

AUSTRALIAN ATOMIC ENERGY COMMISSION
RESEARCH ESTABLISHMENT
LUCAS HEIGHTS

THIRD PARTY LIABILITY FOR NUCLEAR DAMAGE

by

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ABSTRACT

Basic principles of nuclear liability legislation are discussed including absolute and limited liability and the role of the Sovereign State in indemnifying the operator for damage in excess of limited liability. European countries realised the need for unifying the law of nuclear liability and efforts were made accordingly towards producing workable international conventions. The world's first legislation on nuclear liability - the USA Price-Anderson Act - is described in detail and a digest of nuclear liability claims experience is given. Observations of the present status of nuclear third party liability are outlined.

National Library of Australia card number and ISBN 0 642 99757 8

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INSURANCE; LAWS; LEGAL ASPECTS; LIABILITIES; NUCLEAR MATERIALS DIVERSION;
NUCLEAR POWER PLANTS; REACTOR ACCIDENTS; REACTOR SAFETY; SABOTAGE;

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THIRD PARTY LIABILITY FOR NUCLEAR DAMAGE

INTRODUCTION

1. The concept of nuclear third party liability was developed at a very early stage of the practical application of nuclear energy for peaceful uses. Provisions for it are embodied in the laws of all non-communist countries with significant nuclear energy programs and some important international conventions have been drawn up which have useful extra-territorial applications.

2. The primary concern is the security of the health and safety of the public and its property. To this end the public can legitimately expect the nuclear industry to comply strictly with stringent health and safety regulations. Nevertheless against the chance, although remote, that an accident causing widespread damage occurs, there should be assurances of the availability of adequate compensation and the ease with which such compensation may be obtained.

3. The adequacy of compensation is obviously a function of the availability of the financial resources of the industry, its insurers or government funds, and the speed with which to make good the loss. Legislation in most advanced countries adopts the principle of guaranteed funds from all these sources to cover all foreseeable incidents.

4. It has become necessary to adopt novel legal principles in order to ensure that the public has fair and easy access to compensation. These principles are established to overcome the following difficulties which would otherwise confront a plaintiff:

- (i) Under common law a plaintiff, in order to recover may need to prove that the damage he suffered was a result of some fault or negligence on the part of the defendant; this could be a most difficult task when applied to the circumstances of a nuclear plant accident.
- (ii) Identification of the persons responsible for the fault could lead to extensive litigation, as the operator may claim that an accident was directly caused by defects in materials or services furnished by a negligent supplier, who should therefore be held liable.
- (iii) The plaintiff may have an almost impossible task to prove the defendant's fault because the pertinent evidence may have been destroyed by the accident itself.

(iv) The plaintiff and his legal advisers would be at a disadvantage compared with the defendant in attempting to assemble and master the technical and complex evidence required to establish liability.

5. An additional and highly relevant consideration concerns the period of limitation for filing claims. It is a characteristic of radiation injuries that their manifestation may be delayed for many years. Thus the traditional periods of limitation, commonly six years or so, which apply in some countries may deprive many plaintiffs of the chance to secure compensation.

6. Non-communist countries with significant nuclear energy programs have resolved these difficulties by incorporating in their legislation novel legal principles which are reviewed in this report.

THE RISK

7. Many operations in the nuclear energy industry, such as mining, milling and conversion, do not involve risks of levels substantially different from those encountered in similar operations in other industries. Questions relating to liability for damage from these operations are accordingly handled by conventional methods. There are, however, a number of segments of the fuel cycle which conceivably could release sufficient amounts of radioactive material to cause an accident of catastrophic proportions. These are activities associated with the handling and formation of fission products, notably the operation of nuclear reactors and the reprocessing of irradiated nuclear fuel. In addition, hazards of unusual proportion may be posed by the transport of irradiated fuel between these facilities, and by the possibility of diversion and sabotage.

8. Two basic elements in determining the level of these risks are the magnitude of damages from the worst credible accidents and the probability of their occurrences. The safety record of the commercial nuclear industry to date has been excellent. There have been few accidents and none with serious consequences. Hence there is no actuarial experience upon which to determine liability requirements for the industry, and recourse to theoretical determination of risks is therefore required.

9. Most of the theoretical studies on the consequence of serious accidents to nuclear installations have been carried out in the United States. An early study [WASH 740]¹ concluded that damage from a nuclear power reactor accident could theoretically at least, reach billions of

dollars. However, the authors of WASH 740, while insisting that the probability of such damages occurring was very low, gave no quantitative guidance on the level of this probability.

10. The information on reactor safety, the design of reactor safety systems and analytical techniques have all been upgraded considerably since the publication of WASH 740. Accordingly, in 1972 the United States Atomic Energy Commission sponsored a new study of the public risks that could be involved in potential accidents in nuclear power plants of the type in commercial use. The final report of this study, which was directed by Professor Norman C. Rasmussen of the Massachusetts Institute of Technology, was published in October 1975 [WASH 1400]². In addition to estimates of property damage from hypothetical reactor accidents, the WASH 1400 study also indicates the level of probability associated with these risks. The calculated probabilities were intended, where possible, to be realistic; where this was not possible they were set to conservative values. The findings of this study supersede and are more appropriate to the current scene than the early WASH 740 report. A summary of the WASH 1400 conclusions on the consequences of reactor accidents for various probabilities for one reactor is given in Table 1. The property damage costs include the cost of moving and housing the people who were relocated, the cost caused by denial of land use and the cost associated with the cleanup of contaminated property. The costs do not include damage to the plant or likely claims for personal injury and death; however, these can be deduced from the estimates of casualties.

