Whoever—

(a) contravenes any rule made or any direction issued under this Act; or

(b) fails to comply with the provisions of section 8; or

(c) fails to deposit the amount under section 36,

shall be punishable with imprisonment for a term which may extend to five years or with fine or with both.

(2) Whoever fails to comply with any direction issued under section 43 or obstructs any authority or person in the exercise of his powers under this Act shall be punishable with imprisonment for a term which may extend to one year or with fine or with both.

**40. Offences by companies.**—(1) Where an offence under this Act has been committed by a company, every person who at the time the offence was committed, was directly in charge of, and was responsible to, the company for the conduct of the business of the company, as well as the company, shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly:

Provided that nothing contained in this sub-section shall render any such person liable to any punishment under this Act, if he proves that the offence was committed without his knowledge or that he exercised all due diligence to prevent the commission of such offence.

(2) Notwithstanding anything contained in sub-section (1), where any offence under this Act has been committed by a company and it is proved that the offence has been committed with the consent or connivance of, or is attributable to any neglect on the part of, any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall also be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

*Explanation.*—For the purposes of this section,—

(a) "company" means any body corporate and includes a firm or other association of individuals;

(b) "director", in relation to a firm, means a partner in the firm.

**41. Offences by Government Departments.**—Where an offence under this Act has been committed by any Department of the Government, the Head of the Department shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly:

Provided that nothing contained in this section shall render such Head of the Department liable to any punishment if he proves that the offence was committed without his knowledge or that he exercised all due diligence to prevent the commission of such offence.

**42. Cognizance of offences.**—No court inferior to that of a Metropolitan Magistrate or a Judicial Magistrate of the first class shall try any offence under this Act:

Provided that cognizance of such offence shall not be taken except on a complaint made by the Central Government or any authority or officer authorised in this behalf by that Government.

#### CHAPTER VII

##### MISCELLANEOUS

**43. Power to give directions.**—The Central Government may, in exercise of its powers and performance of its functions under this Act, issue such directions, as it may deem fit, for the purposes of this Act, to any operator, person, officer, authority or body and such operator, person, officer, authority or body shall be bound to comply with such directions.

**44. Power to call for information.**—The Central Government may call for such information from an operator as it may deem necessary.

**45. Exemption from application of this Act.**—The Central Government may, by notification, exempt any nuclear installation from the application of this Act where, having regard to small quantity of nuclear material, it is of the opinion that the risk involved is insignificant.

**46. Act to be in addition to any other law.**—The provisions of this Act shall be in addition to, and not in derogation of, any other law for the time being in force, and nothing contained herein shall exempt the operator from any proceeding which might, apart from this Act, be instituted against such operator.

**47. Protection of action taken in good faith.**—No suit, prosecution or other legal proceedings shall lie against the Central Government or the person, officer or authority in respect of anything done by it or him in good faith in pursuance of this Act or of any rule or order made, or direction issued, thereunder.

**48. Power to make rules.**—(1) The Central Government may, by notification, make rules for carrying out the purposes of this Act.

(2) In particular, and without prejudice to the generality of the foregoing powers such rules may provide for –

- (a) the other financial security and the manner thereof under sub-section (1) of section 8;
- (b) the salary and allowances payable to and the other terms and conditions of service of Claims Commissioner under section 11;
- (c) the procedure to be followed by Claims Commissioner under sub-section (1) of section 12;
- (d) the person to be associated by Claims Commissioner and the manner thereof, under sub-section (2) of section 12;
- (e) the remuneration, fee or allowances of associated person under sub-section (3) of section 12;
- (f) any other matter under clause (f) of sub-section (4) of section 12;
- (g) the form of application, the particulars it shall contain and the documents it shall accompany, under sub-section (1) of section 15;
- (h) the salary and allowances payable to and other terms and conditions of service of Chairperson and other Members, under section 22;
- (i) the powers of Chairperson under section 29;



(j) the salary and allowances payable to and the terms and other conditions of service of officers and other employees of the Commission, under sub-section (2) of section 30;

(k) the form of application, the particulars it shall contain and the documents it shall accompany, under sub-section (1) of section 31;

(l) any other matter under clause (f) of sub-section (5) of section 32;

(m) the form and the time for preparing annual report by the Commission under section 37;

(n) the manner of transfer of officers and other employees of the Commission under clause (c) of sub-section (2) of section 38.

(3) Every rule made under this Act by the Central Government shall be laid, as soon as may be after it is made, before each House of Parliament, while it is in session, for a total period of thirty days which may be comprised in one session or in two or more successive sessions, and if, before the expiry of the session immediately following the session or successive sessions aforesaid, both Houses agree in making any modification in the rule or both Houses agree that the rule should not be made, the rule shall thereafter have effect only in such modified form or be of no effect, as the case may be; so, however, that any such modification or annulment shall be without prejudice to the validity of anything previously done under that rule.

**49. Power to remove difficulties.**—(1) If any difficulty arises in giving effect to the provisions of this Act, the Central Government may, by order published in the Official Gazette, make such provisions, not inconsistent with the provisions of this Act, as appear to it to be necessary or expedient for removing the difficulty:

Provided that no order shall be made under this section after the expiry of three years from the commencement of this Act.

(2) Every order made under this section shall, as soon as may be after it is made, be laid before each House of Parliament.

**Annexure 2**

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**COMPARISON OF CLND ACT, 2011 OF INDIA WITH  
THE NUCLEAR LIABILITY LEGISLATION OF SOME  
OTHER COUNTRIES**

*SUNITHA P.N.*

**Reprint**

## COMPARISON OF CLND ACT, 2011 OF INDIA WITH THE NUCLEAR LIABILITY LEGISLATION OF SOME OTHER COUNTRIES

SUNITHA P.N.

The Civil Liability for Nuclear Damage Act, 2010 or Nuclear Liability Act of India targets to bring a civil liability for nuclear injury and a quick reparation to the sufferers of a nuclear incident by fixing the operator a no-fault liability. The other objectives are appointment of Claims Commissioner, establishment of Nuclear Damage Claims Commission and for matters connected therewith or incidental thereto. Even then, this Act is an extremely discoursed and debated one for incorporating many novel ideas into it.<sup>1</sup>

The Act came into force from 11 November 2011. As it is the last step needed to activate the 2008 Indo-U.S. civilian nuclear agreement (123 agreement), this enactment has come across severe opposition just for incorporating some contentious clauses. The opposition believed that the Bill was being pushed through owing to US pressure though this was denied by the Government.

The objective of this paper is to understand and compare the law relating to nuclear civil liability of three other countries, by keeping the main points of Indian legislation in mind. The decision to take the laws of Canada, Belgium, and Japan for comparison is based on a general approach to identify and understand the similarities and differences among their comparatively new laws in the area.

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1. Jatinder, Kaur, *India to Implement Civil Liability for Nuclear Damage Act*(Online), ABC Live (retrieved on Feb. 11, 2017).

In the first part of the article, the legislation of each of the countries are studied in independent subdivisions and in the end of it the essential points are compared with each other to justify the validity of Indian law. The Indian Act is not dealt in detail owing to its extensive awareness through the social parley.

### I. THE CANADIAN NUCLEAR LIABILITY LAW

On 6 June 2017, Canada ratified the Convention on Supplementary Compensation for Nuclear Damage (CSC). Because Canada is not a member of the Paris Convention or the Vienna Convention, it was required to join as an Annex State. Ratification followed the 1 January 2017 entry into force of the Nuclear Liability and Compensation Act and the Nuclear Liability and Compensation Regulations. The NLCA replaced the previous domestic legislation in order to better address the liability and compensation in the event of a nuclear accident in Canada<sup>2</sup>.

In addition to implementing Canadian membership in the CSC, the NLCA provides that the operator of a nuclear installation is absolutely and exclusively liable for damages arising from an accident at that operator's nuclear installation or from an accident during transportation of nuclear material from the operator's nuclear installation. The legislation also increases the liability limit for operators and broadens the definition of compensable damages to include environmental damages and preventative measures. Finally, the legislation extends the limitation period for making claims for bodily injury and loss of life to thirty years and adapts a dual system for the compensation of claims. To meet its obligations under the CSC, Canada provided the Depositary of the CSC with a copy of the NLCA, which complies with the provisions of the CSC and CSC Annex<sup>3</sup>.

2. *See generally*, THE NUCLEAR LAW BULLETIN (Nos. 9213 and 9514). It provides a more detailed description of the NLCA. *See also*, Stanley D. Berger, "Canada's new nuclear liability and compensation Act" A paper presented in the XXII Nuclear Inter Jura Congress (November 7-11, 2016/New Delhi).
3. NEA (2015), "An Act respecting Canada's offshore oil and gas operations, enacting the Nuclear Liability and Compensation Act, repealing the Nuclear Liability Act and making consequential amendments to other Acts (Short title: Energy Safety and Security Act)", 95 NUCLEAR L. BULL., (OECD, Paris) 69-70.

