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# **THE CIVIL NUCLEAR LIABILITY BILL**

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# The Civil Nuclear Liability Bill

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## FOREWORD

Although India's electricity generation has increased significantly since Independence, its per capita consumption even today is well below the global average. Augmenting energy availability is critical for inclusive development and maintaining high rates of GDP growth. By 2031-32 power generation capacity must grow to 8,00,000. MW from the present capacity of around 1,60,000 MW. Given India's limited energy resource endowments, it will have to tap all options. Nuclear energy will become vital for India's energy security in times to come. Some experts estimate that by 2050 India may have to depend largely on solar and nuclear energy to meet its growing needs.

A legal framework to facilitate development of nuclear energy in a safe and efficient manner is essential. Towards this end, Civil Liability for Nuclear Damage Bill, 2010 has been introduced in the Parliament. The Bill has evoked considerable public interest.

Dr. G. Balachandran, Consulting Fellow with IDSA has thoroughly analysed the Bill in this Brief. It is hoped that this Brief will promote a better understanding of the Bill's provisions and thus inform the ongoing debate on the subject.

New Delhi

July 2010

**N.S. Sisodia**

Director General, IDSA

## EXECUTIVE SUMMARY

The Civil Liability for Nuclear Damage Bill, 2010 has elicited a multitude of responses from various sections of the Indian public. This study attempts to put the Bill in some perspective in relation to the Indian energy security, the protection that needs to be afforded to the Indian public in case of a nuclear incident, the advancement of Indian nuclear industry in the global market, taking into account all national and international factors.

Section 1 of the Brief discusses the rationale for a nuclear liability bill from the perspectives on national and international rules and regulations in respect of nuclear industry. Section 2 discusses the safety-related aspects of the nuclear industry and its global record as well as the record of the Indian nuclear industry to establish a relatively safe operating environment of nuclear industry especially the nuclear power plants. (NPPs). Section 3 sets out the requirements of a nuclear liability law in conformity with international conventions. Section 4 discusses the current international practice in respect of civil nuclear liability in countries that operate NPPs. Section 5 discusses the Indian Civil Liability for Nuclear Damage Bill, 2010 in relation to the international practice. Section 6 discusses some of the specific clauses of the Indian bill in comparison with corresponding clauses in other countries' national laws.

In particular subsection (v) discusses the treatment of supplier's liability in some of the other national laws. Section 7 discusses some other miscellaneous aspects relating to liability regimes such as premium paid, radiological incidents such as the Mayapuri incident etc. Section 8 gives tentative conclusions based on the previous sections.

## SECTION 1. RATIONALE FOR A NUCLEAR LIABILITY BILL

### *a) International Environment*

Now that the bill has been introduced in the Lok Sabha and referred to a Parliamentary Standing Committee on Science and Technology, where do we go from here? Given the intensity of feeling and opposition to the bill earlier, it would be useful from the public interest point of view to have a healthy informed debate on the subject. Are there any criteria by which one could judge the “informedness” of the debate? This piece attempts to set out some of the basic issues involved.

The first is what is the public opinion on the relevance of civil nuclear power in India? Should nuclear power generation contribute a substantial portion of the increasing demand for electric power in India, as is the case in many of the developed countries? This is an important criterion, since many of those opposed to the bill are in principle opposed to anything to do with nuclear: nuclear weapons, nuclear power, nuclear family (?) etc. For them opposition to the bill is much more fundamental than merely the quantum of liability etc. In principle no liability bill, which has any chance of advancing nuclear power in India, is acceptable.

If the public opinion is strongly against nuclear power generation and there is no need to increase the share of nuclear power in total power generation in India, then the liability bill is of no relevance.

There won't be any more nuclear power plants (NPP) in India and we can do without a liability bill as all the NPPs will be in the public sector and the public will in any case bear the bill for any liability claim. There won't be any need to amend the Atomic Energy Act as well.

What if the sentiment is in favour of increasing the contribution of NPPs? The second criterion is, what should be the role of imported reactors, technologies and components and systems to advance the role of NPP in total power generation? If the three stage indigenous program is turns out to be as successful as is anticipated, then the share

of NPP will increase. There is no doubt about that. What if it is not as successful as anticipated or the nation desires to have a much faster growth in nuclear power generation than is possible only with indigenous developed reactors and imports would be necessary to achieve the higher rates of nuclear power generation?

If it is felt that the indigenous program will be sufficient to take care of the future needs of Indian electric power, with no need to import any reactors or systems or components from anywhere, then again there is no overwhelming need to have a civil nuclear liability bill. As before, the NPPs will all be owned and run by government owned companies and the situation will prevail as of now, with the government, the public, obliged to pay the liability compensation amounts.

What, however, if it is felt that import of such items will contribute substantially to the increase in the share of nuclear power? In the final analysis the bill is all about the future of electric power generation in India. In any case, are such imports possible without a liability bill that conforms to the criteria set by the international conventions? Unfortunately No. In the current international environment none of the major suppliers of nuclear equipment US/France/Russia/Germany etc will supply any such item to a country that does not have a liability act does not conform to the international standards. The US firms have one more than one occasion expressed their desire for India to enact such an act. This brings us to the second set of critics against the bill. They are those who are opposed to the bill because they perceive it as a response to solely US concerns. Is this true? Are there any grounds to believe that one or more supplier will be willing to sell to India without a liability act in India? So far in spite of all the agitation none has so far expressed such willingness. What about the French who, it is often alleged, would be willing to do so? Sadly not only has no responsible French official or industry spokesperson ever admitted to such a policy, The

India-France Cooperation Agreement on the development of Peaceful uses on Nuclear Energy of September 2009 requires that “each Party shall create a civil nuclear liability regime based upon established international principle.” (Art. VIII (2)). Therefore the French, too, are insistent that India enact a liability bill. What about the others?

In June 2000, the Governments of the Russian federation and the French Republic signed a bilateral agreement to “govern issues of liability for nuclear damage in the event of a nuclear incident within the territory of the Russian Federation that results from deliveries from the French Republic to nuclear installations in the Russian Federation”. Specifically Article III of the Agreement stated:

- “1. The Russian Party shall bring no claims against the French Party or against suppliers on grounds of nuclear damage resulting from a nuclear incident which has taken place within the territory of the Russian Federation.
2. The Russian Party shall grant the French Party and the suppliers appropriate legal protection and shall exempt them from liability for damages in the event of claims by third parties on grounds of nuclear damage resulting from a nuclear incident which has taken place within the territory of the Russian Federation.”

Earlier Russia had signed a similar agreement with Germany, in June 1998, which set out the rules of liability applicable to a nuclear incident in the Russian Federation involving German supplies.

In such a case, the Russian Federation agreed not to institute liability proceedings against Germany or against any German supplier, and to ensure that they will receive sufficient legal protection and will not be held liable in respect of claims made by third parties. This agreement, by mutual consent, lapsed when the Russian federation ratified the Vienna Convention.

It is very unlikely that Russia having agreed to such conditions before joining the Vienna Convention would itself be willing to agree to supply such items to India without India either agreeing to enact a legal liability regime in conformity with international practice or agreeing to a bilateral

agreement in line with the Russia/France, Russia/Germany agreements.

So it is fairly clear that no reputable international supplier willing be supply India with any nuclear equipment without a nuclear liability regime conforming to international practice being enacted in India.

So really speaking a healthy debate in India, assuming that there is an agreement on (i) the relevance of nuclear in India in future; (ii) the need to increase the share of nuclear power; and (iii) the need to import nuclear equipment from abroad to further increase the nuclear power share, will be to examine in what manner the proposed bill can be improved while keeping it within the criteria of the international conventions. The current bill does conform to such a practice.

### ***b) National Environment.***

With the increasing emphasis being paid on environmental aspects of energy generation and use, especially as regards carbon emission, nuclear energy is once again attracting global attention as an efficient alternative to other forms of electricity generation. India has an ambitious program to increase the share of nuclear electricity generation to the levels currently attained in some of the developed countries i.e. 40 percent and above, especially in view of the enormous increase in power generation that will be required to drive India’s economic growth in the coming decades. These plans have received further impetus with the amendment to NSG Guidelines which have made civil nuclear commerce between India and NSG members possible after a gap of nearly 20 years. It is expected that the number of civil nuclear reactors operating in India will increase by leaps and bounds in the coming years.

The Indian experience with operation of nuclear power plants (NPP) has been quite successful and incident free. This has been partly due to the technology used as well as the strict control over NPP operations, primarily as a result of such operations being strictly in the public domain with the operating personnel being trained under a strict regime. Nevertheless as the number and types of NPPs increase it is time for India to establish some

form of domestic legal mechanism to provide compensation to victims of any possible nuclear incident. Needless to state, such a mechanism should have the interests of the public as its primary focus with the interests of other interested parties being accommodated after public interest is taken care of.

Incidentally, it is assumed here that India's current public policy of encouraging nuclear power

generation is one which has been well accepted by the public at large, even though there may be some pockets of opposition to nuclear power in principle. Also the economics of nuclear power do not form of part of this study. It is assumed that nuclear power will be chosen as one of the means of power generation based on its competitiveness with other forms of energy generation.



## SECTION 2.

### NUCLEAR INCIDENTS

Worldwide the NPP industry has collectively accumulated over 1700 reactor years of operation. During this period the industry has had a fairly safe record the two notable exceptions being the Three Mile accident in 1979 and the Chernobyl accident in 1986, which was the last major nuclear accident nearly fifteen years ago. Since then there have been no major nuclear accidents, certainly none with any off-site damage.

After Chernobyl, in response to proposals to develop an international event rating scale similar to scales already in use in other areas (such as those comparing the severity of earthquakes), the International Atomic Energy Agency (IAEA) in collaboration with the OECD Nuclear Energy Agency (OECD/NEA) developed the International Nuclear and Radiological Event Scale (INES) in 1990 which was refined subsequently in 1992.