TABLE 1
CONSEQUENCES OF REACTOR ACCIDENTS FOR VARIOUS
PROBABILITIES FOR ONE REACTOR

Chance per Year per Reactor	Total Property Damage \$10 ⁹ *	Early Fatalities	Latent Cancer ^(b) Fatalities (per Year)
1 in 20 000 ^(a)	< 0.1	< 1.0	< 1.0
1 in 1 million	0.9	< 1.0	170
1 in 10 million	3.0	110	460
1 in 1000 million	14.0	3300	1500

Notes:

- (a) This is the theoretical probability of a core melt per reactor year.
- (b) This rate would occur in approximately the 10 to 40 year period following a potential accident. The normal incidence in the exposed population would be 17 000 per year.

*Throughout this paper \$ implies \$US.

11. Estimates made in countries other than the United States, of the consequences and probabilities of reactor accidents indicate general agreement with the above figures (e.g. studies carried out by the United Kingdom Atomic Energy Authority)³.

12. The safety record of the nuclear industry has so far been excellent. For example, in 20 years or so of operating nuclear reactors in the United States, there have been no third party claims arising from the operation of commercial plants (see paragraph 59). Nevertheless, the theoretical studies discussed above indicate a remote possibility of a very costly accident and this is the underlying assumption providing the basis for nuclear liability legislation.

BASIC PRINCIPLES

Absolute Liability

13. The basic principle of nuclear liability legislation is the rule of absolute liability channelled to the operator⁴. The operator of a nuclear installation becomes liable for nuclear damage solely upon proof that such damage has been caused by an incident occurring in his nuclear installation. The operator is held liable even if entirely blameless or if the damage has been caused by the negligence of someone else, for example, a supplier who has delivered defective equipment. The only general exception made to this rule is usually incidents which would be directly due to acts of war, or insurrection or when the saboteurs themselves are injured (para. 52 et seq.).

14. The channelling of liability absolutely to the operator removes the first difficulty referred to in para.4 and ensures maximum protection for the public. In addition, protracted and costly litigation is avoided since the operator is the sole defendant.

Limitation of Liability

15. The doctrine incorporated in nuclear law of strict liability channelled to the operator usually includes provisions limiting the liability of the operator as regards both the amount of financial compensation and the time⁵ within which proceedings must be brought.

16. The imposition of an unlimited liability as regards both money and time within which proceedings may be brought would impose an intolerable burden on the operator. Moreover, nuclear incidents, theoretically at least, could cause damage in excess of the resources currently available through private commercial insurers. It is not therefore possible at this stage in the development of nuclear energy to obtain an unlimited

cover from the commercial insurance market. (This situation is likely to change - see para.39 et seq.).

17. The maximum liability of operators in respect of damage caused by a nuclear incident is therefore limited to a sum which can usually be obtained from private insurance sources. In addition, periods of limitation are set, now usually of the order of 10-30 years. This provision allows for claims arising out of radiation injuries which may not become manifest until many years after exposure.

The Role of the State*

18. The State usually indemnifies the operator for damage in excess of his limited liability. However, the intervention of the State as indemnifier does not affect the absolute liability of the operator. Some States have elected to incorporate in their legislation an upper limit on the funds guaranteed by them for this purpose (usually in compliance with one of the existing international conventions if they have ratified it)⁶.

THE CONVENTIONS

19. European countries quickly realised that the development of nuclear power created a need for unifying the law of nuclear liability. Nuclear materials were regularly being carried from one country to another, and there was also a risk of nuclear incidents in one country causing harm in another. Efforts were accordingly made towards producing workable international conventions. In 1960 the Organisation for European Economic Cooperation (OECD) concluded in Paris a Convention on Third Party Liability in the Field of Nuclear Energy⁷. This convention embodies the basic principles discussed above, namely:

- . The operator of a nuclear installation shall be liable without proof of fault for nuclear damage upon proof that such damage has been caused by a nuclear incident occurring in his nuclear installation or involving nuclear material, in course of carriage to or from his nuclear installation (Articles 3 and 4).
- . The maximum liability of the operator in respect of damage caused by a nuclear incident is 15 million European monetary agreement units (equivalent to 15 million US dollars). A lower amount may be fixed by national legislation, taking into

*In the sense 'Sovereign State'

account the possibilities for the operator of obtaining the insurance but in no event less than 5 million units.

- To cover the liability under Article 7 the operator is required to maintain insurance or other financial security (Article 10).

- A limitation period of 10 years (Article 8).

20. In the United States it was feared that the low limit of \$15 million would prompt victims of nuclear incidents in other countries to sue the American suppliers in the United States for amounts exceeding this limit. Consequently, the USA exerted pressure on European countries, to whom it hoped to export reactors, to revise the convention⁸. Accordingly a Convention Supplementary to the Paris Convention was concluded at Brussels in January 1963 between all of the Paris Convention countries except Greece, Portugal and Turkey⁹. Under it, a system was devised whereby the signatories would ensure that there would always be \$120 million available for compensation in respect of any one nuclear incident instead of the \$15 million at first required by the Paris Convention.

21. The first portion of \$5 million is provided by the operator's compulsory insurance. The second portion between \$5 million and \$70 million is to be paid out of public funds of the country where the installation is situated. The last portion (\$70-120 million) is to be provided by all contracting parties to the Brussels Convention according to a formula specified in Article 12, based partly on the gross national product and partly on the total thermal power of all reactors in each country.

22. Jurisdiction over actions under these conventions lies with the courts of the party to the convention in whose territory the accidents occur (Article 13, Paris).