Membership in the CSC is important to Canada, as it will address liability and compensation within member countries arising from nuclear accidents occurring at nuclear installations and during the transportation of nuclear material. The CSC also provides legal certainty on jurisdiction in the case of a nuclear incident in Canada or another CSC member country, and limits the liability of Canadian nuclear suppliers and contractors who wish to conduct business in member countries. In addition, it will make available an additional assured amount of compensation to claimants in Canada through the CSC's pooled funding. Canada's contribution to the CSC public fund will be reimbursed by nuclear power plant operators, pursuant to the NLCA<sup>4</sup>. Canada's ratification of the CSC demonstrates the Government of Canada's commitment to the establishment of a global nuclear liability regime.

The governing objective of Canada's 'Nuclear Liability and Compensation Act, 2014'<sup>5</sup> includes a balancing among the need for predictability in liability and risk amongst operators, suppliers and contractors, harmonization of legal outcomes in different jurisdictions and efficient compensation for victims of nuclear incidents etc.<sup>6</sup> The Act received Royal assent on February 26, 2015. It has framed the necessary regulations for designating nuclear installations, setting the classes of nuclear installations and liability limits applicable to these classes and their distinct levels of risk. Two of the more challenging tasks have been the approval by the Government of the operator's insurance policy and the finalization of the indemnity agreement between the Canadian Government and the operators for risks which the insurers are not prepared to cover<sup>7</sup>. The liability limit for nuclear reactor operators will be phased

4. *Id.*

5. An Act respecting civil liability and compensation for damages in case of a nuclear incident in Canada, repealing the Nuclear Liability Act and making consequential amendments to other Acts, enacted by section 120 of Chapter 4 of the Statutes of Canada, 2015, in force on January 1, 2017, see SI/2016-23.

6. See generally, Dave McCauley & Jacques Hainault, *Strengthening Canada's Nuclear Liability Regime*, Presentation by Natural Resources Canada at the 2014 21st INLA Congress entitled, Strengthening Canada's nuclear liability regime(2014). Available online(accessed on 28-02-2020) in <http://www.nuclearsafety.gc.ca/eng/pdfs/acts-and-regulations/strengthening-nuclear-liability-regime-eng.pdf>.

7. See *supra* note 1.



in over three years starting with \$650 million in January 2017, \$750 million in January 2018, \$850 million in January 2019 and a \$1 billion in January 2020 and thereafter until amended<sup>8</sup>. Even if the Act provides such a transitional liability over a three-year period from \$650 million to \$1 billion, the regulation has set different liability limits for nuclear incidents which are considered to have lower risk profiles<sup>9</sup>.

All liability levels are independent of the costs of administering claims, court costs or interest on compensation<sup>10</sup>. At least once in every five years the responsible Minister must review the liability limit for nuclear power plants having regard to the Consumer Price Index<sup>11</sup>. The federal Cabinet may increase the liability limit for nuclear power plants. Achieving a balance between the predictability of liability and efficient compensation for victims is addressed by maintaining the internationally accepted system of legal channelling, whereby the operator is exclusively and absolutely liable for the heads of nuclear damage covered by the Act up to the prescribed liability limit<sup>12</sup>. Any damage outside these heads of damage and liability limits, the Act provides thus:

An operator is not liable for damage that is caused by a nuclear incident except for any liability that is provided for under this Act.<sup>13</sup>

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8. *Id.*

9. For example, a nuclear fuel waste management facility, where nuclear fuel has been removed from the reactor unit and has specified volumes of uranium isotopes, has an operator liability limit of only \$13 million, while a nuclear fuel waste processing facility has a liability limit of \$40 million.

10. Section 60(3) of Canadian Nuclear Liability and Compensation Act, 2015, providing for the Costs and interest, reads thus:

The amount of the award must not include any costs awarded to the claimant in any proceeding that is before the Tribunal or any interest payable on that award.

11. *See supra* note 1, and section 26 (1). The section reads thus: "The Minister must review the limit of liability, referred to in subsection 24(1), on a regular basis and at least once every five years, of the said Act".

12. *Id.*

13. *See* section 8, Nuclear Liability and Compensation Act, 2015.

The Canadian nuclear liability law, in conjunction with the 1997 Convention on Supplementary Compensation for Nuclear Damage, which Canada signed on December 3, 2013 and ratified in 2017, addresses the issue of escalating damages arising from a nuclear incident in the following way:

The federal cabinet may declare that claims are to be dealt with by a specialized tribunal rather than the courts, when it considers that it is in the public interest to do so, having regard to the extent and estimated cost of the damages. The responsible Minister must, following such a declaration, table a report estimating the cost of the indemnification before both Houses of Parliament. When in the Minister's opinion the compensation awarded by a court or tribunal is likely to exceed the operator's liability limits and public funds may be necessary, the Minister must immediately give notice to all Contracting Parties under the CSC that contributions in accordance with the formula under the Convention may be required. If there is an insufficient fund to cover the Minister's call for public funds, an amount that is sufficient to meet the deficit is, with the Minister of Finance's approval, to be paid from the Consolidated Revenue Fund to cover the difference<sup>14</sup>.

The examination of the salient features of the Act is necessary for comparing it with the Indian legislation, CLND Act, 2010.

#### 1.1 Compensable types of; damage under the Act<sup>15</sup>

- Bodily injury, loss of life and property damage;
- Psychological trauma resulting from bodily injury;
- Economic loss from the above;
- Costs from the loss of the use of property and wage loss to employees except costs from failure to provide electricity;
- Reasonable costs of remedial measures to repair reduce or mitigate environmental damage if ordered by an authority pursuant to environmental protection law;

14. *See supra* note 1.

15. *See* sections 14 to 23 of Canada's Nuclear Liability and Compensation Act, 2015.

- Reasonable costs arising from loss of use of property when preventative measures are taken under an emergency scheme. In Canada it must be a nuclear emergency scheme, while in a contracting State the measures must be recommended in response to grave and imminent danger; and
- Transportation accidents both within Canada and its economic zone and in a contracting State. Subject to the terms of a contract, the operator from the place in Canada the nuclear material is being shipped, whether within Canada, or to a contracting State, is liable until control of the nuclear material is assumed by the receiving party.
- The Canadian operator to whom it is being shipped from outside Canada is only liable, subject to contract terms to the contrary, from the time the operator takes control of the property.
- Canadian operators are liable for damage caused within a Contracting State or within that State's economic zone, by ionizing radiation emitted from any source of radiation within or released from the Canadian operator's nuclear installation.

#### 1.2 Non-compensable types of damage<sup>16</sup>

- The Act does not apply to nuclear incidents arising from war, hostilities, civil war, or insurrection, but does apply to terrorist activities as defined in the Canadian Criminal Code.
- The Act does not apply to damage to the nuclear installation or to any property at the installation used in connection with the nuclear installation.

#### 1.3 Limitation periods<sup>17</sup>

- The limitation period (other than the 3-year discoverability limitation period) for claims relating to bodily injury or death is thirty years after the day on which the nuclear incident to which the action or claim relates occurred.

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16. See section 5(1)&(2) of the Canadian Nuclear Liability and Compensation Act, 2015.

17. See section 35(1), (2), (3)& (4), *id.*



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- In all other cases (i.e. economic loss, property damage) the limitation period for bringing a claim is ten years after the day on which the nuclear incident to which the action or claim relates occurred.

#### 1.4 Financial security<sup>18</sup>

Financial security to cover the liability limits must be in the form of insurance with an approved insurer which the Minister considers qualified to fulfil the obligations under the Act. The terms and conditions of the insurance are to be set out in a standard insurance policy also subject to Minister's approval. Alternatively, the Minister may approve that up to 50% of the operator's liability be secured by other instruments of financial security.

- Approved standard form insurance policy

The approved insurance policy generally covers the compensable damage caused by nuclear incidents occurring within Canada or its exclusive economic zone, including nuclear incidents resulting from terrorist activity. There are notable exceptions: Compensable damage arising from:

- o Routine emissions from a facility that increase a person's effective dose of radiation by less than 1 mille Sievert in excess of background radiation;
  - o Injuries or death discovered and traced to a nuclear incident between ten and thirty years following a nuclear incident; and
  - o Injuries or compensable damage caused by a nuclear incident that occurs outside Canada or its exclusive economic zone, e.g. a transportation accident.
- Governmental indemnity <sup>19</sup>

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18. See section 77 (1) of the Canadian Nuclear Liability and Compensation Act 2015, which reads thus:

An operator who contravenes subsection 27(1) or who does not hold financial security in the form and manner required by section 28 commits an offence and is liable on summary conviction to a fine of not more than \$300,000 for each day on which the offence is committed or continued.

19. See *supra* note 1.

From 1976 on, the Canadian Government had entered into a re-insurance agreement with the approved insurer whereby the Government covered what the insurers were not prepared to cover under the then applicable Nuclear Liability Act. The new Nuclear Liability and Compensation Act changed the indemnity scheme by creating a direct agreement between the Government and the operator. The Government is entitled to charge fee for the indemnity. Under the current arrangement and consistent with the Act, the Government indemnifies operators whose liability is set by Regulation at a level below the limit for power reactor operators, for the liability they retain under the Act for any damage above their lower prescribed limit, up to and including the liability cap for power reactor operators. The governmental indemnity covers routine emissions and injuries or death between ten and thirty years following a nuclear incident, but not nuclear incidents occurring outside Canada or its exclusive economic zone. The Government has thus left transportation accident liability in another contracting sSe to be determined by the parties' contractual arrangements.