In INES events are classified on the scale at seven levels: Levels 4–7 are termed “accidents” and Levels 1–3 “incidents”. Events without safety significance are classified as “Below Scale/Level 0”. Events that have no safety relevance with respect to radiation or nuclear safety are not classified on the scale. Although INES covers a wide range of practices, it is not credible for events associated with some practices that do not reach the upper levels of the scale. For example, events associated with the transport of sources used in industrial radiography could never exceed Level 4, even if the source was taken and handled incorrectly. The aim in designing the scale was that the severity of an event would increase by about an order of magnitude for each increase in level on the scale (i.e. the scale is logarithmic). The 1986 accident at the Chernobyl nuclear power plant is rated at Level 7 on INES. It had widespread impact on people and the environment. One of the key considerations in developing INES rating criteria was to ensure that the significance level of less severe and more localized events were clearly separated from this very severe accident. Thus the 1979 accident at the Three Mile Island nuclear power plant is rated at Level 5 on INES, and an event resulting

in a single death from radiation is rated at Level 4. Incidents at Levels 0-2 are not considered significant from the viewpoint of their offsite impacts. Currently nearly 60 IAEA members use the INES to classify national nuclear incidents which are voluntarily reported to IAEA. The 1979 Three Mile Island nuclear accident was rated at INES Level 5.

Since the Chernobyl accident there has been no incident at any of the NPPs worldwide that has reached Level 3 in the INES scale. In India, according to the Significant Event Report (SER) compiled by the Atomic Energy Regulatory Board, during the five year period 2003-2008, there was only one incident at INES level 2, with all other incidents being at levels 0-1, mostly Level 0.

In INES rating each event is considered against three elements: people and the environment; radiological barriers and controls; and defence in depth. The event rating is then the highest level from consideration of each of the three areas.

INES Level assignments to events on people and environment criteria are based on two factors: (i) for the accident levels of INES (4–7), criteria have been developed based on the quantity of radioactive material released, rather than the dose received. Clearly these criteria only apply to practices where there is the potential to disperse a significant quantity of radioactive material. In order to allow for the wide range of radioactive material that could potentially be released, the scale uses the concept of “radiological equivalence.” Thus, the quantity is defined in terms of terabecquerels of  $^{131}\text{I}$ , and conversion factors are defined to identify the equivalent level for other isotopes that would result in the same level of effective dose and (ii) For events with a lower level of impact on people and the environment, the rating is based on the doses received and the number of people exposed. INES Level assignments to events on radiological barriers and controls criteria relate to incidents/accidents that take place within boundaries of the installation site, with the potential (however unlikely) for a large release of activity, where a site boundary is clearly defined

Level	People and Environment	Radiological barriers and controls
7	An event resulting in an environmental release corresponding to a quantity of radioactivity radiologically equivalent to a release to the atmosphere of more than <b>several tens of thousands</b> of terabecquerels of $^{131}\text{I}$ .	
6	An event resulting in an environmental release corresponding to a quantity of radioactivity radiologically equivalent to a release to the atmosphere of the order of <b>thousands to tens of thousands</b> of terabecquerels of $^{131}\text{I}$ .	
5	An event resulting in an environmental release corresponding to a quantity of radioactivity radiologically equivalent to a release to the atmosphere of the order of <b>hundreds to thousands</b> of terabecquerels of $^{131}\text{I}$	An event resulting in the melting of more than the equivalent of a few per cent of the fuel of a power reactor or the release of more than a few per cent of the core inventory of a power reactor from the fuel assemblies
4	An event resulting in an environmental release corresponding to a quantity of radioactivity radiologically equivalent to a release to the atmosphere of the order of <b>tens to hundreds</b> of terabecquerels of $^{131}\text{I}$ <b>or</b> The likely occurrence of a lethal deterministic effect as a result of whole body exposure, leading to an absorbed dose of the order of a few Gy	An event resulting in the release of more than about 0.1% of the core inventory of a power reactor from the fuel assemblies, as a result of either fuel melting and/or clad failure.
3	Exposure leading to an effective dose greater than ten times the statutory annual whole body dose limit for workers	An event resulting in a release of a few thousand terabecquerels of activity into an area not expected by design which require corrective action, even with a very low probability of significant public exposure.” <b>or</b> An event resulting in the sum of gamma plus neutron dose rates of greater than 1 Sv per hour in an operating area (dose rate measured 1 metre from the source)
2	Exposure of a member of the public leading to an effective dose in excess of 10 mSv	An event resulting in the sum of gamma plus neutron dose rates of greater than 50 mSv per hour in an operating area (dose rate measured 1 metre from the source) <b>or</b> An event resulting in the presence of significant quantities of radioactive material in the installation, in areas not expected by design and requiring corrective action
1	Exposure of a member of the public in excess of statutory annual dose limits	

as part of their licensing, but with no significant consequences for people and the environment (e.g. reactor core melt with radioactive material kept within the containment) outside the installation boundary (as happened in the Three Mile accident).

Level assignments to events on defence in depth criteria relate to incidents/accidents that do not result in any actual consequence, which were prevented by

one or more of the safety provisions at the installation. Since these events only involve an increased likelihood of an accident, with no actual consequences, the maximum rating for such events is set at Level 3 (i.e. a serious incident). Furthermore, this maximum level is only applied to practices where there is the potential, if all safety provisions failed, for a significant accident (i.e. one rated at Levels 5, 6 or 7 in INES).

Chernobyl's INES scale was 7 as it resulted in an environmental release corresponding to a quantity of radioactivity, radiologically equivalent to a release to the atmosphere of more than several millions of terabecquerels of  $^{131}\text{I}$ , much more than the definitional requirement of tens of thousands of terabecquerels. The Three Mile Island accident, on the other hand, was rated at level 5 on the basis of the radiological barrier and controls criteria even though the amount of radiological release to the atmosphere was much less than a terabecquerel, much much lower than the people and environment criteria of "hundreds to thousands of terabecquerels" for Level 5 classification.

Under the INES system, an event is rated on both counts- people and environment criteria and the radiological control and barrier criteria and the higher of these ratings is assigned to the event. In both Three Mile Island and Chernobyl cases the

accidents were due to Loss of Coolant Accidents (LOCA) although the severity of the LOCA was less in the former case which did not result in any core melt-down. Further, the Three Mile Island had a containment building- a large concrete structure that covers the whole reactor to prevent release of radioactive material to the environment even in the event of an explosion. The Chernobyl installation did not have any such containment building. All Indian reactors are enclosed in such containment buildings.

Now that it has been established that (i) Indian imports of nuclear equipment, components and technology would need a nuclear liability bill conforming to international conventions and (ii) civil nuclear operations are safe both at global and national levels, it is now necessary to enumerate the requirements of a bill in conformity with international norms.

## SECTION 3. REQUIREMENTS OF A CIVIL NUCLEAR LIABILITY BILL.

The following section draws heavily on Chapter 11 the IAEA publication “Handbook of Nuclear law”.

i) Notwithstanding the relative safety of NPPs, there are certain unique features associated with nuclear accidents. First of all, the damage caused by ionizing radiation to living cells, especially human cells, may not be immediately recognizable; it may be latent for a long time. Since the radiation doses received by living cells have cumulative effects, there may be damage caused by different sources of radiation. In many cases there is no typical radiation injury. Moreover, cancer may result from a radiological accident or from, for example, smoking. Secondly, detrimental effects of a major nuclear accident may extend far beyond the territory of the accident State as was seen in case of Chernobyl accident. Third, under the normal laws governing tort cases involving liability the plaintiffs have to prove that the defendants were negligent. In nuclear incidents the proof of causation depends upon presenting sophisticated scientific evidence given the nature of NPP operations. Such proofs may well be beyond the means of most plaintiffs and would in case, require substantial time to be established. The nature of damage in some major nuclear accidents would require, in public interest, that the plaintiffs be given compensation as soon as possible.

Fourthly and finally, in case of offsite nuclear damage, it is a case of unilateral accident i.e. one which the plaintiffs neither will be able to nor can in any manner prevent the accident with the defendant or the operator of the NPP being solely able to control the risk of accident. For all these reasons a nuclear liability bill should incorporate the principle of strict liability. The operator of a nuclear installation should be held liable, regardless of fault. The plaintiff need not prove negligence or any other type of fault on the part of the operator.

**Therefore, the first requirement of a civil nuclear liability bill should be the principle of strict liability on the part of the operator.**

ii) Now winning in court does not by itself

guarantee that the plaintiff will be able to recover the award. If the losses to victims exceed the operator’s ability to pay, the operator may as well declare bankruptcy, in which case the victims will not be able to recover the full award. This is not an unusual case. In US, in 1982 Manville took that controversial route when it was in danger of being overwhelmed by lawsuits related to its manufacture of asbestos. Manville is now operating under the protection of the bankruptcy laws, and its profits are insulated from legal claims while it tries to negotiate settlements of the suit. Manville established Trust to manage the claims. The courts that supervise the Trust determined that it has insufficient assets to pay every claimant the full value of his or her claim. For this reason, the Trust was directed to pay each claimant as equal a share as possible of their claim’s value.

This share, or “*pro rata*” payment percentage, is currently 7.5% of the value of the award. It is, therefore, necessary that the law direct the operator to maintain insurance or provide other financial security covering its liability for nuclear damage in such amount, of such type and in such terms as may be decided by the legislature or the executive of the state. The amount so determined will be dependent on a number of factors such as the state of the capital market, the ability of the operators to get insurance coverage or arrange other types of financial security. It will be immediately apparent that it would be impossible to get such a financial coverage for an unlimited amount. There has to be some limit on such financial coverage.

Different countries have different limits for such financial coverage depending on the international convention to which they subscribe or their domestic laws. In addition these limits have changed over time with the member states agreeing to higher limits. Both the 2004 Protocol to Amend the Paris Convention and the 2004 Protocol to Amend the Brussels Supplementary Convention on Nuclear Third Party Liability agreed to raise the operator’s financial coverage to Euro 700 million.

Although more than six years have passed since the Protocols were agreed to by the member States, they are yet to come in force. According to reports one of the reasons for this situation is that nuclear operators apparently failed to obtain insurance coverage for this substantial amount. There have been reports also suggesting that the UK government is considering instead providing billions of pounds worth of commercial insurance itself.