23. In 1963, under the auspices of the International Atomic Energy Agency (IAEA), an international conference of 58 countries, including Australia, was held in Vienna and, in May 1963, this conference adopted the Vienna Convention on Civil Liability for Nuclear Damage¹⁰ (this convention now needs only one ratification to bring it into force (April 1976)).

24. The Vienna Convention's provisions are similar to those of the Paris Convention and apply to nuclear reactors, fuel and radioactive products or waste (although not to reactors used for ship or aircraft

propulsion, or to radioisotopes in a finished form), to factories producing or reprocessing nuclear material, to nuclear storage facilities, and to nuclear material in transit.

25. The provisions applying to each 'Installation State' i.e. the Sovereign State in which the nuclear installation is situated are, in brief, that:

- . Strict or absolute liability rests on the operator of the nuclear installation for loss of life, personal injury, or loss or damage to property arising from his operations (Articles II and IV).
- . Liability of the operator may be limited by the Installation State to not less than \$5 million for any one nuclear incident.
- . Action must be brought within ten years of the date of the accident (Article VI).
- . The operator is required to have insurance or other financial security covering his liability. The Installation State must ensure the payment of claims by providing funds to the extent that the proceeds of insurance or other financial security are inadequate to meet the limit established under the convention. If the government which is party to the convention is itself the operator, the requirement to provide insurance or other financial security does not apply (Article VII).
- . Jurisdiction over actions against the operator lies with the courts of the party to the convention in whose territory the accident occurs. Where the accident occurs outside the territory of any Installation State, jurisdiction lies with the courts of the country of the operator who is liable (Article XI).

26. As mentioned above, the Vienna Convention provides that the liability of the operator may be limited by the Installation State to not less than \$5 million with respect to one nuclear accident (Article V). This is a minimum figure. The operator is required to maintain insurance or other financial security cover as liability for the amount specified by the Installation State, which is required to meet any difference between the yield of insurance or other financial security maintained by the operator and the amount of liability that it has imposed.

27. It was impossible, because of the attitude of less affluent countries, to secure agreement in the Vienna Convention to set the limitation of



liability at a higher figure than \$5 million¹¹.

28. Although all these conventions adhere to the doctrine of strict liability channelled to the operator, there are general exceptions to this rule. The operator is exonerated from incidents directly due to an act of armed conflict, hostilities, civil war or insurrections or a grave natural disaster of an exceptional character. The liability of the operator may also be reduced or abolished when the victim of nuclear damage has contributed intentionally or by gross negligence to the cause of such damage.

29. Both the Paris and the Brussels Supplementary Conventions are in force. However, most European countries have passed legislation in line with the higher limits of \$120 million specified in the Brussels Convention (Denmark, Norway, Sweden, France, the United Kingdom, Germany and Italy). The Vienna Convention needs one more ratification to bring it into force. Since this was drafted under the sponsorship of the IAEA it is open to accession by all member states of the United Nations. It thus provides a broader basis for international uniformity than the OECD-sponsored conventions, which are framed to operate in the narrower framework of Western Europe, and accessions have been limited to the member or associate States of the OECD.

30. In spite of its wider application, some countries have expressed serious reservations about the Vienna Convention. The very low minimum figure of \$5 million is the major deterrent especially for the exporting countries such as the USA¹².

THE UNITED STATES' PRICE-ANDERSON ACT

31. The world's first legislation on nuclear third party liability was enacted in the United States in 1957. This was the Price-Anderson Act, which amended the Atomic Energy Act of 1954, to provide a maximum of \$560 million third party liability cover in the event of an accident to a licensed nuclear facility. This is a massive provision compared with those in the Conventions (Paris \$15 million, Brussels \$120 million and Vienna \$5 million) and, in view of the recent ten-year extension of the Act¹³, it is likely to set a precedent in other countries.

32. The Atomic Energy Act of 1954 removed restrictions on the possession and use of fissile materials by private organisations and authorised private enterprise to build, own and operate nuclear reactors and to engage in a variety of other nuclear activities subject, however, to stringent government control by licensing and regulation.

33. The participation of private industry exposed it to liability arising out of the law of torts, and the possibility of incurring huge damage suits seriously discouraged industry participation. The maximum world-wide liability insurance capacity generally available in 1954 was about \$25 million¹⁴. More importantly it was uncertain whether there would be adequate financial resources necessary to respond to just claims.

34. In response to this situation the Price-Anderson Act was enacted into law on 12 September 1957 as Section 170 of the Atomic Energy Act¹⁵. The statute had two central objectives: to ensure that the public would be compensated if an accident did occur, and to set a limit on the liability of private industry in order to remove the major impediment to its participation in the development of the new industry. Specifically the Act required that licensees of the USAEC must maintain financial security against liability for a nuclear incident in an amount equal to the maximum amount available through private insurance and that liability beyond this amount would be assumed by government indemnification up to an aggregate limit of \$560 million per incident. The insurance industry was able to make available \$60 million in pooled insurance capacity. Jurisdiction over actions remained with the state* courts, the question of liability being left to state law.

Amendments to the Act

35. In recognition that the Act had been drafted without prior experience in insuring nuclear risks, Congress made its provisions applicable only for a ten-year period. In 1966 the Act was extended for a further ten-year period subject to two far-reaching amendments¹⁶: first, Congress provided that jurisdiction over claims should be exercised by a single district federal court (Section 170n). In the second amendment, Congress established a system of waivers of defence to facilitate recovery by plaintiffs (Section 170n). In the event of accident (an 'extraordinary nuclear occurrence', as defined in the Act¹⁶), claimants would need to show only their injury or property damage and that the injury or damage was caused by an occurrence covered by the Act. Proof of negligence by the operator would not be required. The amendment further included provisions for the waivers of defence to be based upon a period of limitation of ten years after the date of the accident.