### 1.5 Right of recourse<sup>20</sup>

While the CSC Annex permits the national law to provide the operator with a right of recourse through contract against responsible third parties such as suppliers and contractors, Canadian law has restricted the right of recourse to individuals, who intentionally caused the nuclear incident by an act or omission.

### 1.6 Jurisdiction<sup>21</sup>

The Canadian Government recognized the importance of providing a single competent court to hear any and all claims in the country where the nuclear incident had occurred. In the case of trans-boundary and transportation issues between more than one country, such certainty can only be ensured by international conventions ratified by the countries affected by the nuclear incident. Only then the courts of the countries become bound to follow the laws of the convention and accept the exclusive jurisdiction of the

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20. *Id.*

21. *Id.*

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courts of the country from which the nuclear incident originated. Even Canada was geographically isolated from the Paris and Vienna Convention States, its proximity to the United States demanded that, certainty of law and jurisdiction be clarified in the interests of both nuclear operators and their contractors and suppliers. Once the United States ratified the IAEA's Convention on Supplementary Compensation in 2008, it was in Canada's interest to subscribe to the Convention.

Comparing the liability limits of the Act with the actual cost of liability for Tokyo Electric Power Company, Japan, for the incident on March 11, 2011 reveals a lot. TEPCO so far had to manage almost 2.5 million applications for compensation for the Fukushima Daiichi nuclear accident as on August 21, 2015. They have paid out approximately 38 billion Euros or US \$43 billion. The experience offers a dispiriting reminder of the inadequacy of the statutory liability limits imposed internationally. Some national laws such as that of Switzerland, Germany and Japan have adopted unlimited liability regimes to address the challenge. The financial security offered by these efforts is however, more apparent than real because insurance and alternative financial guarantees available to operators are not unlimited<sup>22</sup>.

## II. THE BELGIAN LAW OF 29 JUNE 2014 AND ITS EFFECTS<sup>23</sup>

Belgium is a federal state in western Europe, composed of three regions (Flemish, Walloon and Brussels Capital regions) and three communities (Dutch, French and German speaking). The federal state is responsible for nuclear energy policy and radiological protection, but there are interfaces with the regional regulations (non-radiological aspects of safety and environmental protection) and the community regulations (education, preventive health care). This overview deals with the federal laws and regulations only. Belgium is a member State of the European Union and the European Atomic Energy Community. Hence, all regulations that are based

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22. *Id.*

23. Marc Beyns, "The New Belgian Law on Nuclear Third-party Liability: Anticipation of the entry into force of the revised Paris Convention and the Need for a State Guarantee of Nuclear Operator's Liability". Paper presented in XXII Nuclear Inter Jura Congress(November 7-11, New Delhi).

on the Treaty establishing the European Atomic Energy Community is applicable. Belgium is a contracting party to many international conventions governing different aspects of the nuclear and radioprotection policy<sup>24</sup>.

The main regulatory authority for the safety of nuclear facilities and activities is the Federal Agency for Nuclear Control (FANC/AFCN), a public agency under the political responsibility of the Minister for Home Affairs. In 2007, a private foundation, viz. Bel V, was created as a subsidiary of the FANC to support it, in particular with respect to health physics control. The legislative and regulatory framework has evolved in line with the developments in nuclear science and technology. Until 2001, the main pillar of the Belgian nuclear legislation was the Law of 29 March, 1958 regarding the Protection of the Population against the Hazards of Ionizing Radiation. In implementation of the law, Royal Decree of 28 February, 1963, laying down general regulations concerning the protection of the public and workers against the hazards of ionizing radiation constituted the basic regulations for the safety of nuclear activities. In particular, it governed the licensing of nuclear facilities, the inspection and control regime, radiological protection, the safety of radioactive waste management, the medical applications of ionizing radiation, the import, transit and distribution of radio active substances as well as their transport<sup>25</sup>.

On 15 April 1994, a new Law on the Protection of the Population and the Environment against the Hazards of Ionizing Radiation and on the Federal Agency for Nuclear Control was promulgated. The law, which has been amended several times, repeals and replaces Law of 29 March 1958 and constitutes the legal basis for the FANC as the regulatory body. On 1 September

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24. See KINGDOM OF BELGIUM, Sixth Meeting of the Contracting Parties to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, NATIONAL REPORT (October 2017). Available at, <https://www.iaea.org/sites/default/files/joint-convention-rapport-be-2017-final-noannex.pdf>.

25. See generally, A REPORT ON NUCLEAR LEGISLATION IN OECD&NEA COUNTRIES, REGULATORY AND INSTITUTIONAL FRAMEWORK FOR NUCLEAR ACTIVITIES IN BELGIUM CORRIGENDA TO OECD publications available at, [www.oecd.org/publishing/corrigenda](http://www.oecd.org/publishing/corrigenda).

2001, Royal Decree of 20 July, 2001 laying down the general regulations on the protection of the public, the workers and the environment against the hazards of ionizing radiation came into effect. This royal decree replaces Decree of 28 February, 1963. As of 1 September 2001, FANC became fully operational. The royal decree has been amended several times, in particular to transpose European directives (high activity sources, trans-boundary movement of radioactive waste and spent nuclear fuel) and to take account of feedback experience<sup>26</sup>.

There are currently seven nuclear power reactors in Belgium, four located in Doel and three in Thane, with a total installed capacity of 5936 MWe. All are pressurized water reactors (PWR). They are owned and operated by Electable and provided approximately 55% of the electricity in 2008<sup>27</sup>.

There are also three research reactors operating in Belgium. At the Nuclear Research Centre Studie centrum voor Kernenergie (SCK•CEN) in Mol there is the zero-power reactor BR1, the material test reactor BR2 and VENUS. The former pressurized water research reactor R3, at the site of SCK•CEN, is being decommissioned. The research reactor, THETIS at the University of Ghent, is no longer in operation. Decommissioning of the reactor had started<sup>28</sup>.

Rules on nuclear third party liability are contained in the Law of 22 July 1985 on Third Party Liability in the Field of Nuclear Energy, as modified by Law of 11, July 2000. The law implements the 1960 Paris Convention and the 1963 Brussels Supplementary Convention as well as its protocols. The 1985law, as modified, lays down the principle of strict liability, limited liability in amount and

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26. *Id.*

27. From the website of "ENGIE ELECTRABEL: A LOCAL PLAYER IN THE ENERGY TRANSITION, "Since 1905, our company has constantly been evolving so that it is always where it is needed: as an energy supplier close to its customers, as a responsible producer of electricity and as a committed societal player. Alongside our ENGIE Group, we have the ambition to be in Belgium the leader in the energy transition to a low-carbon economy." Available at <https://corporate.engie-electrabel.be/local-player/nuclear-3>.

28. *Id.*



time, channelled to the operator of a nuclear installation. In this respect, article 7 of the law establishes the maximum amount of the operator's liability for nuclear damage at BEF 12 billion [article 7(1)]. The sum is equivalent to approximately EUR 300 million. A royal decree may increase or reduce the amount in order to fulfil Belgium's international obligations as well as to take into account low risk installations or transport, however it may not set a level lower than that required by the Paris Convention [article 7(2)]. Pursuant to the terms of the law, the operator is obliged to take out insurance or another form of, his liability being up to the amount set in the law (article 8). The law further establishes, as a corollary of the obligation, a procedure whereby the King recognises the operator (articles 9 to 13). Now, in Belgium on January 1st 2016, the Law of 29 June, 2014 is entered into force as modifying the existing 1985 law on nuclear third-party liability. The new law of 2014 has stipulated in article 33 that it would enter into force on the first day of the eighteenth month after its publication, i.e. on 18 June, 2014, in the official journal, *MONITEURBELGE*, meaning that this entry into force would intervene the 1st of January 2016. Surely the legislators of 2014 had not imagined that by 2016 the Protocols amending the Paris Convention and the Brussels Supplementary Convention would still remain to be ratified<sup>29</sup>.

However, there were many reasons leading to the postponement of the ratification process by the contracting parties to the Paris and Brussels Conventions, among which the requirement of simultaneous ratification by the member States of the European Union and the necessity to structure State intervention and calculate an adequate remuneration for it<sup>30</sup>. The new Belgian law taking effect on January 1st, 2016 (while not altering the amounts of liability, which had already been brought in line with the requirements of the revised conventions in a previous law of 13 November 2011 and amount to 1, 2 billion euros) extended the

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29. *Supra* note 1.

30. *Implementation of Changes to the Paris and Brussels Conventions on Nuclear Third-party Liability* (Working Paper on Paris Brussels Convention's Changes, August 2010) available at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/42750/1372-changes-to-paris-and-brussel-convention.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/42750/1372-changes-to-paris-and-brussel-convention.pdf).