**The second requirement for a good nuclear liability bill will be the need to require a minimum level of financial coverage by the operators to safeguard the interests of the public taking into account the operator's constraints as well.**

iii) While in theory it may be possible to suggest that all parties connected with the operation of a nuclear facility- the operator of the facility, the supplier of technology and equipment- all should be held responsible for a share of the damages, in practice this may prove difficult, if not impossible. In particular, if the nuclear accident is sufficiently serious, the special environmental conditions- such as radiation hazards, high temperature melting or fatalities amongst operating staff- prevailing after the accident may prove it impossible for a sufficiently provable forensic linkages to be established between the different parties involved. In any case when the principle of strict liability is invoked, it may well be advisable to let the apportionment to damages between various parties liable for action be decided between these parties themselves according to the contracts entered into by them prior to the event. As long as the damages are awarded to the plaintiffs, it does not matter from which involved party the resources come. As the Exposé des Motifs of the Paris Convention (as revised and approved by the OECD Council on 16 November 1982) remarked "Two primary factors have motivated in favour of this channelling of all liability onto the operator as distinct from the position under the ordinary law of torts. Firstly, it is desirable to avoid difficult and lengthy questions of complicated legal cross-actions to establish in individual cases who is legally liable. Secondly, such channelling obviates the necessity for all those who might be associated with construction or operation of a nuclear installation other than the

operator himself to take out insurance also and thus allows a concentration of the insurance capacity available."

**Therefore, there is ample case for making the liability of the operator not only strict but also absolute and legally channeling liability solely on to the operator of the nuclear installation. This is the third requirement of a good civil nuclear liability act.**

iv) Given the fact that radiation damage may be latent for a long time and not manifest itself for some time, especially in the event of personal injury, the time limit for submission of claims must be sufficiently long in public interest.

**The fourth requirement for a good civil nuclear liability bill is a provision for personal injury claims to be valid for an extended period of the order of 30 years or so.**

v) Two other requirements, the fifth and sixth, that are unexceptional in character are: *First*, the law must be applied without discrimination based on nationality, domicile, sex or residence. *Secondly*, the law should allow for only one court, special or otherwise, to have jurisdiction to deal with claims arising out a nuclear incident. That court should be in the State in which the nuclear incident occurs.

The reasons for such a requirement are obvious. The concentration of procedures would create legal certainty and simplify procedures. As for the requirement that the court be in the State where the incident occurred, it is best to quote when the Southern District of New York, John F. Keenan, Judge passed an order affirming that the Union Carbide case should be tried in India. As that district court found, "the record shows that the private interests of the respective parties weigh heavily in favor of dismissal on grounds of forum non conveniens. The many witnesses and sources of proof are almost entirely located in India, where the accident occurred, and could not be compelled to appear for trial in the United States. The Bhopal plant at the time of the accident was operated by some 193 Indian nationals, including the managers of seven operating units employed by the Agricultural Products Division of UCIL, who reported to Indian Works Managers in Bhopal.

The plant was maintained by seven functional departments employing over 200 more Indian nationals. UCIL kept at the plant daily, weekly and monthly records of plant operations and records of maintenance as well as records of the plant's Quality Control, Purchasing and Stores branches, all operated by Indian employees. The great majority of documents bearing on the design, safety, start-up and operation of the plant, as well as the safety training of the plant's employees, is located in India. Proof to be offered at trial would be derived from interviews of these witnesses in India and study of the records located there to determine whether the accident was caused by negligence on the part of the management or employees in the operation of the plant, by fault in its design, or by sabotage. In short, India has greater ease of access to the proof than does the United States." What was relevant then in the Bhopal case would be much more so, in case of nuclear accidents, especially those that are significant. Because of radiation problems, and other

associated issues vividly described by Judge Keenan, it would be almost impossible for any court in any State other than the one where the nuclear accident occurred to be able to handle such cases.

vi) The liability law must also clearly define the extent of damage that is liable for compensation.

vii) Finally there is the issue of whether or not there should be a total overall cap on the nuclear liability over and beyond the financial guarantee required from the operators. Without such an express limitation, the liability of the operator would be unlimited. Certainly there is no bar on requirement of unlimited liability on part of the operator even if an unlimited financial coverage is not possible. A small number of countries with NPPs – Germany, Japan and Switzerland- apply the concept of unlimited liability on the part of the operator of the nuclear installation. All the other states with NPPs that currently have some form of nuclear liability laws- 25 out of 28- limit the total amount of liability that can be awarded in case of an nuclear accident.

## SECTION 4.

### INTERNATIONAL PRACTICE

There are currently 30 countries that operate civil nuclear power 436 nuclear power plants (NPP). Of these 30 countries, covering the operation of 416 NPPs, have some sort of nuclear liability act in force in their territory either as a result of adherence to some international liability regime- either the IAEA's Vienna Convention for Nuclear Damage of 1963 or the OECD's Paris Convention on Third Party Nuclear Liability in the field of Nuclear Energy of 1960 - or enacting a national liability law. 22 of the 28 countries are party to one of the two international conventions. The other six- Canada, China, Japan, Republic of Korea, South Africa and Switzerland have national laws on nuclear liability.

Only two countries operating 20 NPPS between them- India (18) and Pakistan (2)- are neither members of any international convention nor have any national legislation.

The two international conventions have the following characteristics:

- 1) They channel the liability exclusively to the operators of the nuclear facilities;
- 2) The liability of the operator is strict and absolute. The operator is held responsible irrespective of fault except for few reasons such as "acts of war, insurrection" etc.
- 3) Liability of the operator may be limited or unlimited depending on the convention followed or national legislation.
- 4) Liability is limited in time. Right to compensation expires if legal action is not brought within time;
- 5) Liability is limited in amount;
- 6) The operator must maintain insurance or some other form of financial security equivalent to his liability;
- 7) Jurisdiction must lie exclusively in the court or other defined forum in the State in whose territory the nuclear incident occurred.

Within these parameters the conventions give some leeway for the national legislation to set their

own limits. For example, under Vienna convention while the operator liability is limited, only a lower ceiling is fixed with no ceiling on the upper limit. The Paris Convention, on the other hand, sets out the maximum liability of a nuclear installation. Coverage under the Paris Convention was extended by the Supplementary Convention on Third Party Liability in the field of Nuclear Energy in 1965 (the Brussels Supplementary Convention, BSC) which increased the limits of liability. However, three Contracting States to the Paris Convention- Greece, Portugal and Turkey- are not Parties to the BSC and still retain the maximum limits set out by the Paris Convention. The other Contracting States have increased their operator liability limits as per the BSC. Both the conventions have been amended a number of times- the Paris Convention in 1964, 1982 and 2004. While the 1964 and 1982 amendments have entered into force, the 2004 amendment is yet to come into force.

The Vienna Convention on Civil Liability for Nuclear Damage entered into force only in 1977 even though it was negotiated in 1963 and ready for signature. 36 countries are currently parties to the Vienna Convention, of 12 countries operate NPPs. Russian federation became a Contracting party in 2005. The Vienna Convention was amended in 1997 and came into force in 2003. However, only 5 of the 36 countries have so far ratified the 1997 amendment. Of these 5 only 2 operate NPPs.

The Brussels Convention was amended in 1964, 1982 and 2004. While the 1964 and 1982 amendments have entered into force, the 2004 amendment is yet to come into force.

As for countries that follow only national laws, they too follow the international conventions by following the above three requirements. In Canada, the licensees have absolute and exclusive responsibility and suppliers of goods and services are given absolute discharge of liability (Articles 10 and 11 of the Canadian Act).

China's nuclear liability regime was issued in 1986 as an "interim" measure in connection with the French-designed Daya Bay nuclear power plant. It contains most of the elements of the international nuclear liability conventions (e.g. channeling of absolute nuclear liability to the plant operator and exclusive court jurisdiction). Japan too follows a similar practice (Art. 3(1) and 4(1) of the Japanese "Act of compensation for nuclear damage, 1961") Republic of Korea too follows the same convention (Art. 3(1), 3(3) and 3(5) of the Act on Compensation for Nuclear Damage) Republic of South Africa has a similar legislation challenging absolute liability on the operator (Art. 30(1) of the SA National Nuclear Regulator Act, 1999.) The Price-Anderson Act of US is slightly different. While it imposes economic channeling of liability to the nuclear facility operator, suppliers to nuclear facilities subject to the Act can be legally liable for damages. But even that liability is "channeled" to the facility operator and to the financial protection and/or government indemnity that the operator maintains. Hence in US, the supplier is insured under the nuclear liability facility form policy written by the American Nuclear Insurers and purchased by the facility operator. Thus although the supplier is legally liable, he is not required in any manner to compensate the operator.

It is worthwhile to point out few significant. The Paris Convention of 1960 and its 1964 and 1982

amendments, The Brussels Convention of 1963 and its 1964 and 1982 amendments and the Vienna Convention of 1963 all belong to the first generation i.e. the pre-Chernobyl generation of international conventions all of which are in force today. However, the situation far different in case of the second generation i.e. post-Chernobyl generation of conventions. These are: i) The 2004 protocol to Amend the Paris Convention, ii) the 2004 Protocol to Amend the Brussels Supplementary Convention, iii) the 1997 Protocol to Amend the Vienna Convention, iv) the 1988 Joint protocol relating to the Application of the Vienna Convention and the Paris Convention and v) the 1997 Convention on Supplementary Compensation for Nuclear damage. Of these only two are in force – the 1997 Protocol to Amend the Vienna Convention with very limited Contracting States and the 1988 Joint Protocol relating to Vienna and Paris conventions. The other three – two of which incorporate significant changes to the Conventions and the third which is a new instrument - are yet to come into force, for reasons which are explained later.

Both the international conventions and the various national laws give the operator a right of recourse where such right is expressly provided for in a contract in writing. This could be an avenue for an operator to recover his/her liability under certain circumstances.