36. The changes in the Act thus removed the serious deficiency in the

* In the sense 'a state of the Union'

original Act which left the question of liability to state law. It created a system which in effect provided for strict liability channelled to the operator with a limitation period of ten years within which to lodge claims. The first claims would be paid out of private insurance provided by the insurance pools, the remainder, up to a \$560 million limitation on total liability for a single accident, through government indemnity.

The Present Act (1976 Amendments and Extension)

37. The Price-Anderson Act as amended in 1966¹⁶ was due to expire in 1977. To prevent possible disruption in the planning of future nuclear power plants, stemming from uncertainty over the future of the Price-Anderson Indemnity, Congress has recently passed a Bill extending the terms of the Act for a further ten years until 1987¹³.

38. While the latest modifications to the Act are far-reaching in their implications, the main features of it remain. These are the mandatory insurance cover, the no-fault provisions with extended periods for claim, provisions for the consolidation of claims in a single federal court and for the advance payment of claims. The major modifications to the Act are as follows:

(i) Phase-out of Government Indemnity

39. As previously framed, the Price-Anderson Act established a two-tier system of financial protection to the public: first, each major licensee had to maintain financial protection equal to the maximum liability insurance available in the private market (originally (1957) \$60 million, now (1976) \$125 million); secondly, a government indemnity was provided which indemnified licensees for a liability incurred as a result of a covered accident and in excess of the first tier to a maximum ceiling of \$560 million (e.g. this indemnity currently amounts to \$435 million).

40. The United States Government always maintained that its involvement as an indemnifier under Price-Anderson was a temporary necessity. The industry was expected ultimately to make independent insurance arrangements to cover the risk of its operations, without reducing protection accorded to the public. The new amendments accordingly provide for the phasing out of the government indemnity by about 1985 by establishing a three-tier system of financial protection^{13,17}.

41. The first tier will be provided, as previously, by private insurance pools supplying \$125 million in coverage.

42. The second tier is based on the concept of deferred retrospective premiums. In the event of an accident resulting in damages exceeding the amount of the primary layer of insurance, each licensee would be required to pay, per licensed facility, a *pro rata* share of the damage in excess of the amount of the primary layer (i.e. shared risk). The Act directs the Nuclear Regulatory Commission (NRC), which replaced the former Atomic Energy Commission as the government's regulatory agency, to determine the details of the levy required of each licensee by 31 December 1976. The maximum amount will be assessed between \$2 million and \$5 million per licensed facility. It should be noted that under the concept of deferred premiums, licensees will only be called upon to pay premiums on this cover after an accident, from guaranteed sources (e.g. through escrow or some arrangement acceptable to the US Rate Commission).

43. If, for example, the maximum levy of \$3 million per reactor is set for retrospective premium cover and a total of 100 reactors had been licensed to operate under the scheme, then \$300 million would be available to provide for damages in this second layer over and above the base insurance. The amount of government indemnity (i.e. the interim third tier) would thus be reduced to \$135 million compared with the current \$435 million. As the number of licensed facilities increases, the government cover will be removed while still maintaining the upper limit of \$560 million available for cover. Fig.1 illustrates the proposal to phase out government indemnity.

(ii) Increase in Limit of Liability

44. The new law¹³ provides that the present \$560 million limit on aggregate liability for a single nuclear accident be retained until the combined primary and retrospective deferred premiums reach the \$560 million level. After that point the limit on liability would rise, corresponding to increases in the primary and retrospective insurance layers. No ultimate dollar limit on liability is provided.

(iii) Extension of Time for Bringing Suit

45. Previously the outer limit on the initiation of suit was ten years after the date of the accident. The new amendment extends this to twenty years.

(iv) Extension of Indemnity Coverage outside United States Territorial Limits

46. The new amendment extends indemnity protection to:
 . shipments of new or spent fuel which may move outside of the

United States territorial limits during transit from one licensed nuclear facility to another, and stationary nuclear facilities such as floating nuclear power plants licensed by the NRC and located beyond the US territorial limits.

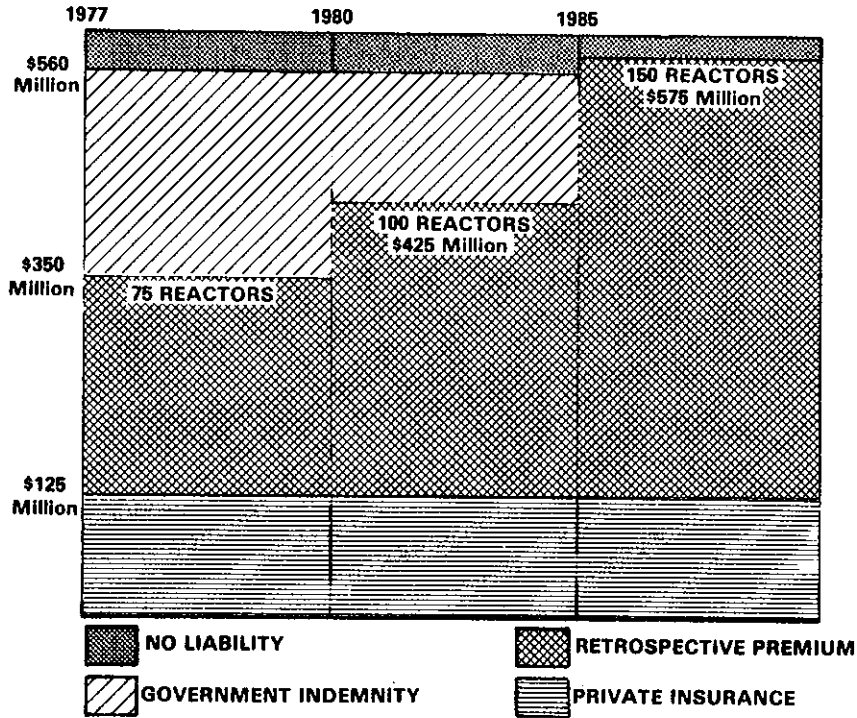


FIGURE 1 PROPOSED PRICE - ANDERSON SYSTEM
(ASSUMING \$3 MILLION RETROSPECTIVE PREMIUM)