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scope of the third party liability of the nuclear operators, which was required to find coverage for the nuclear damage as defined more broadly in the revised international conventions – even though these revisions to the international conventions had not yet entered into force for lack of ratification by sufficient number contracting parties – and therefore including the new heads of damage relating to environmental damage. The Belgian Law also provided for a thirty year prescription period for the liability of the nuclear operator for loss of life or personal injury, amending the existing system of intervention by the Belgian State for the claims made between the tenth and the thirtieth year after the nuclear accident<sup>31</sup>.

As could be expected and fully in line with what had been previously announced, the insurance sector (nor for that matter the financial markets) would not provide coverage for all modifications foreseen in the newly applicable law, so that the Belgian nuclear operators have been confronted with unprecedented problems regarding coverage of the liability as a result of the modification of the Belgian nuclear third party liability law. These developments are of interest beyond the Belgian context because the reticence of the worldwide insurance and financial markets to provide the total coverage as required by the revised Paris and Brussels Supplementary Conventions is an issue confronting all nuclear operators in countries of the contracting parties to the international conventions<sup>32</sup>.

**II.1 An extended liability with immediate effect, while the requirement of proof of coverage of the liability could be postponed.**

The new Belgian law affected the scope of the nuclear liability of all Belgian nuclear operators, i.e. not only of the sole operator of nuclear power plants for the production of electricity, but also smaller operators developing activities relating to the nuclear fuel cycle and the treatment of irradiated fuel, the research reactor SCK, the producer of radioisotopes for medical use, companies active in the area of transport of nuclear materials etc. All these operators were

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31. See *supra* note 1.

32. *Id.*

confronted rather unexpectedly in January 2016 with a requirement to find insurance coverage or other financial guarantee for the extended nuclear liability. Article 32 of the new law provided as a transitory measure that the nuclear operators recognized by the Minister of Energy may maintain the recognition as nuclear operators on condition that they adapted the insurance or other financial guarantee covering their liability to the requirements of the new law within ninety days after entry into force of the new law of 2014<sup>33</sup>.

Article 8 of the law of 2014 also provided that if an operator established that the market did not offer insurance or a financial guarantee for certain risks which had to be covered under the law, the operator could request the Belgian State to extend a State guarantee, on payment of a remuneration for the coverage of the risks<sup>34</sup>.

In case such a request was made within thirty days following the entry into force of the new law, article 32 of the law permitted the Minister of Energy to prolong the ninety-day period granted to the operator for adapting his insurance or other financial guarantee. More specifically, the ninety-day period could be prolonged for the duration necessary to examine the request for a State guarantee<sup>35</sup>.

The Belgian nuclear operators, who only disposed of their existing insurance according to the dispositions of the previous law and the non-revised Paris Convention, were therefore confronted with a situation where they had to prospect the worldwide insurance and financial markets and, if the market did not offer coverage for the new liability, seek a State guarantee, all within the deadline of one month. Once such request for State guarantee was made, the Minister of Energy should decide whether the demand was admissible, and possibly extend the ninety days period allowed by law to the operators for proving that they disposed of the necessary

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33. OECD/NEA, NUCLEAR ENERGY DATA 2013, COUNTRY REPORTS: BELGIUM 37, <http://www.oecd-nea.org/ndd/pubs/2013/7162-bb-2013.pdf>.

34. See *supra* note 1.

35. Philip Woolfson & Alexander Hamels, *Insurance and Reinsurance in Belgium: Overview*, in INTERNATIONAL COMPARATIVE LEGAL GUIDE TO INSURANCE & REINSURANCE (Steptoe & Johnson eds., 2019).



coverage (without which they risked to lose the recognition as nuclear operator)<sup>36</sup>.

It should also be kept in mind that while the ninety days period to prove coverage could be extended, this did not preclude the fact that the extended liability of the nuclear operator was already applicable as of January 1st, 2016, i.e. the date of entry into force of the new law. Therefore, although the risk of losing recognition as a nuclear operator for lack of coverage would not immediately materialize, in case of nuclear accident, the nuclear operator who did not dispose of full insurance coverage for all heads of nuclear damage or for the totality of the thirty years prescription period was already exposed for its full nuclear liability as newly defined and had its own balance sheet at risk for the exposure<sup>37</sup>.

## **II.2 Necessity of state intervention in the absence of full insurance coverage or another financial guarantee**

As required by the law, the Belgian nuclear operators searched the market for insurance coverage or other financial guarantees, but were unable to find total coverage for the newly defined liability<sup>38</sup>.

For example, in the case of Electrabel S.A., the operator of the nuclear power plants for the production of electricity, the Belgian insurance pool SYBAN, which had been Electrabel's sole provider of insurance for nuclear liability up to January 2016 intimated that it could not cover nuclear liability as provided in the revised Paris Convention for the claims introduced for bodily injury in excess of a prescribed period of ten years (while the law required thirty years) nor for damage to the environment and associated costs exceeding 300 million euros (while the legal liability amount was 1.2 billion euros).

Inversely, the nuclear insurance mutual ELINI made no reservations as to the definition of nuclear damage or the prescription period, thus covering the damage as defined in the revised Paris Convention, but ELINI faced capacity constraints. ELINI and its reinsurers and co-insurers could offer 20% coverage of the liability

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36. *Id.*

37. *Id.*

38. *Id.*

amount of 1.2 billion euros for the heads of damage and prescription periods where SYBAN would agree to cover 80%, and could offer 25.8 % of the liability amount of 1.2 billion euros for the heads of damage and prescription periods that were new according to the revised Paris Convention and for which SYBAN would not agree to intervene (the prescription period between the 10th and the 30th year) or would intervene only up to 300 million euros (damage related to the environment)<sup>39</sup>.

Initially, there was uncertainty that the Belgian Nuclear Pool SYBAN would agree to the principle of a coinsurance with other insurers; this could potentially have forced Electrabel to take overlapping insurances. The issue has been resolved through an insurance formula where the SYBAN covers a quota share of 80% for certain more traditional damages and with ELINI and its reinsurers and co-insurers covering the remaining 20% as well as extending a partial coverage of 25.8% for the heads of damage required by the new Belgian law, but not or only partially covered by the SYBAN. Thus, Electrabel has taken out the maximal insurance offered by the worldwide market to be compliant, to the maximum of its ability, with the legal requirement that it must have and maintain insurance to cover its nuclear third-party liability.

This was not without incurring additional costs as compared to the situation before January 1st, 2016 due to increased insurance premiums and taking into account that in order to be eligible to take out insurance with ELINI, Electrabel had to make a contribution to the capital of ELINI which, as a mutual insurance company, relies on its members to pay for the damage in case of a nuclear incident through their capital contributions and potential retrospective premiums when such incident occurs<sup>40</sup>.

Nevertheless, the coverage taken together was still insufficient to a full guarantee for the payment of nuclear damage as defined in the new law according to the revised provisions of the Paris Convention, obliging Electrabel to request the State guarantee to the Belgian public authorities. Indeed, a State guarantee remained

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39. See OECD (2018), *Documents and Legal Texts*, NUCLEAR L.BULL. (2017), [https://doi.org/10.1787/nuclear\\_law-2017-5j8jpss81c9x](https://doi.org/10.1787/nuclear_law-2017-5j8jpss81c9x).

40. See *supra* note 1.

necessary for the part of the new heads of damage not covered by ELINI, more particularly,<sup>41</sup>

- For 8904 million euros (per site, for each of the two nuclear sites) for damage to persons between the tenth and the thirtieth year; and
- For 667,8 million euros (per site) for costs of measures to reinstate a significantly impaired environment, for loss of profit directly related to a loss of use of the environment consequential to a severe impairment of the environment and for the cost of preventive measures, including loss or damage caused by such measures.

Consequently, like all other Belgian nuclear operators concerned by the new legislation, Electrabel submitted a request for a State guarantee to the Minister of Energy, who declared such requests admissible by Ministerial Decree of 25 24 March 2016 and prolonged until the 31 December 2016 the initial period of ninety days for proving that the necessary coverage had been obtained by the operator, pending the examination of the request for the State guarantee<sup>42</sup>.

### **II.3 Uncertainty on the modalities of the State guarantee**

Although the possibility to apply for a State guarantee (if the operators established that the market did not offer an insurance or financial guarantee for certain risks) is explicitly foreseen by article 8 of the new Belgian law of 2014, the details specifying the applicable regime for such a State guarantee still need to be set up. According to article 10/1 § 1 al. 3 of the revised law of July 22nd, 1985 on third party liability in the field of nuclear energy, the King may by Royal Decree establish after deliberation in the Council of Ministers, and determine the terms and conditions for the granting of such a guarantee. The Royal Decree is, at the present stage, still under preparation<sup>43</sup>.

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41. *Id.*

42. *Id.*

43. *See generally*, MAKIKOTAZAKI, A NUCLEAR THIRD-PARTY LIABILITY REGIME OF A MULTILATERAL NUCLEAR APPROACHES FRAMEWORK IN THE ASIAN REGION Department of Nuclear Engineering and Management, School of Engineering, (2014).