## SECTION 5.

### THE INDIAN NUCLEAR LIABILITY BILL AND INTERNATIONAL PRACTICE

How does the Indian bill compare with international practices in respect of civil nuclear liability?

It is in line with both the criteria established in Para 3 above and in line with the principles followed by the 28 of the 29 other nations that operate civil nuclear power plants (NPP) including China and Russia. It differs from the international conventions and the national laws of other countries in only some of the details such as the limits on operator liability, the maximum liability, the definition of damage etc. Nevertheless the Indian Nuclear Liability Bill has come in for strong criticism from a number of analysts. What are the grounds for the opposition to the bill? One can safely ignore the ideologically motivated campaign against the bill on the supposed ground that it will help only the US companies. The reasons for opposition from those who may be otherwise inclined towards such a bill are:

- 1) That it limits the liability of the operator of the facility to Rs. 500 crores;
- 2) That it limits total liability for damage to SRD 300 Million (equivalent to Rs.2100-2300 crores);
- 3) That the public will have to bear substantial costs of damage by way of payments;
- 4) That it exonerates suppliers of equipment, both foreign and domestic, from any liability charges;
- 5) It is a subsidy to the industry by limiting the operator liability to Rs. 500 crores.

#### **Liability limits:**

Table below shows the liability limits under the conventions currently in force.

Convention	Contributor	Amount
Paris BSC	Nuclear Operator	SDR 5 Million
Collective State Fund	Nuclear Operator or Installation State	SDR 175 Million
Total NEA regime	SDR 125 Million	
Vienna Convention	Nuclear Operator	SDR 300 Million Not less than US \$ 5 Million.

The maximum liability in case of the current Indian bill is SDR 300 Million and the Operator liability Rs. 300 crores (approximately SDR 45 Million). The limits under the proposed bill fall somewhere in the mid range of the global pattern. More specifically of the 28 countries that operate NPPs and have some liability law, only in four countries is the maximum liability for a nuclear accident greater than the Indian limit of SDR 300 Mn. In 24 countries the maximum liability is less than or equal to the Indian maximum liability limit. As for the operator liability, the Indian limit is half way. 14 of the 28 countries have a higher limit for the operator's liability.

Note: However, although Sec. 6(1) of the liability bill, states that "The maximum amount of liability in respect of each nuclear incident shall be the rupee equivalent of three hundred million Special drawing Rights", there is no further mention of this amount or reference to Sec. 6(1) anywhere else in the bill. On the contrary, Sec. 7(a) is very clear that "The central Government shall be liable for the nuclear damage in respect of a nuclear incident where the liability exceeds the amount of liability of an operator under sub-section (2) section 6, to the extent such liability exceeds such liability of the operator." This implicit understanding of unlimited maximum liability in case of a nuclear incident is reinforced by the fact that the bill has no provision dealing with a situation wherein the total liability exceeds the maximum liability referenced in sub-section 6(1)!!! It must be understood clearly, however, that the operator limits and total financial liability limits are

subject to future amendments to the bill. Other countries, too, had frequently changed both these limits. Hence reasons (1) and (2) above are issues that can be resolved with informed debate with inputs from industry, insurers, nuclear industry experts and public interest groups. These will not, however, require any modification to the principles of the bill.

What about the charge that the bill the Indian public will bear the major share of the liability charges? True, that will be the case where the operator's liability will be less than the full financial liability for damages. But what is the situation today in India? Will the interests of the Indian public be better protected without a bill, as is the situation today? No. Today all NPPs are operated by government public sector units. No private NPP ownership is permitted. Hence in case of a nuclear accident or incident, it will be the public sector unit, and hence the government and hence the public, that will have to bear the liability charges.

Would any private operator in India enter civil nuclear power production in the absence of a liability bill, especially with unlimited liability? Probably NO, for two reasons. Firstly, it is difficult to envision any India insurer willing to issue unlimited liability coverage for a reasonable premium, which will effectively mean bankruptcy for the private operator in case a very serious accident- although such an event is unlikely. Secondly the public sector units operating the NPPs will be exempt from taking such an insurance cover thereby effectively the government, and hence the public, subsidizing these operators while imposing additional costs on private operators, which in turn will make their costs less competitive and affect their profits. As a result the Indian private sector is unlikely to enter civil nuclear power area with consequent costs on the efficiency of NPPs in India.

What about the charge that the bill exonerates the equipment suppliers from liability damages. True. It does so but without any geographical restrictions. It protects equally Indian, US and all other foreign suppliers. Would making the supplier also liable, in certain cases, be in public interest? It is debatable.

If the suppliers of equipment, systems etc are made liable for a nuclear incident, the only parties that will be affected by such a move are the Indian suppliers to the NPPs. So far the Indian nuclear program is wholly indigenous with Indian manufacturers providing all the equipment, systems and components required for operation of NPPs as a result of the embargo on civil nuclear trade that was imposed by NSG in 1992. It is also expected that once India begins to import reactors in a planned manner, one of the requirements would be manufacture much of the equipment for subsequent plants of the same design in the country with the help of Indian manufacturers. It is also expected that the Indian industry, in collaboration with the foreign suppliers, will become important global suppliers of nuclear equipment.

Currently all nuclear suppliers who are members of NSG have a nuclear liability act in their territory. At present, India is the only country in the world with full nuclear fuel cycle capabilities that is not a member of NSG. If India does not have a nuclear liability bill, not only will no foreign supplier be willing to supply India with nuclear equipment, systems and components- as already discussed earlier- Indian companies too will not be able to leverage their industrial and cost competitiveness in entering international trade in civil nuclear equipment, systems and components.

Actually the only parties that will be affected by the absence of a liability along the current lines would be the Indian suppliers of such equipment for the domestic NPP industry. Since 18 of the 24 reactors currently operated by NPCIL are totally indigenous, the Indian suppliers will be liable under current Indian laws. It is surprising that the Indian nuclear industry has so far remained silent on this subject given that it is they who will be most affected by the absence of such a bill. But that should not be surprising given the total inadequacy of the Indian industry and their chambers to respond effectively to any public issue other than excise and income taxes.

Finally does the Indian bill offer any subsidy to the operators? There is no direct subsidy in the sense

that the public exchequer has to make financial provisions in the budget for such subsidies. However, if and when a nuclear accident results in liability damages exceeding Rs. 500 crores the excess beyond Rs. 500 crores will have to be borne by the public

and would then constitute a subsidy to the operator. Even in such cases it is open to the government to remove the subsidy element by charging the operator an interest for indemnifying any loss over Rs. 500 crores till the excess amount is cleared.

## SECTION 6.

## INDIAN AND OTHER NATIONAL NUCLEAR LIABILITY LAWS

***i) Operator liability insurance financial coverage.***

In most countries, individual operator liability insurance cover is provided by a pool of general insurers. In US, such coverage is provided by the American Nuclear Insurers (ANI) - a joint underwriting association created by some of the largest insurance companies in the United States. In UK the Nuclear Risk Insurers Ltd (NRI) is a Financial Services Authority (FSA) authorised intermediary that acts as the UK insurance market's underwriting agent for all matters of nuclear insurance. It operates as a limited company and has a membership consisting of over 20 leading UK market property & casualty insurers from both Lloyd's and the general market, who pool their insurance capacity for nuclear risks into NRI; it is therefore commonly known as the British nuclear insurance pool.

***ii) Damages paid so far in respect of nuclear incidents.***

As mentioned earlier, there have been few nuclear incidents above the INES Level 3 so far incidents that would have off-site implications requiring liability issues. In case of US, more than US \$ 200 million has been paid by US insurance pools in claims and costs of litigation since the Price- Anderson Act came into effect, all of it by the insurance pools. Of this amount some US 71 million related to litigation following the 1979 incident at Three Mile Island. In Japan, the major liability payments were in respect of a 1999 INES Level 4 accident at a fuel fabrication plant in Tokai-Mura, Japan, with acute irradiation of three workers, two of whom died. Insurance covered 1 billion yen and the parent company (Sumitomo) paid the balance of 13.5 billion yen (US \$ 135 million). In case of Chernobyl no full account of the damage worldwide has been made, but is expected easily into tens of billions of dollar. Beyond these liability payments there is little evidence to suggest any major payments. That is not surprising, since these incidents were the only incidents recorded at levels above INES Level 3.

***iii) Nuclear damage definition and liability insurance coverage.***

It was mentioned earlier that a number of post-Chernobyl amendments to the existing convention and new conventions have yet to come into force. The principal reasons for this is the reluctance of contracting parties to the two conventions to ratify the amendments since there is great apprehension that the implementation of proposed revisions would leave gaps in the insurance cover, usually provided as financial security by the operators under the liability regime. The two major reservations are about the increase in liability limits and the significant widening of the definition of nuclear damage. The 1997 amendment to the Vienna Convention raised the operator's financial obligation from USD 5 million to SDR 300 million, whilst the 2004 amendment to the Paris convention raised its obligation from SDR 15 million to EUR 700 million. The 2004 amendment to the Brussels Supplementary regime adds a further EUR 800 million on top of the Paris/Vienna regimes taking the maximum financial compensation available to EUR 1500 million (in the case of combined Paris/Brussels arrangements) While these increases by themselves may not have had much effect, the changes to the definition of "nuclear damage" seemed to be playing a much larger role in the delay in ratification of these post-Chernobyl second generation conventions.

The concept of nuclear damage was common to both the Paris and Vienna conventions as the triggering cause for compensation; the difference between the two regimes was that Vienna defined nuclear damage while Paris did not. Defined or not, under both these old arrangements nuclear damage was largely limited to damage or loss of life of any person and damage to or loss of any property. In broad terms the grounds for compensation was narrowly defined.