47. In neither case is indemnity coverage extended to activities conducted within the territorial limits of another nation.

(v) Exclusion of Costs of Investigation, Settlement and Defence of Claims

48. The new amendment provides that the cost of investigation, settlement and defence of claims arising out of a nuclear incident shall not be deducted from damages paid to claimants.

SPECIAL CONSIDERATIONS

Maritime Carriage of Nuclear Materials

49. Under the Paris, Brussels Supplementary and Vienna Conventions, the operator of a nuclear installation is strictly liable for damage caused by a nuclear incident involving nuclear material in the course of carriage from the installation until the operator of another nuclear installation becomes liable for it or until the material is unloaded in

the territory of a non-contracting state. The extent of this liability is limited by the conventions.

50. A number of serious legal difficulties in marine transport arose out of these provisions, notably the demand by maritime carriers for unlimited or very high indemnities from the nuclear operator before undertaking the carriage of most kinds of nuclear materials and, in particular, nuclear fuel. Such indemnities were required to protect the carrier against any possible liability under existing maritime conventions which could not be overruled by the nuclear conventions. This conflict between the various conventions was a major impediment to maritime transport, in particular for irradiated nuclear fuel where there was no particular alternative to marine transportation.

51. As a result of this problem an International Legal Conference on Maritime Carriage of Nuclear Substances was held in 1971 under the auspices of the Inter-governmental Maritime Consultative Organisation (IMCO). The result of this conference was a convention relating to the maritime carriage of nuclear material¹⁸. This convention provides that any person who, by virtue of an international convention or national law applicable in the field of maritime transport might be held liable for damage covered by a nuclear incident, shall be exonerated from such liability:

- (i) if the operator of a nuclear installation is liable for such damage under the Paris or Vienna Conventions, or
- (ii) if the operator of a nuclear installation is liable for such damage by virtue of a national law providing for absolute liability of a nuclear operator provided that the national law is in all respects as favourable to injured persons as the Paris or Vienna Conventions.

Financial Protection against Potential Harm from Sabotage
or Diversion of Nuclear Materials

52. Neither the Paris (including the Brussels Supplementary) nor Vienna Conventions holds the operator liable for "insurrection, armed conflict, hostilities and civil war". In fact the operator is specifically exonerated and only individual national law can decide whether or not acts of terrorism should be included in liability.

53. The question of public financial protection from risks posed by sabotage or diversion (theft) of nuclear materials has recently been examined in depth by the staff of the United States Nuclear Regulatory

Commission (NRC), specifically in relation to the Price-Anderson Act¹⁹. This study points out that the Price-Anderson system of protection (as also the conventions) has a distinctive geographic frame of reference. The Act provides coverage for damage emanating from a specifically described site or from the transportation of nuclear materials to or from licensed sites. The study defined three types of situations:

- (i) Sabotage of a nuclear facility resulting in contamination of the surrounding area.
- (ii) Sabotage of a shipment of nuclear material, similarly resulting in contamination of the surrounding area.
- (iii) Successful theft or diversion from a facility or from a shipment of material. In this case the damage could be caused later from another location either by deliberate contamination of the surrounding area or, conceivably by detonation of a crude nuclear bomb.

54. Damage caused by the first two situations could unequivocally be related to the specific site and according to the NRC would be covered by the Price-Anderson Act.

55. However the NRC analysis concluded that damage from the third situation would not be covered by the Price-Anderson Act since it emanated from a location remote from the source of the material and it might be impossible to relate the original source of the diverted material to the incident.

56. Although the NRC analysis was specifically related to the Price-Anderson Act, its conclusions might well be related to relevant legislation in other countries. It appears therefore that there may well be a gap in the coverage currently provided against nuclear damage.

THE NUCLEAR LIABILITY INSURANCE POOLS

57. To meet the demand for financial coverage the private insurers have grouped themselves into nuclear insurance pools based on arrangements combining the methods of co-insurance and re-insurance. In the United Kingdom for example, a consortium called "The British Insurance Atomic Energy Committee" has access to virtually the entire UK insurance industry for this purpose. However no information is available on the experience of this consortium and its premium charges remain confidential between themselves and their clients.

58. In the United States the private insurance industry provides nuclear liability insurance protection through insurance policies issued by the

Nuclear Energy Liability - Property Insurance Association (NELPIA) pool and the Mutual Atomic Energy Liability Underwriters (MAELU) pool. At the time of the original Price-Anderson Act in 1957 \$60 million of liability insurance was available from these two pools. The current (1976) liability capacity of the pools is as follows²⁰ :*:

NELPIA	\$96 875 000
MAELU	\$28 125 000
	<u>\$125 000 000</u> per reactor/per incident

The average annual premium charged for full cover (\$125 million) is about \$250 000 for a single power reactor, subject to the possibility of substantial refunds.