The law does specify that the administration of the Treasury, the bank and insurance regulator, FSMA, and the Commission for Insurance give their advice on the remuneration due by the operator to the Belgian State for the State guarantee within a reasonable delay fixed by the Minister of Finance before the remuneration is fixed in the Royal Decree established upon deliberation in the Council of Ministers.

The law also determines that the remuneration is due on a yearly basis and should cover the risk carried by the Belgian State as well as the costs for expertise required for the calculation thereof; the remuneration covers also the expertise costs for the review of the effective realization of the damage due to loss and the review of the conditions for invoking the guarantee and the costs for payment of the damage in case the guarantee is invoked. If the guarantee is invoked, the Belgian State is subrogated for the paid amounts, in all rights and claims of the victims vis-à-vis the operator<sup>44</sup>.

It is clear, therefore, that the public intervention does not relieve the operator from the duty to indemnify the victims for the loss due to a nuclear incident, but only offer to the victims a supplementary assurance that their damage will be compensated for even in the case of insolvency of the operator after the occurrence of the nuclear incident. As specified before, the Belgian nuclear operators did in fact effectively apply for a State guarantee and are still awaiting a final decision by Royal Decree on the modalities of such a guarantee. The modalities are still under discussion. One possibility, although the path has been abandoned, was that the Belgian State would itself apply an actuarial method for calculating the risk of the Belgian State, taking into account elements such as the (very low) probability of an accident, the number of persons affected per source term, the damages that could possibly be generated per source term, etc.

However, rather than devising its own calculation, the Treasury decided to appoint an outside consultant to develop a method for calculating the risk of the Belgian State<sup>45</sup>. Also, it is likely that the

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44. *Id.*

45. See IAEA, INTEGRATED REGULATORY REVIEW SERVICE (IRRS) MISSION TO BELGIUM(2013), [https://www.iaea.org/sites/default/files/documents/review-missions/irrs\\_belgium\\_mission\\_2013\\_report.pdf](https://www.iaea.org/sites/default/files/documents/review-missions/irrs_belgium_mission_2013_report.pdf).



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European Commission's approach to the State aid granted in the form of guarantees as discussed in the Commission Notice on the application of articles 87 and 88 of the EC Treaty to State aid in the form of guarantees will be followed. The notice explained that the benefit of a State guarantee was that the risk associated with the guarantee was taken over by the State and that such risk-carrying by the State should be remunerated by an appropriate premium. In order to determine whether an advantage is being granted through a guarantee scheme, the European Commission will base its assessment on the principle of an investor operating in a market economy and will take into account the effective possibilities for a beneficiary undertaking to obtain equivalent financial resources by having recourse to the capital market. In order to facilitate the assessment of whether the market economy investor principle is fulfilled for a given guarantee measure, the above-mentioned notice set out a number of sufficient conditions for the absence of aid. One of the conditions was that the guarantees should not cover more than 80 % of the financial obligation. Accordingly, the nuclear operators attached importance to seeking coverage on the private insurance market of at least 20% of their liability for each of the heads of nuclear damage, in order to establish a market price that could form the basis for the calculation of the premium that would be due to the Belgian State in return for the State guarantee. As discussed before, the operator of the nuclear power plants for the production of electricity Electrabel S.A. managed to reach such a threshold by combining the coverage extended by the Belgian nuclear insurance pool SYBAN with the coverage of mutual insurance company ELINI<sup>46</sup>.

Further discussion will need to take place between the Belgian administration and the European Commission to determine whether the envisaged State guarantee qualifies as State aid. Relevant to the discussion on the existence of State aid is the argument that the intervention of the public authorities in the costs of a nuclear accident would benefit the victims of such accident rather than the nuclear operator. In subsidiary order, in case the European Commission would nevertheless be convinced that the envisaged

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46. *Id.*

State guarantee does qualify as State aid, it could be argued that such State aid is admissible under the EU law. Therefore, reference should be made to article 106bism (3) of the Euratom Treaty, according to which the dispositions of the Treaty on the Functioning of the European Union, including those concerning State aid, should not derogate from the Euratom Treaty.

Aid measures that aim to promote nuclear energy pursue an objective of common interest and may at the same time contribute to the realisation of objectives of diversification and security of supply. At the same time, an international regime of nuclear third-party liability such as the one established by the Paris Convention is necessary to ensure the viability of the nuclear production in the European Union. It could also be defended that the intervention by the State is necessary and proportionate to the pursued objective to the extent that the insurance and financial market do not cover the risks that would be concerned by the State guarantee at present. For the future, it is not excluded that the insurers and reinsurers would become more inclined to cover the risks once the revision Protocols of 2004 would enter into force and the demand for such a type of coverage would become common to all States that are Contracting Parties to the Paris and Brussels Conventions<sup>47</sup>.

It may be concluded that the 2014 Belgian law on nuclear third party liability, although it entered into force more than ten years after the signature of the revision Protocols to the Paris and Brussels Conventions, took effect somewhat prematurely before the ratification by the EU Member States of the revisions to the Conventions, before the entry into force of the revision Protocols and before a system was enacted to properly regulate the modalities of the State intervention that becomes necessary as long as it remains impossible to obtain full coverage from the commercial insurance market or the financial market<sup>48</sup>.

It is not excluded that the new law will be amended to revert back to the previous legal situation until the revised Conventions enter into force. Indeed, a draft law is under preparation that provides

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47. *Id.*

48. *Id.*

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that the new definitions for certain terms, such as the definition of nuclear damage referring to the modified notions contained in the revised Paris Convention, will enter into force in future, it being understood that the King will be enabled to fix (by Royal Decree deliberated in the Council of Ministers) such date of entry into force at an earlier or later date, and that it will be done in function of the date of entry into force of the revision Protocols to the Paris and Brussels Conventions, once sufficient number of States will have ratified the revisions. Similarly, the reparation of nuclear damage through bodily injury would again, as was the case before the entry into force of the 2014 law, be the responsibility of the Belgian State for the delay between ten and thirty years counting from the nuclear accident, until a Royal Decree determines the date at which the liability will be the responsibility of the nuclear operators<sup>49</sup>.

The problem of getting insurance cover for certain heads of damage covered by the definition of 'nuclear damage', in the revised Paris Convention is not entirely confined to Belgium alone. All member States of the European Union which have operating nuclear reactors on their territory more or less face same or similar problems because of the worldwide lack of private insurance cover for the period between the tenth and the thirtieth year after the nuclear accident and, to a lesser extent, for the coverage of the environmental damage. Thus, all these countries face the issue of State intervention. Some States, like Belgium, are considering to extend a State guarantee, whereas some others like the UK rather think along the lines of a reinsurance of nuclear liability by the State where there is a market failure. State aid regulation imposes the requirement to demand an adequate remuneration for the State for such intervention, thus posing the problem of calculating correctly such remuneration. Hopefully, the general demand that will necessarily be created once the ratification process of the revision Protocols to the Paris and Brussels Convention comes to an end and the revisions enter into force, will incite the insurance sector to evolve and come up with commercial insurance solutions in a new reformed market<sup>50</sup>.

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49. See *supra* note 43.

50. *Id.*

### III. CONCLUSION OF THE CSC AND ITS DOMESTIC IMPLEMENTATION IN JAPAN<sup>51</sup>

The conclusion and entry into force of the CSC in Japan on 15th April, 2015 is an important step to strengthen the global nuclear liability regime. It is the entry into force of the Convention on Supplementary Compensation for Nuclear Damage. The CSC was adopted with “the Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage” in 1997. The CSC had not entered into force for a long time, because the CSC will come into force when the number of contracting Parties reach five or more and their installed nuclear capacity exceeds 400,000 MWt. Japan concluded the CSC on 15th January, 2015 and the conditions of the entry into force of the CSC were satisfied with Japan’s conclusion. To outline the conclusions of the CSC with Japanese legal points of view, and consider domestic implementation with reference to the compensation system for nuclear damage after the incident which occurred on 11th March, 2011 at the Fukushima Daiichi nuclear power plant (hereinafter the Fukushima incident) in Japan.

Before the Fukushima incident occurred, when Japan was reviewing the best way to handle the nuclear damage compensation system, it examined the possibility of the country joining a global regime of nuclear damage compensation. At that time, the examination showed that Japan could expect the CSC to be a legal foundation of international expansion of the Japan-U.S. common nuclear industry. There were three reasons for Japan expecting the CSC to be a legal foundation. The first was that the contents of the CSC were easy to conclude for many States including Japan as compared with other international regimes, such as the Vienna Convention or the Paris Convention. The second was that the CSC prepared a system to supplement the lack of financial security with contributions by the contracting Parties.