However, the post-Chernobyl revisions to both the Paris and Vienna convention, as well as the Convention on Supplementary Compensation (CSC), have widened the scope of nuclear damage

substantially to include besides loss of life or injury, damage to property to add the following:

- (i) the costs of measures of reinstatement of impaired environment, unless such impairment is insignificant, if such measures are actually taken or to be taken;
- (ii) 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;
- (iii) the costs of preventive measures, and further loss or damage caused by such measures; and
- (iv) 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,

According to Mr. Mark Tetley, the Managing Director Nuclear Risk Insurers Limited (NRI) of UK the first category of nuclear damage is not insurable at present- not particularly only in respect nuclear damage. At present almost all forms of environmental liability are currently uninsurable. As such it may be difficult for an operator to get financial security coverage through insurance for these types of liability. This is perhaps one of the major reason why the 2004 amendments to the Paris Convention and Brussels convention have not come into force as is the case with the CSC. Even in respect of the 1997 amendment to the Vienna Convention which has come into force only two countries with NPPS have ratified it so far.

The Indian definition of nuclear damage is identical to the 2004 amendments. It is not yet certain if the Indian operators will be able get insurance cover for the environmental damage liabilities from insurers.

#### **iv) State's role in payment of compensation for damage.**

While in principle "polluter pays" is a noble concept and even makes economic sense, occasions may arise, when the total compensation for the damages suffered exceeds the operator's maximum liability or the total maximum liability if it is different from the operator's liability under the appropriate nuclear liability act. In case of unlimited operator

liability, this may arise when the operator's assets are not sufficient to pay out the full compensation or the operator declares bankruptcy because of the amounts involved. What should the State do in such cases?

Obviously no responsible government can afford to wash off its hands on the matter of compensating its citizens for damages suffered by them. Hence, many (all?) of the national laws concerning nuclear liability make some provisions to take care of such situations. In all cases where the operator's financial security is not sufficient to cover the operator's maximum liability, the appropriate law makes provision for the state to provide resources to the extent of the operator's maximum liability and also require the operator to refund these expenses. When the total compensation package exceeds the maximum operator liability but is less than the total maximum liability for nuclear accidents under the provisions of the law, the state pays the excess out of public funds.

Thus in all cases where the total compensation is less than the total maximum liability under law, there is uniformity in all domestic laws that enforce the liability provisions.

However, national practices differ widely when the total compensation package exceeds the maximum liability envisioned under law. In some countries the law requires some agency to determine the criteria for the fair apportionment of the compensation. In Belgium, for example, the law requires the King determine the criteria for the fair apportionment of the compensation. In France on the other hand, the law requires that "If at the time of a nuclear incident, it appears that the maximum sums available under this Act are likely to be insufficient to compensate for the whole of the damage sustained by the victims, a Decree deliberated by the Council of Ministers and published not later than six months after the date of the incident shall recognise this exceptional situation and specify the manner in which the sums referred to in Sections 4 and 5 are to be disbursed." The situation in India, under the proposed bill, is quite different. Under the Indian bill "The Central Government shall be liable for nuclear damage in respect of a nuclear accident

(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; and (b) occurring a nuclear installation owned by it.” (Sec. 7 of the Civil Liability for Nuclear Damage Bill, 2010”) Since the bill has no reference anywhere to the maximum liability under the act- except for the section that defines such amount and has no section dealing with situations when the compensation exceeds the “maximum liability” under sub-section (1) of Section 6, one presumes the Central government will fully compensate the victims without any limit whatsoever!!!!

As a matter of fact even in those countries where operator liability is unlimited as in case of Germany, Japan and Switzerland, include provisions for either state support for compensating the victims or establishing criteria for distribution. In case of Germany, for example, the law provides that the Government can issue a provisional ordinance – until Parliament passes an Act – which may establish other criteria for the distribution of compensation in case of a catastrophic incident that exhausts the means for compensation available. In Switzerland, on the other hand, provides that if there are grounds for anticipating that the financial resources of the person liable, the private insurer and the Confederation, available for covering the damage, will not be sufficient to satisfy all claims, the Federal Assembly shall establish an indemnity scheme by means of a Federal Order of general application, not subject to referendum.

It must, however, be mentioned here that in the 50+ years of civil nuclear power plant operations, there has been no occasion which had required any State to invoke these special provisions. In the Three-Mile island nuclear accident, the total compensation was about US \$ 70 million, well below the operator’s liability limits. Only in case of Chernobyl did the damages run into hundreds of billions of dollars- well beyond the financial assets of the operator. Even in this case, however, disaster related direct expenses ran only into some tens billions of dollars. Much of the losses was indirect in nature, caused by non-use of contaminated agricultural areas, water and forest resources, reduction of production of electric energy

and, as a consequence, of other goods and services.

It is expected that nuclear accidents of Level 7 in the INES scale would result in damages that would be far beyond the financial resources of any private operator or insurer. In such cases, the State will have to act as the ultimate compensation provider in the first instance. How the State will recover these expenditures will have to be determined by the concerned legislatures.

#### v) Treatment of supplier’s liability

The relevance or significance of Sec 17(b) states that “The operator of a nuclear installation shall have a right of recourse where 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 employee;” Two questions need to be addressed in connection with this subsection?

- i) Is it in contravention of the international conventions? and
- ii) Does it detract from the strict and absolute liability of the Operator?

Sec. 17 of the bill deals with the Operator’s right of recourse. Both the Paris and Vienna conventions have specific articles that deal with the Operator’s right of recourse. Art. 6(f) of the Paris Convention states:

#### **The operator shall have a right of recourse only:**

- (i) if the damage caused by a nuclear incident results from an act or omission done with intent to cause damage, against the individual acting or omitting to act with such intent;
- (ii) if and to the extent that it is so provided expressly by contract.

Art. X of the Vienna Convention dealing the Operator’s right to recourse has an almost identical language stating:

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.

India is not a signatory to either of these convention. However, the 1997 Convention on Supplementary Compensation for Nuclear Damage (CSC), is a free standing instrument open to all countries and not restricted to Contracting Parties to the Paris or Vienna Conventions, it too requires that “A Contracting Party which is not a Party to any of the Conventions mentioned in Article I(a) or (b) of this Convention shall ensure that its national legislation is consistent with the provisions laid down in this Annex” and Article 10 of the Annex dealing with the Operator’s right of recourse states explicitly that “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.”

Sec. 17 of the Indian nuclear liability bill that deals with the Operator’s right to recourse has the two subsections of both the Paris and Vienna Conventions and the CSC in addition to the already referred sub-section 17 (b). Prima Facie it would appear that Sec. 17(b) of the Indian nuclear liability bill goes beyond the requirements of all the three conventions-Paris, Vienna and CSC and hence in violation of the three conventions. What is the situation in respect of countries that are not parties to any of these three conventions?

The Canadian law would seem to hold the supplier responsible (only to the extent allowed under the Conventions). Paragraph 12 (b) of the Canadian Nuclear Liability Act states: “Nothing in this Act shall be construed as limiting or restricting where a nuclear incident resulting in any injury or damage of the kind described in section 3 occurred wholly or partly as a result of an unlawful act or omission of any person done or omitted to be done with intent to cause injury or damage, any right of recourse of an operator against that person.”

Art. 9 of the Chinese “Official Reply of the State Council to Questions on the Liabilities of

Compensation for Damages resulting from Nuclear Accidents” states that “If a written contract between an operator and another person provides for the right of recourse, the operator may, after compensating the victim, exercise its right of recourse against such person in accordance with the provisions of the contract.

If a damage caused by nuclear accident is due to a natural person’s willful act or omission, the relevant operator may, after compensating the victim, exercise its right of recourse against this natural person.”

Section 5 of the Japanese “Act on Compensation for Nuclear Damage” states “Where nuclear damage is covered by Section 3 and if the damage is caused by the wilful act of a third party, the nuclear operator who has compensated the damage pursuant to Section 3 shall retain a right of recourse against such third party. The provisions of the preceding paragraph shall not prevent a nuclear operator from entering into a special agreement with any person regarding rights of recourse.” In South Korea, Article 4 of the Korean “Act on Compensation for Nuclear Damage” has the following:

- “1. Where nuclear damage is caused by the wilful act or gross negligence of a third party, a nuclear operator who has provided compensation for nuclear damage in accordance with Article 3 shall have a right of recourse against such third party, provided however, that where the nuclear damage occurs due to the supply of material or services (including labour) for the operation of a nuclear reactor (hereinafter referred to as “supply of material”), the nuclear operator shall have a right of recourse only insofar as there has been a wilful act or gross negligence by the supplier of the materials concerned or by his employees.
2. If, in the circumstances described in Paragraph 1 of this Article, a special agreement has been made regarding rights of recourse, such agreement shall govern.”

In South Africa, as per Section 30(7) of the “National Nuclear Regulator Act of 1999”, “The holder of a nuclear installation license retains any contractual right of recourse or contribution which the holder has against any person in respect of any

nuclear damage for which that holder is liable in terms of subsection (1).” In US the Price-Anderson Act governs the law in respect of nuclear liability. An important feature of Price Anderson is that it imposes economic channeling of liability to the nuclear facility owner or operator. Suppliers to nuclear facilities subject to Price Anderson can be legally liable for damages. But any liability is “channeled” to the facility operator, and to the financial protection and/or government indemnity that the operator maintains.

Therefore, while the Indian formulation of the Operator’s right of recourse is not an unusual or

unique one – South Korea, for example, has an almost similar condition- Section 17(b) of the Indian bill may be held contrary to the requirements of CSC and the international conventions. But that by itself is no bar against foreign suppliers willing to supply nuclear items to India. South Korea, for example, has vendors from Canada, France, USA etc supplying nuclear items without being unduly perturbed by the Operator’s right of recourse against the supplier, unless, of course, the suppliers have special agreements regarding rights of recourse.



## SECTION 7. MISCELLANEOUS ASPECTS

### ***i) Liability on account of radiological generation incidents such as at Mayapuri.***

The bill is concerned only with loss or damage that 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. “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; (Sec. 2(o))

Therefore incidents such as the Mayapuri one are not included in the bill.

### ***ii) Insurance Premium on Financial security paid in some of the other countries.***

The rate of premium paid for insurance by operators for taking insurance cover for their financial security requirements vary from country to country. In France, the operator has taken insurance cover towards his financial security requirement to the extent of Euro 110,000 for 31 million Euro coverage. In Canada the premium paid was Can \$ 125,000 for Can \$ 75 million coverage. In the US a premium of US\$ 400,000 is paid for a cover of US \$ 300 million.