DIGEST OF NUCLEAR LIABILITY CLAIMS EXPERIENCE

59. In testimony before the Joint Committee on Atomic Energy, Burt C. Proom, representing the insurance pools, gave the following information on claims experience in the USA²⁰

"In the nineteen years of operations of the pools, the total of all losses and loss expense paid by the pools as of September 18, 1975, has been only about \$580 000. None of this loss has arisen from the operation of a reactor of any type. It must be borne in mind that the pools have provided insurance for every major nuclear activity by private enterprise in the United States. The pools have insured every power reactor, fuel fabricator, nuclear R & D facility, every research reactor, and all school reactors save a few.

"Of the \$580 000 paid in claims and claims expense, approximately \$400 000 was paid in connection with two incidents, one of which occurred twelve years ago in January 1963. The second occurred in July, 1964. The injuries were to workers - one of whom was a worker at a nuclear waste recovery plant, and the other was a transportation worker.

"Of the balance of \$180 000 in paid claims, approximately \$58 000 was incurred as expense in investigating, evaluating and defending a claim which was recently tried before a jury with a verdict for the pools' insured. The balance of \$122 000 in paid claims and claims expense was expended in handling minor incidents reported

*In addition to \$175 000 000 property insurance per site.

since the inception of pool operations in 1957. Most of these incidents involved minor contamination of property which was either decontaminated or replaced and arose from the use of small quantities of encapsulated isotopes or nuclear material during transport.

"In addition to these claims paid, there is, as of September 18, 1975, about \$460 000 in reserve for incidents reported which either gave rise to claims or which the pools considered might possibly give rise to claims. Only three of these are active claim files.

"It continues to be the case that the pools have never received a liability claim for bodily injury or property damage to off-site persons or property arising from the operation of a licensed nuclear reactor.

"It is convenient to divide incidents which we record as being either *transportation incidents* or *non-transportation incidents*. Since 1957, there have been only twenty-seven incidents reported which resulted in claims, or which we believed might give rise to claims. We have averaged receiving reports of between two and three incidents per year in the last four years, and about one and a half such incidents per year since we commenced operations in 1957. None of the reported incidents posed a threat to the public. Indeed, for seven of these recorded incidents, no claims for injury or damage were presented to the pools".

OBSERVATIONS ON THE PRESENT STATUS OF NUCLEAR THIRD PARTY LIABILITY

60. The basic principles of nuclear third party liability discussed earlier in this paper have now been incorporated in the national laws of the non-communist countries with significant nuclear power programs and in the international conventions. None of this legislation has yet been fully tested in the courts which is a measure of the successful efforts directed to maintaining the highest standards of safety in the industry. However in spite of this lack of practical experience in the legislation, certain shortcomings and anomalies are apparent. The provision of adequate cover against damage from sabotage and diversion clearly needs further study. The wide range of limits required by various State laws and the conventions also causes confusion. For example, some authorities believe that the upper limits of liability in the Paris and Brussels Conventions are too low and compare them unfavourably with the \$560 million upper limit of the Price-Anderson Act²¹.

61. For similar reasons some countries (notably the USA) have delayed

ratifying the Vienna Convention because of its very low minimum requirement of \$5 million liability (however, as Werner Boulanger, former head of IAEA's legal division pointed out, no upper limit is specified in the Vienna Convention, compared with Paris or even Price-Anderson, thus leaving its provisions flexible)²¹.

62. In addition to these general observations some critics have attacked the basic principle of nuclear liability law²². Their main thrusts appear to be as follows:

(i) Limited Liability

63. The conventions and many Sovereign State laws not only limit the amount of compulsory insurance cover which the operator must obtain but also limit the total ceiling available from government indemnity of the operator. Critics maintain that this is quite contrary to the accepted practice in a private enterprise economy and creates an artificial protective environment which is not conducive to maximum safety, i.e. since the operator cannot be sued beyond his limited liability he need not be concerned over the safety of his plant²². It is further claimed that the ceiling in overall funds available for compensation could leave plaintiffs uncompensated if this limit is exceeded.

64. In practice it is doubtful whether an operator of a licensed nuclear installation is consciously motivated in his attitude to safety because of low liability or otherwise. He is, in any case, subjected to very strict regulatory controls which leave him little margin to make arbitrary decisions on safety. Moreover, nuclear plants represent huge capital investments which the operator will wish to protect by avoiding accidents.

65. The ceilings on the limits of liability which are incorporated in the laws of some States (e.g. Price-Anderson) and the Paris and Brussels Conventions were never intended to act as a barrier to further relief. The limits provide a legal framework guaranteeing funds for immediate redress without the need for emergency disaster legislation which could cause delays. The legislative history of the Price-Anderson Act makes clear that "the limitation of liability serves primarily as a device for facilitating Congressional review of such a situation, rather than an ultimate bar to further relief of the public [and that]... in the event of a national disaster of this magnitude, it is obvious that Congress would have to review the problem and take appropriate action"²³.

(ii) Government Indemnity

66. A common criticism of government indemnification of nuclear plant operators is that this constitutes a hidden subsidy to the nuclear industry giving it an unfair advantage over other forms of energy. These critics maintain that liability insurance should be provided only from private insurance.

67. It can be argued against this criticism that most States in fact charge a premium on government indemnification. Moreover, since no claims have yet arisen requiring public funds, the net effect has in fact been a flow of money from the operators to the government.