The third was that the contracting Parties of the Vienna Convention, not parties to the international convention and newly

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51. See generally, Koichi Murukami, “Conclusion of the CSC and its domestic implementation in Japan”. Paper presented and published in XXII NUCLEAR INTER JURA CONGRESS (November 7-11, New Delhi).



introduced countries of nuclear power may join the CSC universally. And the USA, which had a close relationship with Japan and its nuclear industry was led to ratify the CSC. The examination also showed that Japan was not in a situation where it must immediately join a global regime in 2008 because Japan had a domestic compensation system comparable to advanced nuclear countries, but, it was important to promote issues of the organization and to prepare for future full-scale investigations regarding the CSC, as a realistic choice for Japan.<sup>52</sup>

After that, in the Japan-U.S. Summit Meeting on April 2012, President Obama mentioned the hope of Japan's involvement in the CSC. The U.S. had repeatedly asked Japan to consider ratification of the CSC. And the Government of Japan noted that the conclusion and the entry into force of the CSC was meaningful in terms of the possibility of contribution to the construction of an international compensation system of nuclear damage, enhancement of the compensation at the time of a nuclear incident, quick and equitable relief to victims, and improvement of legal predictability. On 19th November, 2014, the CSC was approved by the National Diet. When the CSC was approved, the relationship between the domestic law and the CSC were discussed. In addition, in order to ensure proper implementation of the CSC, the related law had been enacted and amended. These are interesting in terms of watching the domestic implementation of the CSC in Japan, details of which are described below.<sup>53</sup>

### **III.1 Legal examinations concerning Japan's conclusion of the CSC**

i. Examinations concerning the issues from Japanese legal points of view<sup>54</sup>:

As mentioned earlier, the CSC had comparatively easier provisions of compliance than other international conventions

52. *See generally*, Terabayashiy, *On Conclusion of the Convention on Supplementary Compensation for Nuclear Damage*, 361 (3) *Legislation and Researches* 46-51 (2015)(Office of House of Councillors of the National Diet of Japan, Tokyo).

53. *Id.*

54. *Id.*

concerning compensation for nuclear damage. For example, the domestic law of Japan, (The Act on Compensation for Nuclear Damage, hereinafter the "Act on Compensation) provided that a case where the damage was caused by a grave natural disaster of an exceptional character was an exception to the liability of the nuclear operator. The 1997 Vienna Convention and the 2004 Paris Convention did not allow exemption from compensation for nuclear damage by a natural disaster. But States could join the CSC even if their domestic law provided such an exemption by a "grave natural disaster of an exceptional character."<sup>55</sup>

In this way, it is to be submitted that the CSC, as an international regime which Japan had joined, did condone such contradiction in the domestic law on compensation. But, of course, Japan was bound to make an analysis about its domestic law when it joined the CSC. It is to introduce the views seen in the Government with regard to the main legal issues pointed out before the conclusion of the CSC, and then introduce the enactment and amendment of the law for its domestic implementation.

Concerning the first point of legal issues, there is a difference in the definition of nuclear damage in the CSC and the Act on Compensation. In article I(f) of the CSC, it specifically lists certain types of damage that fall under the definition of nuclear damage, but the Act on Compensation prescribes it as,

...any damage caused by the effects of the fission process of nuclear fuel, or of the radiation from nuclear fuel, etc., or of the toxic nature of such materials (which means effects that give rise to toxicity or its secondary effects on the human body by ingesting or inhaling such materials).

The Government judged that the description of the definition of nuclear damage in the Act on Compensation was different from the one in the CSC, but the scope of nuclear damage in the Act on Compensation was consistent with the one in the CSC and even if Japan joins the CSC, the scope of compensation for nuclear damage need not have been changed.<sup>56</sup>

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55. *Id.*

56. *See supra* note 51.

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In the second point of mandatory financial security, the Annexure to the CSC prescribed that the Installation State, having regard to the nature of the nuclear installation or the nuclear substances involved and to the likely consequences of an incident originating there from, would establish a lower amount of financial security of the operator, provided that in no event shall any amount so established be less than 5 million SDRs, and provided that the Installing State ensured the payment of claims for compensation for nuclear damage which had been established against the operator by providing necessary funds to the extent that the yield of insurance or other financial security was inadequate to satisfy such claims and up to a limit of the financial security; as stated in article 5.1(a). The Act on Compensation prescribes that the Cabinet Order may provide for a lesser amount than JPY 120 billion as the financial security amount in the case of such reactor operation, etc. and the Cabinet Order provided for the lesser amount as JPY 24 billion or JPY 4 billion. According to the CSC, if a nuclear incident occurs during reactor operations etc., 300 million SDRs are ensured.

The amount is more than the financial security of JPY 24 billion and JPY 4 billion provided by the Act on Compensation. As a result, there occurs a difference in the amount. But for the securing of funds of the difference, the Act on Compensation prescribes that the Government shall give a nuclear operator aid as is required, and on that basis the Government concluded that the point required by the CSC is secured.<sup>57</sup>

The third point regarding channelling of jurisdiction, according to the Code of Civil Procedure in Japan, an action relating to tort, if the place where the tort took place is located in Japan, may be filed with a court of Japan. But in article 13, the CSC prescribes that jurisdiction over actions concerning nuclear damage from nuclear incidents shall lie only with the courts of the contracting Party within which the nuclear incident occurs. Thus, for example, if nuclear damage is caused in Japan by a nuclear incident occurring in another contracting Party, victims in Japan must carry out the action in a court of the Contracting Party and not in Japan. In this regard, the Government mentioned that in case of pursuit of

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57. *Id.*

tort liability on the Civil Code because of not being able to apply the Act on Compensation to a foreign nuclear operator, it would be extremely difficult for victims to prove claims of negligence of the nuclear operator, and even if the victim obtained a decree, it doesn't mean that they can execute it. And the Government explained that it thought channelling of jurisdiction by the CSC was reasonable and positive because the contracting Parties of the Convention had prepared the compensation system conforming to international standards, ensured financial support of damage, and ensured enforcement of a judgment in the court.<sup>58</sup>

The fourth point of applicable law, article 14.2 of the CSC prescribes that the applicable law shall be the law of the competent court. According to the article, if nuclear damage is caused by a nuclear incident in Japan but occurring in a contracting Party other than Japan, it may apply Japanese law too. But article 17 of the Act on General Rules for Application of Laws in Japan prescribes that the formation and effect of a claim arising from tort shall be governed by the law of the place where the result of the wrongful act occurred.

Prima facie it means that the law of the place where the result of the wrongful act occurred, i.e. the law of the contracting Party other than Japan is applied. But article 20 prescribes that the formation and effect of a claim arising from a tort shall be governed by the law of the place with which the tort is obviously more closely connected, and the Government explained that to apply "the law of the place with which the tort is obviously more closely connected", which is the Act on Compensation, fits within the spirit of the Convention.<sup>59</sup>

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58. See generally, Tokyo Electric Power Company (2016), "Outline of Change of Special Business Plan", [http://www.tepco.co.jp/en/press/corp-com/release/be/tu16\\_e/images/160331e0201.pdf](http://www.tepco.co.jp/en/press/corp-com/release/be/tu16_e/images/160331e0201.pdf) (accessed 11th July, 2016).

59. *Id.* One may say that it is closer to the determination of proper law in private international law.

In addition to these discussions, upon conclusion of the CSC, to enable the implementation of the CSC in accordance with domestic law, Japan has given the following three reservations:<sup>60</sup>

- With respect to nuclear installations and small quantities of nuclear material, any exclusion by an installation State satisfies the criteria by the Board of Governors of the IAEA;
- The operator is liable in accordance with the national laws and regulations of Japan in a case, where a nuclear incident involving nuclear material carried between a Japanese operator and an operator of another contracting Party occurs within the territory of the area of the exclusive economic zone of Japan; and
- The operator is liable for nuclear damage to any property on that same site which is used or to be used in connection with any such installation except the operator's damage in accordance with the national laws and regulations of Japan.

## ii. **Enactment and revision of domestic law for CSC implementation**

In this section, an attempt is made to describe the enactment and amendment of relevant law to ensure proper implementation of the CSC.<sup>61</sup>

With the implementation of the CSC, the Act on the aid of funds of compensation for nuclear damage etc. attendant upon the enforcement of the "Convention on Supplementary Compensation for Nuclear Damage" was enacted as the law to determine the aid of funds and other necessary matters in order to compensate nuclear damage. The Act prescribes that if the total amount of claims of nuclear damage of a nuclear operator exceeds 300 million SDRs, the Government may aid a part of the fund of compensation for nuclear damage, and collect special contributions from the nuclear operator. The amount is calculated under the provisions of the CSC,

60. *See generally*, JAPAN ENERGY LAW INSTITUTE, FUTURE'S SUBJECT OF INVESTIGATION ON NUCLEAR LIABILITY SYSTEMS: FOCUSING ON THE ACCIDENT OF THE FUKUSHIMA DAIICHI NUCLEAR POWER PLANT OF THE TOKYO ELECTRICPOWER COMPANY 55 (2014)

61. *Id.*



article IV.1(b). The Government may collect general contributions from nuclear operators who operate a reactor each year in order to cover the cost of contributions to which the amount is calculated under the provisions of article IV.1(c)<sup>62</sup>.