### ***iii) Levy or surcharge on electricity***

The Government has the option to build reserves for liability compensation by charging a levy on the electricity produced by a NPP operator. A 1000 MW unit will produce about 7.2 billion units of electricity in a year if the plant operates for 300 days in the year i.e. 720 crore units of electricity. A Re. 0.05/unit surcharge will result in revenue of Rs. 36 crores/year. If a NPP site has a minimum of two such units, then the amount recovered from the installation site will be Rs.72 crores. If the total NPP generating capacity is 10,000 MW the surcharge/levy will amount to Rs. 360 crores/year, sufficient to build substantial reserves in few years.

### ***iv) Maximum liability in India.***

Although sub-section 1 of Section of the bill states that “The maximum amount of liability in respect of each nuclear incident shall be the rupee equivalent of three hundred million Special Drawing Rights.”, this sub-section is nowhere referred to anywhere else in the bill. In particular there is no reference as to what happens if the total compensation exceeds this amount. On the contrary, Section 7 of the bill explicitly states that “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;”

It would seem, therefore, that the maximum liability in case of a nuclear incident is unlimited.

## SECTION 8. CONCLUSIONS

The following are some of the changes that can be made without having serious detrimental effects on the future of Indian civil nuclear program. It deals with only with substantive elements not requiring legal interpretation of Indian constitution etc. These legal issues will no doubt be addressed by the courts later, if so required.

### 1) Sec. 17 (b)

Sec. 17(b) is an almost verbatim copy of Art. 4(1) of the Korean “Act on compensation for Nuclear Damage”. Art. 4(2) of the Korean Act is a modified version of Art. 17(a). Art. 17(c) is the standard format in all the international conventions. In reality Art 17(b) and Art. 17(c) are not much different. The addition of Art. 17(b) does not add much to Art. 17(c). It can be dropped without detracting from the force of Art. 17. On the other hand, retention of Art. 17 (b) should have no influence on the behavior of international suppliers. All major nuclear equipment suppliers- US, France, Canada, Germany etc- have been supplying reactors and nuclear equipment to Korea without raising any objection to Art. 4(1) of the Korean liability bill. Hence they can have no objection to Art. 17(b) either.

Therefore, even though Art. 17(b) does not add much to Art. 17(c), it can be retained in the Indian bill without having any detrimental effect.

### 2) Operator liability.

According to Sec. 6(2) the liability of the operator is limited to Rs. 500 crores. Vienna convention does not set any maximum limit of operator liability and India cannot sign Paris Convention which is restricted to OECD members only. Hence the operator liability can be set at any level by India and be still in line with International conventions on nuclear liability.

Therefore, Sec. 6(2) can be modified, if so desired by the Committee, at any finite level of liability or even unlimited liability.

### 3) Maximum Liability

Obviously the maximum liability set out in Art.

6(1) will have to be adjusted according to the level set in Art. 6(2) keeping in mind two principles.

- a) The maximum liability cannot be less than the operator liability.
- b) In case of unlimited operator liability, the maximum liability has also to be unlimited.
- c) In particular, the operator and maximum liability can be the same, without requiring any public subsidy except in extreme circumstances as explained in Section 4 of this Note.

### 4) Public subsidy.

A liability bill will have to take into account a situation wherein the total compensation exceeds the maximum liability defined in Sec. 6(2). There is no required format on this issue in any of the international conventions. It is entirely upto the Indian legislature and executive to decide on this matter. The longer report gives some examples of how other countries have tried to address this matter. The current version of the bill is silent on this matter and needs to be resolved.

Therefore, the committee needs to examine this issue and make amendments to the bill to reflect some consensus between the executive and the legislature on how compensation will be given in cases where the total compensation exceeds maximum liability or where the total resources available with the operator are insufficient to discharge compensation obligations i.e. the operator becomes insolvent.

### 5) Operator’s financial Security.

While in principle, it is open to set the financial security to be provided by the operators under Sec. 8 to any amount, not more than the operator’s liability, practical considerations, especially from the viewpoint of the insurer has to be taken into account.

#### ***There are two options available.***

- a) Private insurers, either individually or in a cooperative manner, as a consortium, are willing to issue insurance to the extent specified under

Sec. 8. The views of the insurance companies need to be taken into consideration before deciding on the financial security limits.

- b) If private insurers are not able, or willing to insure to the limit of financial security, the government may choose to underwrite the shortfall, charging the operators a premium for issuing such guarantees. This system is followed in some countries.

#### **6) Insurance limitations.**

At the present moment from all indications international insurers, who maybe asked for reinsurance by Indian insurance companies, are unwilling to underwrite insurance policies which have environmental liabilities. This may be cross checked with IRDA. In such a case only Indian insurers will have to bear the full insurance liability or the government may have to give guarantees.

#### **7) Time Limitation.**

Sec. 18 of the bill specifies a period of ten years for extinction of right to claim. This can be modified for a longer duration, again taking into account, insurance companies' ability and willingness to extend the period much longer. Generally the insurers are reluctant to insure for very long claims period. This, too, can be discussed with the insurance industry. If they are willing to do so, a longer period, 20 to 30 years, can be proposed. If they are unwilling, then the government may have guarantee financial security.

#### **8) Operator Cess.**

A suggestion not considered in the bill. A Re. 0.05 cess per unit of electrical generation, will net approximately Rs. 36 crores per year from the operation of a 1000 Mwe plant. India will soon have 10,000 Mwe capacity which is expected to reach 20,000 Mwe, if not more, by end of this decade. 10,000 Mwe capacity will yield Rs. 360 crores per year and 20,000 Mwe Rs. 720 crores per year. Such a move will build a nuclear liability reserve of excess of Rs. 10,000 crores within a decade. And even a much larger reserve, if the plans to build nuclear capacities of 40,000 – 50,000 Mwe capacity are realized by the thirties and forties.

#### **9) Final cautionary note.**

If it is felt that India's long term energy security will need substantial reliance on nuclear power, and that such plans will be realized in a shorter period with imports of reactors and equipment, then any Indian bill, that goes beyond the norms on international conventions in assigning supplier liability will result in denial of reactors and nuclear equipments by foreign suppliers and hence will be counter productive. This is an absolute bottom line condition as of today. If in future, India as a major nuclear supplier can influence changes in this, well and good. Today, it cannot do so. Hence changes in supplier liability need to be carefully drafted. The current Sec. 17 formulation is good and should be retained.

## EXTRACTS FROM THE CIVIL LIABILITY FOR NUCLEAR DAMAGE BILL, 2010

### STATEMENT OF OBJECTS AND REASONS

1. The nuclear industry in India is growing and as a result of the steps taken particularly in the recent period, it is expected to form an important part of the energy-mix of the country. While making the design, and during construction and operation of nuclear power plants every care is taken to ensure safety of the plant, public and the environment. However, in the unlikely event of a nuclear incident or accident, there may be damage to individuals, property and environment on a large scale. The geographical scope of damage caused by a nuclear accident may not be confined to national boundaries and it may have trans-boundary effects. In such an event, it is desirable that protection is accorded to victims of such incident or accident by a third party liability regime. It is necessary to give compensation to persons if they suffer nuclear damage as a result of a nuclear incident and therefore it is important to make provision to ensure clarity of liability and the requirement to pay compensation.
2. At present, the nuclear power plants and facilities in India are owned by the Central Government or its Public Sector Undertakings. Therefore, any incident or accident that happens in these installations, and the liability issues arising therefrom, are the responsibility of the Central Government. This, however, leaves any trans-boundary liability to uncertainty. There is also a need to address the issue of nuclear liability during transport of nuclear material.
3. At the international level there are four instruments for nuclear liability, *i.e.*, the 1960 Paris Convention, 1963 Vienna Convention, 1997 Protocol to Amend Vienna Convention and 1997 Convention on Supplementary Compensation for nuclear damage. Convention on Supplementary Compensation was developed under the auspices of International Atomic Energy Agency and which deal with nuclear liability. It provides for treaty relations among all countries that accept the basic principles of nuclear liability law and an international fund to compensate nuclear damage in the event of nuclear incident. The said Convention on Supplementary Compensation envisages a two tier system with respect to the amount of compensation, *e.g.*, Installation State to ensure availability of the amount of compensation (at least 300 million Special Drawing Rights), and International Fund for which all contracting parties are obliged to contribute the amount based on a formula for calculation of contribution.
4. Convention on Supplementary Compensation is a free standing instrument open to all countries. It offers a country the means to become part of the global regime without having to become a member of the Paris Convention or the Vienna Convention. However, all countries party to the Convention on Supplementary Compensation are expected to abide by the basic principles of the nuclear liability law. For this reason, the Convention on Supplementary Compensation sets out a number of rules, which are consistent with the general principles of both the Paris Convention and the Vienna Convention. Any State willing to join the Convention on Supplementary Compensation will have to ensure that its national legislation is consistent with the provisions laid down in the Annex to Convention on Supplementary Compensation.
5. Many countries which are engaged in nuclear power generation are having their own legislations and some of them are parties to one or other international regimes.
6. India is not a party to any of the nuclear liability conventions mentioned above. Indian nuclear industry has been developed within the context

of a domestic framework established by the Atomic Energy Act, 1962. There is no provision in the said Act about the nuclear liability or compensation for nuclear damage due to nuclear accident or incident and no other law deals with nuclear liability for nuclear damage in the event of nuclear incident.

7. It is, therefore, considered necessary to enact a legislation which provides for nuclear liability that might arise due to a nuclear incident and also on the necessity of joining an appropriate international liability regime.
8. The Bill seeks to achieve the above objectives.

## EXTRACTS FROM THE CIVIL LIABILITY FOR NUCLEAR DAMAGE BILL, 2010

## NOTES ON CLAUSES

*Clause 2.*— This Clause defines certain words and expressions used in the Bill including ‘nuclear damage’, ‘nuclear incident’, ‘nuclear installation’, ‘nuclear material’, ‘nuclear reactor’, ‘operator’, etc.