68. With the phasing out of government indemnity in the United States this criticism will become somewhat academic, at least in the United States. However, a factor often ignored by those making this criticism is that the current level of private insurance is very high. In the United States for example the insurance pools have placed at risk for the nuclear business, \$125 million for liability and \$175 million for property protection per site. Thus for any nuclear incident the US insurance companies have underwritten a total single risk protection of \$300 million. This risk capacity should be viewed against the total premium volume of \$30 million per year. Thus in the nuclear business the capacity placed at risk through insurance is approximately ten times the annual premium volume²⁴. This demonstrates a high level of confidence by the insurance industry in the industry. In aircraft insurance for example the required ratio is about one to one²⁰.

(iii) Absolute Liability Channelled to the Operator

69. The main purpose of this doctrine is to relieve plaintiffs of the need to sue under the law of tort. However it has been argued that this debars plaintiffs from the possibility of maximum redress through the pursuit of all possible claims, not only to the operator but suppliers as well. However, the history of liability claims being pressed under common law does not encourage the expectation of quick and easy settlements and it is doubtful whether in practice this criticism is valid. The public would be likely in fact to suffer.

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APPENDIX A

PARIS CONVENTION ON THIRD PARTY LIABILITY 1960

Convention on Third Party Liability in the Field of Nuclear Energy signed at Paris on 29 July 1960 as amended by the Additional Protocol signed at Paris on 28 January 1964

THE GOVERNMENTS of the Federal Republic of Germany, the Republic of Austria, the Kingdom of Belgium, the Kingdom of Denmark, Spain, the French Republic, the Kingdom of Greece, the Italian Republic, the Grand Duchy of Luxembourg, the Kingdom of Norway, the Kingdom of the Netherlands, the Portuguese Republic, the United Kingdom of Great Britain and Northern Ireland, the Kingdom of Sweden, the Swiss Confederation and the Turkish Republic;

CONSIDERING that the European Nuclear Energy Agency, established within the framework of the Organisation for European Economic Co-operation (hereinafter referred to as the "Organisation"), is charged with encouraging the elaboration and harmonization of legislation relating to nuclear energy in participating countries, in particular with regard to third party liability and insurance against atomic risks;

DESIROUS of ensuring adequate and equitable compensation for persons who suffer damage caused by nuclear incidents whilst taking the necessary steps to ensure that the development of the production and uses of nuclear energy for peaceful purposes is not thereby hindered;

CONVINCED of the need for unifying the basic rules applying in the various countries to the liability incurred for such damage, whilst leaving these countries free to take, on a national basis, any additional measures which they deem appropriate, including the application of the provisions of this Convention to damage caused by incidents due to ionizing radiations not covered therein;

HAVE AGREED as follows:

ARTICLE I

(a) For the purposes of this Convention:

- (i) "A nuclear incident" means any occurrence or succession of occurrences having the same origin which causes damage, provided that such occurrence or succession of occurrences, or any of the damage caused, arises out of or results from the radioactive properties, or a combination of radioactive properties with toxic, explosive, or other hazardous properties of nuclear fuel or radioactive products or waste or with any of them.
- (ii) "Nuclear installation" means reactors, other than those comprised in any means of transport; factories for the manufacture or processing of nuclear substances; factories for the separation of isotopes of nuclear fuel; factories for the re-processing of irradiated nuclear fuel; facilities for the storage of nuclear substances other than storage incidental to the carriage of such substances; and such other installations in which there are nuclear fuel or radioactive products or waste as the Steering Committee of the European Nuclear Energy Agency (hereinafter referred to as the "Steering Committee") shall from time to time determine.
- (iii) "Nuclear fuel" means fissionable material in the form of uranium metal, alloy, or chemical compound (including natural uranium), plutonium metal, alloy, or chemical compound, and such other fissionable material as the Steering Committee shall from time to time determine.
- (iv) "Radioactive products or waste" means any radioactive material produced in or made radioactive by exposure to the radiation incidental to the process of producing or utilising nuclear fuel, but does not include (1) nuclear fuel, or (2) radioisotopes outside a nuclear installation which are used or intended to be used for any industrial, commercial, agricultural, medical or scientific purpose.
- (v) "Nuclear substances" means nuclear fuel (other than natural uranium and other than depleted uranium) and radioactive products or waste.
- (vi) "Operator" in relation to a nuclear installation means the person designated or recognised by the competent public authority as the operator of that installation.

(b) The Steering Committee may, if in its view the small extent of the risks involved so warrants, exclude any nuclear installation, nuclear fuel, or nuclear substances from the application of this Convention.

ARTICLE 2

This Convention does not apply to nuclear incidents occurring in the territory of non-Contracting States or to damage suffered in such territory, unless otherwise provided by the legislation of the Contracting Party in whose territory the nuclear installation of the operator liable is situated, and except in regard to rights referred to in Article 6 (e).

ARTICLE 3

(a) The operator of a nuclear installation shall be liable, in accordance with this Convention, for:

- (i) damage to or loss of life of any person; and
- (ii) damage to or loss of any property other than
 1. the nuclear installation itself and any property on the site of that installation which is used or to be used in connection with that installation;
 2. in the cases within Article 4, the means of transport upon which the nuclear substances involved were at the time of the nuclear incident,
 upon proof that such damage or loss (hereinafter referred to as "damage") was caused by a nuclear incident involving either nuclear fuel or radioactive products or waste in, or nuclear substances coming from such installation, except as otherwise provided for in Article 4.

(b) Where the damage or loss is caused jointly by a nuclear incident and by an incident other than a nuclear incident, that part of the damage or loss which is caused by such other incident shall, to the extent that it is not reasonably separable from the damage or loss caused by the nuclear incident, be considered to be damage caused by the nuclear incident. Where the damage or loss is caused jointly by a nuclear incident and by an emission of ionizing radiation not covered by this Convention, nothing in this Convention shall limit or otherwise affect the liability of any person in connection with that emission of ionizing radiation.