In addition, in order to synchronize the compensation system of Japan to the CSC, the Act on Compensation and the Act on Indemnity Agreements for Compensation of Nuclear Damage (hereinafter the Act on Indemnity Agreements) was amended. The specific content of the amendments are,<sup>63</sup>

- Special agreement of matters relating to liability for nuclear damage in accordance with transportation of nuclear fuel material etc. between nuclear operators shall be in writing (article 3.2 of the Act on Compensation),
- An operator shall have a right of recourse when nuclear damage occurs by intent of individuals, special agreement of a right of recourse in writing (article 5 in the Act on Compensation).
- A liability insurance contract or indemnity agreement with the Government in accordance with the transportation of nuclear fuel material, etc. cannot be cancelled during transportation (article 9 of 2 in the Act on Compensation, (Article 16 in the Act on Indemnity Agreements)<sup>64</sup>.

### III.2 Compensation for nuclear damage of the Fukushima incident and the CSC

i. The compensation system for nuclear damage in Japan after the Fukushima incident <sup>65</sup>

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62. McRae, B., *Entry into force of the Convention on Supplementary Compensation for Nuclear Damage: Opening the umbrella*, 95 Nuclear L. Bull. 7-8 (2015).

63. *Id.*

64. THE SASAKAWA PEACE FOUNDATION, THE FUKUSHIMA NUCLEAR ACCIDENT AND CRISIS MANAGEMENT — LESSONS FOR JAPAN-U.S. ALLIANCE COOPERATION(2012). The Report is the culmination of a research project titled, *Assessment: Japan-US Response to the Fukushima Crisis*. The Sasakawa Peace Foundation had launched the project in July 2011.

65. *Id.*

While the CSC is not applied retrospectively to the Fukushima incident, still it will be significant to consider the Fukushima incident as one of the cases of compensation for nuclear damage. According to the New Comprehensive Special Business Plan of the Tokyo Electric Power Company (hereinafter TEPCO), the prospect of the required amount of compensation is a total of JPY 7,658.5 billion, and it is necessary to compensate the huge amount of damage that far exceeds the financial security amount. In the Act on Compensation, the liability of a nuclear operator is unlimited, but at the same time section 16 of the Act on Compensation, prescribes that the Government shall give a nuclear operator such aid as is required for him to compensate the damage, when the actual amount which he should pay for the nuclear damage exceeds the financial security amount and when the Government deems it necessary in order to attain the objectives of the Act.

After the Fukushima incident, on 10th May 2011, TEPCO requested aid from the Government citing problems of funding on the basis of article 16 of the Act on Compensation. In response to this, the Government examined the framework of aid on the assumption that TEPCO had an exceptional liability, and as the framework for the embodiment of the Government's aid on the basis of Article 16 of the Act on Compensation, the Nuclear Damage Compensation Facilitation Corporation Act [hereinafter the Corporation Act] after the revision, the Nuclear Damage Compensation and Decommissioning Facilitation Corporation Act, was enacted in August, in the same year. The compensation scheme on the basis of the Corporation Act is briefly stated below:<sup>66</sup>

- If the required amount of compensation is expected to exceed the amount of financial security, the nuclear operator may make an application for financial assistance under the Nuclear Damage Compensation and Decommissioning Facilitation Corporation Act. When the Corporation receives the application, it decides whether to provide financial assistance and if so, the amount of such financial assistance.<sup>67</sup>

66. *Id.*

67. See Ximena Vásquez-Maignan, *The Japanese Nuclear Liability Regime in the Context of the International Nuclear Liability Principles* (OECD 2012, NEA No. 7089) in NUCLEAR ENERGY AGENCY ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, <https://www.oecd-nea.org/law/fukushima/7089-fukushima-compensation-system-pp.pdf>.

- Then the Corporation prepares a special business plan for the nuclear operator's implementation of compensation as well as for the financial assistance. In this respect it works jointly with the nuclear operator. The special business plan should receive the approval of the competent minister.<sup>68</sup>
- The Corporation receives delivery of government bonds for the necessary funds to conduct granting funds in connection with the financial assistance based on the approved special business plan.
- The nuclear operator receiving the financial assistance pays the special contribution and nuclear operators engaged in reactor operation etc. including the nuclear operator receiving the financial assistance pay the general contribution to the Corporation.<sup>69</sup>
- The Corporation receiving the payment of contribution pays the difference in the profit and loss calculation to the Treasury.

As a result, TEPCO receives JPY 7, 469.5 billion after deducting the received amount of money, which is the amount of financial security, from JPY 7,658.5 billion, which is the prospect of the required amount of Compensation to the Corporation. According to the 2015 Fiscal Year Report of TEPCO, it had paid a cumulative total of approximately JPY 6,043.8 billion as of the 31st March, 2016<sup>70</sup>.

In contrast, the special contribution and the general contribution have been paid to the Corporation every year. It is worth noting that in the Fiscal Year 2015, the amount of the special contribution paid by TEPCO was JPY 70 billion, and the total amount of the general contribution was JPY 163 billion. It may be said that the mechanism provided by the Corporation Act is one of mutual assistance involving stranger nuclear operators also to an incident

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68. *Id.*

69. *Id.*

70. See generally, X. Vásquez-Maignan, *Fukushima: Liability and Compensation: Facts and Opinions*, 29.1 NEA News (2011). For the technical description of the event, see 29.1 NEA News. Available at [www.tepco.co.jp/en/press/corp-com/release/11083007-e.html](http://www.tepco.co.jp/en/press/corp-com/release/11083007-e.html).



as demonstrated by the Fukushima incident how a nuclear incident has been compensated under the mechanism of mutual assistance. In addition to this, the Corporation has emerged as the largest shareholder of TEPCO holding about 54% of its shares. The Corporation is planning to pay a percentage of its profit from sale of shares as a benefit, in addition to the contribution of nuclear operators.<sup>71</sup>

**ii. With a view to increasing the amount of compensation for nuclear damage<sup>72</sup>**

As stated in the Preamble of the CSC, the contracting Parties recognizing the importance of the measures concerning compensation for nuclear damage, desirous of establishing a worldwide liability regime to supplement and enhance these measures and with a view to increasing the amount of compensation for nuclear damage, have agreed with the CSC. The CSC under article III(a)(i) prescribes that the Installing State shall ensure the availability of 300 million SDRs as compensation with regard to nuclear damage per nuclear incident. Japan, being one of the contracting Parties, sets the amount of financial security to more than 300 million SDRs (actual amount: JPY 120 billion) except for the small amount of financial security described above.

This has come about following the provisions of the 2004 Paris Convention, which had raised the amount of financial security to EUR 700 million and the underwriting capacity of private liability insurance, and was adopted in Japan in 2010. But if JPY 7 trillion of the required amount of compensation occurs, it is clear that the amount of financial security becomes insufficient even if it is JPY 120 billion or 300 million SDRs. As a countermeasure to this, it is conceivable that the CSC will raise the amount of financial security from 300 million SDRs, but in light of the current insurance market, it is not realistic to set such a huge financial security as a countermeasure for an incident like the Fukushima one.

Even if the CSC decides that the amount of financial security is to be set at a little more than EUR 700 million, which the 2004

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71. *Id.*

72. *Id.*

Paris Convention set, it is necessary to consider it carefully because raising the amount of financial security might create a hurdle to joining the CSC. In considering increase of the amount of compensation for nuclear damage, it is significant to consider the Fukushima incident, yet an excessive preoccupation may make one lose sight of a desirable figure of a nuclear damage compensation system.<sup>73</sup>

In addition, Japan had established the compensation scheme based on the Corporation Act after the Fukushima incident. It is important to examine, well in advance, the compensation scheme in the matter of the required amount of compensation far exceeding the amount of financial security.<sup>74</sup>

### iii. Re-examinations concerning nuclear liability in Japan and the CSC

The Corporation Act prescribes that as soon as possible after the enforcement of this Act, the Government shall review the best way of addressing such matters as State responsibility under the system of compensation for nuclear damage etc. and also review the establishment of organizations for the prompt and appropriate resolution of disputes involving compensation for nuclear damage, and shall take necessary measures based on the results of these reviews, including a fundamental re-examination of the amendment, etc. of the Act on Compensation in article 6 of the Supplementary Provisions.

In response to this, the Japan Atomic Energy Commission established an expert committee on the compensation system for nuclear damage, and the best way of the compensation system for nuclear damage has been examined from professional and comprehensive points of view since May 2015. Concerning the discussion of the best nuclear damage compensation system in

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73. See COMMITTEE ON LESSONS LEARNED FROM THE FUKUSHIMA NUCLEAR ACCIDENT FOR IMPROVING SAFETY AND SECURITY OF U.S. NUCLEAR PLANTS, LESSONS LEARNED FROM THE FUKUSHIMA NUCLEAR ACCIDENT FOR IMPROVING SAFETY OF U.S. NUCLEAR PLANTS(2014). Summary Available at, <https://www.ncbi.nlm.nih.gov/books/NBK253923/>.