*Clause 3.*— This clause contains provisions for notification of nuclear incident. It requires the Atomic Energy Regulatory Board to notify nuclear incident within a period of fifteen days from the date of its occurrence and give wide publicity to the occurrence of such nuclear incident. However, the Atomic Energy Regulatory Board would not be required to notify nuclear incident where it is satisfied that the gravity of threat and risk involved in such nuclear incident is insignificant.

*Clause 4.*—This clause contains provisions relating to liability of operator. It, *inter alia*, provides that the operator shall be liable for nuclear damage caused by a nuclear incident occurring in that nuclear installation.

The sub-clause (1) contains provisions for liability of the operator in respect of a nuclear damage caused by a nuclear incident involving nuclear material coming from or originating in that nuclear installation before and after the operator has assumed the liability. It also provides that where more than one operator is liable for nuclear damage, the liability of the operators so involved shall be joint and several if the damage attributable to each operator is not separable. However, the total liability of such operators shall not exceed the extent of liability specified in sub-clause (2) of clause 6 of the Bill. It also provides that 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 in sub-clause (2) of clause 6 of the Bill. *Explanation* to sub-clause (3) of this clause specifies the circumstances under which a person shall be deemed to be an operator.

*Clause 5.*—This clause provides for circumstances under which an operator shall not be liable for the nuclear damage. It provides that where a nuclear

damage is caused by nuclear incident directly due to a grave natural disaster of an exceptional character or by acts of armed conflict, hostility, civil war, insurrection or terrorism, the operator shall not be liable. It further provides that the operator shall not be liable for any nuclear damage caused to (a) the nuclear installation itself or any other nuclear installation including a nuclear installation under construction, on the site where such installation is located; (b) any property on the same site which is used or to be used in connection with any such installation; (c) the means of transport upon which the nuclear material involved was carried at the time of nuclear incident. However, any compensation liable to be paid by the 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. However, the operator shall not be liable (a) where a nuclear damage is suffered by a person on account of his own negligence; or (b) where a nuclear damage occurs from the acts of commission or omission of a person, to each person suffering such damage.

*Clause 6.*—This clause contains provisions relating to limits of liability. This clause provides that the maximum amount of liability in respect of each nuclear incident shall be the rupee equivalent of three hundred million Special Drawing Rights and the liability of an operator for each nuclear incident shall be rupees five hundred crores. However, it empowers the Central Government to increase or decrease, by notification, the amount of liability of the operator, having regard to the extent of risk involved in a nuclear installation but, such liability shall not be decreased less than rupees one hundred crore. It also provides that the amount of liability of the operator shall not include any interest or cost of proceedings.

*Clause 7.*—This clause contains provisions for the liability of the Central Government. It seeks to fix the liability on the Central Government in certain circumstances and provides that the Central Government shall be liable for nuclear damage in

respect of a nuclear incident (a) to the extent such liability exceeds the amount of liability of the operator specified in sub-clause (2) of clause 6; or (b) where such nuclear damage occurs in a nuclear installation owned by it; or (c) occurring directly due to a grave natural disaster of an exceptional character or by acts of armed conflict, hostility, civil war, insurrection or terrorism.

*Clause 8.*—This clause imposes an obligation upon the operator to take out, before beginning the operation of a nuclear installation, insurance policy or such other financial security covering his liability as specified under sub-clause (2) of clause 6 and to renew the same. However, the Central Government shall not be required to take out such insurance or financial securities.

*Clause 9.*—This clause confers a right upon a person who suffers nuclear damage to claim compensation in accordance with the provisions of the this Act and claims for such compensation shall be adjudicated by one or more Claims Commissioners to be appointed by the Central Government.

*Clause 10.*—This clause contains provisions for qualifications for appointment as Claims Commissioner. It provides that a person shall not be qualified for appointment as a Claims Commissioner unless he is, has been or qualified to be a District Judge or is or has been in the service of the Central Government and has held the post of the Joint Secretary to the Government of India or any other equivalent post in the Central Government for a period of not less than five years and possesses special knowledge in law relating to nuclear liability arising out of nuclear incident.

*Clause 11.*—This clause contains provisions relating to the salary and allowances payable to and other terms and conditions of service of Claims Commissioner which shall be specified by rules to be made by the Central Government.

*Clause 12.*—This clause contains provisions for procedure to be followed by the Claims Commissioner and powers to be exercised by the Claims Commissioner for adjudicating such claims. The Claims Commissioner shall have certain powers which are vested in a Civil Court under the Code of Civil Procedure , 1908, for discharging functions

under the proposed legislation. It, *inter alia*, provides that Claims Commissioner shall follow the procedure for adjudication of claims under the proposed legislation in the manner provided by rules to be made by the Central Government. The Claims Commissioner can associate experts in the nuclear field in the manner provided by rules for the said purpose.

*Clause 13.*—This clause contains provisions for inviting applications for claims by the Claims Commissioner. It provides that the Claims Commissioner shall, after the notification of a nuclear incident, cause wide publicity to be given for inviting applications for claiming compensation for nuclear damage.

*Clause 14.*—This clause specifies the category of persons who would be entitled to make application for nuclear damage. It provides that an application to the Claims Commissioner for compensation in respect of nuclear damage may be made by a person who has sustained injury or by the owner of the property to which damage has been caused or by the legal representatives of the deceased or by an authorised agent.

*Clause 15.*—This clause contains procedure for making applications before the Claims Commissioner. It provides that the application for compensation before the Claims Commissioner for nuclear damage shall be in the form and manner provided by rules to be made by the Central Government and such applications shall be made within a period of three years from the date of knowledge of nuclear damage by the person suffering such damage.

*Clause 16.*—This clause contains provisions for making of awards by the Claims Commissioner. It contains provisions relating to procedure to be followed by the Claims Commissioner on receipt of application for compensation and the manner for making an award. This clause requires that the Claims Commissioner shall dispose of the application within a period of three months from the date of such receipt and make an award accordingly. However, while making the award, 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. It also empowers the Claims Commissioner to grant temporary injunction to restrain the operator where he is likely to remove or dispose of his property with the object of evading payment by him of the amount of the award, from doing so. It also provides that every award, so made, shall be final.

*Clause 17.*—This clause contains provisions relating to right of recourse. It provides that the operator of a nuclear installation shall have a right of recourse where such right is expressly provided for in a contract in writing or where 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 employee or where the nuclear incident has resulted from the act of commission or omission of a person done with the intent to cause nuclear damage.

*Clause 18.*—This clause contains provisions relating to extinction of right to claim. It provides that the right to claim compensation for any nuclear damage caused by a nuclear incident shall extinguish if such claim is not made within a period of ten years from the date of incident notified under sub-clause (1) of clause 3 of the Bill. However, 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.

*Clause 19.*—It empowers the Central Government to establish a Nuclear Damage Claims Commission in certain cases. It provides that the Central Government may, if it is of the opinion that the amount of compensation may exceed the limit specified under subclause (2) of clause 6 of the Bill or it is expedient and necessary that claims for such damage should be adjudicated by the Commission instead of the Claims Commissioner or it is necessary in the public interest to provide special measures for speedy adjudication of claims for compensation, establish a Nuclear Damage Claims Commission.

*Clause 20.*—It provides for the composition of the Nuclear Damage Claims Commission which would consist of a Chairperson and Members, not

exceeding six, to be appointed by the Central Government on the recommendations of a Committee consisting of Cabinet Secretary as Chairman, Secretary, Department of Atomic Energy and Secretary, Ministry of Law and Justice as Members. This clause further provides that 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. The appointment of a sitting judge of a High Court shall be made after consultation with the Chief Justice of India. It further provides that a person shall not be qualified for appointment as a Member unless he has attained the age of fifty-five years and 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 has been a Claims Commissioner for five years.

*Clause 21.*—This clause contains provisions for the term of office of the Chairperson and Members of the Nuclear Damage Claims Commission. It provides that the Chairperson and a Member 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. However, no person shall hold office as such Chairperson or Member after he has attained the age of sixty-seven years. 20

*Clause 22.*—This clause contains provisions relating to the salaries and allowances payable to and other terms and conditions of service, including pension, gratuity and other retirement benefits, of the Chairperson and other Members of the Nuclear Damage Claims Commission and provides that they shall be specified by rules to be made by the Central Government. However, the salary, allowances and other terms and conditions of service of the Chairperson or other Members shall not be varied to his disadvantage after his appointment.

*Clause 23.*—This clause contains provisions for filling up of vacancies in the office of Chairperson or Members of the Nuclear Damage Claims Commission. It provides that if, for reasons other than temporary absence, any vacancy occurs in the



office of the Chairperson or Member of the Commission, 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.

*Clause 24.*—This clause contains provisions for resignation and removal of the Chairperson or Member of the Nuclear Damage Claims Commission. It provides that the Chairperson or a Member may, by a notice in writing under his hand addressed to the Central Government, resign his office. It further provides that the Central Government shall remove the Chairperson or Member from his office under the circumstances specified in this clause and in certain cases, such person shall be given an opportunity of being heard in the matter before his removal.

*Clause 25.*—This clause contains provisions to provide that a Chairperson or a Member shall be deemed to have retired from service. It provides that a person in the service of the Government immediately before the date of assuming office as a Chairperson or a Member shall be deemed to have retired from service on the date on which he enters upon his office. However, 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.

*Clause 26.*—This clause contains provisions relating to deduction of pension in certain cases. It provides that if a person, immediately before the date of assuming office as the Chairperson or a Member, was in receipt of, or 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 by the amount of that pension and where he has received the commuted value in lieu of a portion of the pension due to him in respect of such previous service, his present salary shall be reduced by the amount of that portion of the pension as well.

*Clause 27.*—This clause contains provisions for prohibition of acting as an Arbitrator. It provides that no person shall, while holding office as a

Chairperson or a Member of the Nuclear Damage Claims Commission, act as an Arbitrator in any matter.