74. *Id*

Japan with respect to the CSC, strict liability, channelling of liability and limitation of a right of recourse are the common principles of international conventions, including the CSC, and will be maintained in light of the CSC, which Japan joined. The core discussion in the expert committee seems to be whether liability of a nuclear operator should be limited or not, and how to design a system that best fits a State responsibility in light of the scope of the nuclear operator's liability. And there is also an opinion that the compensation scheme based on the Corporation Act may be sustainable, but after the electricity market's liberalization, it will be difficult to continue to maintain the system of contribution based on the fully distributed cost method before the electricity market is liberalized.<sup>75</sup>

Japan originally had domestic law not inferior to the demands of the international nuclear damage compensation system. In addition to this, when Japan joined the CSC, it carried out the adaptation of some of its legal system with an awareness of being consistent with domestic law and the CSC, and thus further enhanced consistency with the CSC. And Japan constructed the scheme of mutual assistance based on the Corporation Act for huge compensation for nuclear damage by the Fukushima incident and is about to pay the compensation. On the other hand, re-examination of the best way to handle the new nuclear damage compensation system in light of the Fukushima incident is still being developed in the framework of the CSC.<sup>76</sup>

The Government of Japan, being the State where the Fukushima incident was caused took it as the responsibility of the country to contribute to the construction of an international nuclear damage compensation system, joined the CSC. Currently, nuclear reactors which are under the CSC are more than those which were under the Vienna Convention or the Paris Convention. It may be said that the presence of the CSC as an international nuclear damage

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75. *Id.*

76. See NOBORU TAKAMURA ET AL., EIGHT YEARS AFTER FUKUSHIMA NUCLEAR ACCIDENT: COMMUNITY RECOVERY AND RECONSTRUCTION FROM NUCLEAR AND RADIOLOGICAL DISASTERS –A CASE OF KAWAUCHI VILLAGE AND TOMIOKA TOWN IN FUKUSHIMA(Office for Global relations Nagasaki University et al.). Available at [https://www.preventionweb.net/files/66471\\_f44finalinomatasevenyearsafterfukus.pdf](https://www.preventionweb.net/files/66471_f44finalinomatasevenyearsafterfukus.pdf).

compensation system is very highly viewed. In future, it will be required to focus on the further universalization of the international nuclear damage compensation system.<sup>77</sup>

In recent years, nuclear power use in Asian countries has considerably expanded, but on the other hand, the Asia Pacific Ocean Zone usage of the international nuclear damage compensation system has been scarce for a long time. In the sense of taking one step forward, it may be said that the entry into force of the CSC in 2015 and India's joining the CSC are indeed gratifying. It may not be easy for Japan to request neighbouring countries such as China and Korea to join the CSC, but can only hope that the international frameworks, including the CSC, become more functional globally and the lessons learned from the Fukushima incident by Japan is utilized more globally.<sup>78</sup>

## CONCLUSION

The Indian Parliament made amendments in the Atomic Energy Act, 1962 allowing private investment in the Indian nuclear power program. The issue of an accident is highly sensitive in India, where the gas leak in a US company, Union Carbide factory, in Bhopal city killed about 20,000 people in 1984 in one of the world's worst industrial disasters. The Act effectively caps the maximum amount of liability in case of each nuclear accident at 15 billion (US\$210 million) to be paid by the operator of the nuclear plant, and if the cost of the damage exceeds the amount, special drawing rights up to 300 million will be paid by the Central Government.

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77. *Id.*

78. Fukushima Prefecture, *Steps for Revitalization in Fukushima* (December 25, 2018) available at, <http://www.pref.fukushima.lg.jp/uploaded/attachment/307870.pdf>.

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**A comparison of the law relating to fixing civil liability for nuclear damages of different countries those who have ratified CSC and made domestic law in accordance with it**

COMPARISON OF	INDIA	CANADA	BELGIUM	JAPAN
Date of ratification of CSC	4 <sup>th</sup> February 2014	6 <sup>th</sup> June 2017	1 <sup>st</sup> January 2016	15 <sup>th</sup> January 2015
Date of enactment	21 <sup>st</sup> September 2010	26 <sup>th</sup> February 2015	29 <sup>th</sup> June 2014	17 <sup>th</sup> April 2009
Name of the Act	The Civil Liability for Nuclear Damages Act, 2010	Nuclear Liability Compensation Act, 2015	Law on Nuclear Third-party Liability 2014	The Act on Compensation for Nuclear Damage 2009
Compensable damage under the Act	Nuclear damage as defined in CSC	Nuclear damage as defined in CSC	Nuclear damage as defined in CSC	Nuclear damage as defined in CSC
Non-Compensable damages under the Act	Nuclear incidents arising out of war, hostilities, insurrection	Nuclear incidents arising out of war, hostilities, insurrection	Nuclear incidents arising out of war, hostilities, insurrection	Nuclear incidents arising out of war, hostilities, insurrection
Limitation period	Normal period is 3 years from the date of incident, in special cases 10 years for damages other than	For claims relating to bodily injury or death is 30 years after the day on which the nuclear incident to which the	No limitation period is specifically provided	Claims must be submitted within ten years of the date of the incident.



	<p>damage to human body and 20 years for bodily injury</p>	<p>action or claim relates occurred. For all other claims, there is a three year discovery rule and an absolute limit of ten years from the date of the accident.</p>		
<p>Right to recourse</p>	<p>Section 17 of the Act provides that the operator of the nuclear installation, after paying the compensation for nuclear damage in accordance with section 6, shall have the right to recourse where-(a) Such right is expressly provided for in a contract in writing ; (b) The nuclear</p>	<p>Restricted the right of recourse to individuals who intentionally caused the nuclear incident by an act or omission.</p>	<p>Restricted the right of recourse based on contract and to individuals who intentionally caused the nuclear incident by an act or omission.</p>	<p>Restricts the right of recourse based on contract and to individuals who intentionally caused the nuclear incident. by an act or omission</p>

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	incident has resulted as a consequence of an act of supplier or his employee, which includes supply of equipment or material with patent or latent defects or sub-standard services;(c) The nuclear incident has resulted from the act of commission or omission of an individual done with the intent to cause nuclear damage.			
Operator's liability	Liability channelled strictly to operator	Liability channelled strictly to operator	Liability channelled strictly to operator	Liability channelled strictly to operator
Supplier's liability	Recognised by national law under certain circumstances as product liability	Not recognised by national law	Not recognised by national law	Not recognised by national law

<p>Cap on liability of operator</p>	<p>Liability in case of each nuclear accident at 15 billion (US\$210 million) to be paid by the operator of the nuclear plant, and if the cost of the damages exceeds the amount, special drawing rights up to 300 million will be paid by the Central Government.</p>	<p>The liability amount for each class of nuclear installation must be re-assessed at least once every five years and, based on the assessment, the Government of Canada may increase the amounts by regulation.</p>	<p>The “general limit” corresponds to the maximum amount of coverage that can be provided by market players active in Belgium, for all heads of nuclear damages. “Sub-limits” corresponds to the maximum amount of coverage for each specific head of damage that is offered by market players active in Belgium.</p>	<p>Unlimited liability to operator</p>
<p>Jurisdiction</p>	<p>The courts of the State where the incident occurred have jurisdiction.</p>	<p>A single competent court to hear any and all claims in the country where the</p>	<p>The courts of the State where the incident occurred have jurisdiction.</p>	<p>Under law, the victim may at his/ her own discretion, either individually</p>



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		nuclear incident occurred.		or as part of a group, file a claim directly to the operator before the Reconciliation Committee (in its role of conciliation committee) before the civil courts
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Comparing the law relating to fixing civil liability for nuclear damage of different countries those who have ratified CSC and made domestic law in accordance with it, the CLND Act of India recognising supplier liability is in a better position than any other law. Thus, the participation by nuclear countries in the various international nuclear liability conventions, including the CSC, without waving the right to recourse leaves something to be desired. Still, large degree of organization and contribution is required for the international nuclear liability conventions to fully address the uncertainties underlying in their existence. It may be said that the participation in international nuclear liability conventions by all countries relative to the number of reactors in those countries is fairly acceptable.

Leaving aside the financial implications of the national compensation amount, the CSC does not contain provisions that are overly burdensome on developing countries (nuclear or non-nuclear) wishing to participate in the CSC. Some of the features of the CSC, such as the opportunity to leverage bilateral or regional agreements to implement obligations, in respect of the national amount, may facilitate developing countries' participation in the CSC. Further, continuous worldwide education on the CSC is required to generate and enhance awareness of the benefits it contains. The CSC provides an opportunity to nuclear and non-nuclear countries (both developing and advanced) to participate in the international nuclear liability regime and time will tell if the CSC attains the undoubted potential that it holds.

Time and unfortunate experience have shown that the international regime relating to liability for nuclear damage is in need of considerable improvement. This is hardly surprising, as the international conventions were developed when the nuclear industry was in its infancy and its implications were not fully understood. However, States are now actively engaged in the process of modernizing and expanding the liability system to overcome the existing problems. Due to the varied interests and attitudes of the States involved, the process may continue for some years.