*Clause 28.*—This clause contains provisions for prohibition of practice. It provides that on ceasing to hold office, the Chairperson or a Member of the Nuclear Damage Claims Commission shall not appear, act or plead before the Commission.

*Clause 29.*—This clause contains provisions relating to powers of the Chairperson of the Nuclear Damage Claims Commission. It provides that the Chairperson shall have the power of superintendence in the general administration of the Commission and exercise such powers as may be specified by rules to be made by the Central Government.

*Clause 30.*—This clause contains provisions for appointment of officers and other employees of the Nuclear Damage Claims Commission. It provides that the Central Government shall provide the Commission with such officers and other employees as it may deem fit. It further provides that the salaries and allowances payable to and the terms and other conditions of service of officers and other employees of the Commission shall be specified by rules to be made by the Central Government.

*Clause 31.*—This clause contains procedure for making application for claiming compensation before the Nuclear Damage Claims Commission. It provides that an application to the Commission in respect of a nuclear damage shall be made in the form and manner provided by rules to be made by the Central Government and such application shall, subject to the provisions of clause 18, be made within a period of three years from the date of knowledge of nuclear damage by the person suffering such damage.

*Clause 32.*—This clause contains provisions for procedure and powers of Nuclear Damage Claims Commission. It provides that the Commission shall have original jurisdiction while adjudicating upon application for compensation filed before it under sub-clause (1) of clause 3 or transferred to it under clause 33 of the Bill, and upon such transfer, the Commission shall hear the applications from the stage at which it was before such transfer. Further, it empowers the Chairperson to constitute benches comprising of not more than three Members of the

Commission for the purpose of hearing of claims and that any decision thereon shall be rendered by a majority of the Members hearing such claims. The Commission shall not be bound by the procedure laid down in the Code of Civil Procedure, 1908 but shall be guided by the principles of natural justice and shall have the power to regulate its own procedure. The Commission shall have certain powers which are vested in a civil court under the Code of Civil Procedure, 1908, for discharging functions under the proposed legislation. It provides that the Commission shall dispose of the application within a period of three months from the date of its receipt and make an award accordingly. However, 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. It empowers the Commission to grant temporary injunction to restrain the operator where he is likely to remove or dispose of his property with the object of evading payment by him of the amount of the award. It also provides that every award so made shall be final.

*Clause 33.*—This clause contains provisions for transfer of pending cases to the Nuclear Damage Claims Commission. It provides that every application for compensation pending before the Claims Commissioner immediately before the date of establishment of the Commission under clause 19 shall, after the establishment of the Commission, stand transferred on that date to the Commission.

*Clause 34.*—This clause provides for the nature of proceedings before the Claims Commissioner or the Nuclear Damage Claims Commission. It provides that every proceedings before the Claims Commissioner or the Commission under the proposed legislation shall be deemed to be judicial proceedings within the meaning of sections 193, 219 and 228 of, and for the purposes of section 196 of the Indian Penal Code.

*Clause 35.*—This clause contains provisions for exclusion of jurisdiction of civil courts. It provides that no civil court shall have jurisdiction to entertain any suit or proceedings in respect of which the Claims Commissioner or the Nuclear Damage Claims Commission is empowered to adjudicate

under the proposed legislation 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 the proposed legislation.

*Clause 36.*— This clause contains provisions for enforcement of awards. It provides that when an award is made by the Claims Commissioner under sub-clause (1) of clause 16 or by the Nuclear Damage Claims Commission under sub-clause (6) of clause 32 of the Bill, the insurer or the person responsible under the contract of insurance or financial security to pay the amount of such award to the extent of his liability, shall be required to deposit such amount within such time and in such manner as directed by the Claims Commissioner or the Commission and the remaining amount by which such award exceeds the amount so deposited shall be deposited by the operator, subject to the maximum extent of his liability under sub-section (2) of section 6 of the Bill. It further provides that on the failure of any person 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 and the amount so deposited shall be disbursed to the awardees within a period of fifteen days from the date of such deposit.

*Clause 37.*—This clause contains provisions for preparation of annual report. It provides that the Nuclear Damage Claims Commission shall prepare in each financial year an annual report giving full account of its activities during that financial year in the manner provided by rules to be made by the Central Government and submit a copy to the Central Government to enable it to lay the same before each House of Parliament.

*Clause 38.*—This clause contains provisions for dissolution of Nuclear Damage Claims Commission in certain circumstances. It provides that where the Central Government is satisfied that the purpose for which the Commission established under clause 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, it may, by notification, dissolve the Commission. It also provides for consequences of such dissolution

and provides that with effect from the date of notification of dissolution of Commission, (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-clause (2) of clause 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 the manner provided by rules to be made by the Central Government. However, 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 and in the case of an officer or employee of the Commission refusing 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. It also provides that upon the dissolution of the Commission, all assets and liabilities of the Commission shall vest in the Central Government and that 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. The Central Government shall have power to re-establish the Nuclear Damage Claims Commission subsequent to its dissolution in accordance with the provisions of the proposed legislation.

*Clause 39.*—This clause contains provisions for offences and penalties. It provides punishment for contravention of any rule to be made or any direction to be issued under the proposed legislation or for failure to take out and renew insurance policy or other financial security under clause 8 or for failure to deposit the award amount under clause 36 of the Bill, with imprisonment for a term which may extend to five years or with fine or with both. It also provides punishment for failure to comply with any direction

to be issued under clause 43 of the Bill or for causing obstruction to any authority or person in the exercise of his powers under the proposed legislation, with imprisonment for a term which may extend to one year or with fine or with both.

*Clause 40.*—This clause contains provisions for offences by companies. It provides that where an offence under the proposed legislation has been committed by a company, every person directly in charge of, and responsible to, the company for the conduct of its business at the time of commission of offence shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly unless he proves that the offence was committed without his knowledge or that he exercised all due diligence to prevent the commission of such offence. It also provides that where any offence under the proposed legislation has been committed with the consent or connivance of, or 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. The *Explanation* to the clause seeks to define the terms “company” and “director”.

*Clause 41.*—This clause contains provisions for offences by Government Departments. It provides that where an offence under the proposed legislation 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, in accordance with the provisions of the said clause.

*Clause 42.*—This clause contains provisions for cognizance of offences and provides that no court inferior to that of a Metropolitan Magistrate or a Judicial Magistrate of the first class shall try any offence under the proposed legislation and that cognizance of such offence shall be taken only on a complaint made by the Central Government or any authority or officer authorised by it.

*Clause 43.*—This clause confers powers upon the Central Government to give directions to any operator, person, officer, authority or body for

carrying out the purposes of the proposed legislation and such person shall be bound to comply with such direction.

*Clause 44.*—This clause confers power upon the Central Government to call for such information from an operator as it may deem necessary for the purposes of the proposed legislation.

*Clause 45.*—This clause confers power upon the Central Government to exempt, by notification, any nuclear installation from the application of the proposed legislation where it is of the opinion, having regard to small quantity of nuclear material, that the risk involved from such installation is insignificant.

*Clause 46.*—This clause provides that the provisions of the proposed legislation shall be in addition to, and not in derogation of, any other law for the time being in force and it shall not exempt the operator from proceeding against him under the provisions of any other law for the time being in force.

*Clause 47.*—This clause contains provisions for protection of action taken in good faith under the proposed legislation. It provides that no suit,

prosecution or other legal proceedings shall lie against the Central Government or person or officer or authority in respect of anything done in good faith in pursuance of such proposed legislation or of any rule or order made, or direction issued, thereunder.

*Clause 48.*—This clause empowers the Central Government to make rules in respect of the matters specified in the said clause. The rules made by the Central Government shall be laid before each House of Parliament.

*Clause 49.*—This clause contains provision for power to remove difficulties. It provides that 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. However, no such order can be made under this section after the expiry of three years from the commencement of the proposed legislation. Further, every order made under this section shall, as soon as may be after it is made, be laid before each House of Parliament.

## FINANCIAL MEMORANDUM

Person who suffers nuclear damage shall be entitled to receive compensation under this Act for any nuclear damage resulting from nuclear incident. For this purpose, clause 6 of the Bill proposes to fix the maximum amount of liability for a nuclear incident at rupee equivalent of three hundred million Special Drawing Rights and the liability of the operator at rupees five hundred crores per nuclear incident at present and empowers the Central Government to increase or decrease the amount of liability of the operator depending on the extent of risk involved.

2. Clause 7 of the Bill proposes to fix liability of the Central Government for nuclear damage resulting from a nuclear incident in the following cases—

- (a) where the liability exceeds the amount of liability of an operator, to the extent such liability exceeds such liability of the operator;
- (b) where the nuclear incident occurs in a nuclear installation owned by it; and (c) where the nuclear incident occurs on account of grave natural disaster of an exceptional character or on account of act of armed conflict, hostility, civil war, insurrection or terrorism.

However, since the possibilities of such eventualities are very rare and the actual liability of the government in the event of a nuclear incident would very well depend on the magnitude of the incident, it would be very difficult to estimate the cost of liability at this stage.

3. Sub-clause (2) of clause 9 of the Bill empowers the Central Government to appoint Claims commissioner for the purpose of adjudicating upon the claims for compensation in respect of nuclear damage and clause 11 thereof provides for the salary and allowances payable to and other terms and conditions of service of Claims Commissioner.

4. Clause 19 of the Bill empowers the Central Government to establish a Nuclear Damage Claims Commission under the circumstances specified thereunder and clause 22 thereof, provides for Salary and allowances payable to and the other terms and conditions of service including pension, gratuity and other retirement benefits of the Chairperson and other Members of the Commission.

5. Sub-clause (1) of clause 30 of the Bill empowers the Central Government to provide the Nuclear Damage Claims Commissioner with officers and other employees and sub-clause (2) thereof provides for the salary and allowances payable to and other conditions of service of such officers and employees.

6. It would be difficult to work out the exact expenditure, both recurring and nonrecurring towards the establishment of Claims Commissioner and Nuclear Damage Claims Commission, as it can be determined only after their appointment in case of any nuclear incident.



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