(c) Any Contracting Party may by legislation provide that the liability of the operator of a nuclear installation situated in its territory shall include liability for damage which arises out of or results from ionizing radiations emitted by any source of radiation inside that installation, other than those referred to in paragraph (a) of this Article.

ARTICLE 4

In the case of carriage of nuclear substances, including storage incidental thereto, without prejudice to Article 2:

- (a) The operator of a nuclear installation shall be liable, in accordance with this Convention, for damage upon proof that it was caused by a nuclear incident outside that installation and involving nuclear substances in the course of carriage therefrom, only if the incident occurs:
 - (i) before liability with regard to nuclear incidents involving the nuclear substances has been assumed, pursuant to the express terms of a contract in writing, by the operator of another nuclear installation;
 - (ii) in the absence of such express terms, before the operator of another nuclear installation has taken charge of the nuclear substances; or
 - (iii) where the nuclear substances are intended to be used in a reactor comprised in a means of transport, before the person duly authorized to operate that reactor has taken charge of the nuclear substances; but
 - (iv) where the nuclear substances have been sent to a person within the territory of a non-Contracting State, before they have been unloaded from the means of transport by which they have arrived in the territory of that non-Contracting State.
- (b) The operator of a nuclear installation shall be liable, in accordance with this Convention, for damage upon proof that it was caused by a nuclear incident outside that installation and involving nuclear substances in the course of carriage thereto, only if the incident occurs:
 - (i) after liability with regard to nuclear incidents involving the nuclear substances has been assumed by him, pursuant to the express terms of a contract in writing, from the operator of another nuclear installation;
 - (ii) in the absence of such express terms, after he has taken charge of the nuclear substances; or
 - (iii) after he has taken charge of the nuclear substances from a person operating a reactor comprised in a means of transport; but

- (iv) where the nuclear substances have, with the written consent of the operator, been sent from a person within the territory of a non-Contracting State, after they have been loaded on the means of transport by which they are to be carried from the territory of that State.
- (c) The operator liable in accordance with this Convention shall provide the carrier with a certificate issued by or on behalf of the insurer or other financial guarantor furnishing the security required pursuant to Article 10. The certificate shall state the name and address of that operator and the amount, type and duration of the security, and these statements may not be disputed by the person by whom or on whose behalf the certificate was issued. The certificate shall also indicate the nuclear substances and the carriage in respect of which the security applies and shall include a statement by the competent public authority that the person named is an operator within the meaning of this Convention.
- (d) A Contracting Party may provide by legislation that, under such terms as may be contained therein and upon fulfilment of the requirements of Article 10 (a), a carrier may, at his request and with the consent of an operator of a nuclear installation situated in its territory, by decision of the competent public authority, be liable in accordance with this Convention in place of that operator. In such case for all the purposes of this Convention the carrier shall be considered, in respect of nuclear incidents occurring in the course of carriage of nuclear substances, as an operator of a nuclear installation on the territory of the Contracting Party whose legislation so provides.

ARTICLE 5

- (a) If the nuclear fuel or radioactive products or waste involved in a nuclear incident have been in more than one nuclear installation and are in a nuclear installation at the time damage is caused, no operator of any nuclear installation in which they have previously been shall be liable for the damage.
- (b) Where, however, damage is caused by a nuclear incident occurring in a nuclear installation and involving only nuclear substances stored therein incidentally to their carriage, the operator of the nuclear installation shall not be liable where another operator or person is liable pursuant to Article 4.
- (c) If the nuclear fuel or radioactive products or waste involved in a nuclear incident have been in more than one nuclear installation and are not in a nuclear installation at the time damage is caused, no operator other than the operator of the last nuclear installation in which they were before the damage was caused or an operator who has subsequently taken them in charge shall be liable for the damage.
- (d) If damage gives rise to liability of more than one operator in accordance with this Convention, the liability of these operators shall be joint and several: provided that where such liability arises as a result of damage caused by a nuclear incident involving nuclear substances in the course of carriage in one and the same means of transport, or, in the case of storage incidental to the carriage, in one and the same nuclear installation, the maximum total amount for which such operators shall be liable shall be the highest amount established with respect to any of them pursuant to Article 7 and provided that in no case shall any one operator be required, in respect of a nuclear incident, to pay more than the amount established with respect to him pursuant to Article 7.

ARTICLE 6

- (a) The right to compensation for damage caused by a nuclear incident may be exercised only against an operator liable for the damage in accordance with this Convention, or, if a direct right of action against the insurer or other financial guarantor furnishing the security required pursuant to Article 10 is given by national law, against the insurer or other financial guarantor.
- (b) Except as otherwise provided in this Article, no other person shall be liable for damage caused by a nuclear incident, but this provision shall not affect the application of any international agreement in the field of transport in force or open for signature, ratification or accession at the date of this Convention.
- (c)—(i) Nothing in this Convention shall affect the liability:
 - 1. of any individual for damage caused by a nuclear incident for which the operator, by virtue of Article 3 (a) (ii) (1) and (2) or Article 9, is not liable under this Convention and which results from an act or omission of that individual done with intent to cause damage;

2. of a person duly authorized to operate a reactor comprised in a means of transport for damage caused by a nuclear incident when an operator is not liable for such damage pursuant to Article 4 (a) (iii) or (b) (iii).
- (ii) The operator shall incur no liability outside this Convention for damage caused by a nuclear incident except where use has not been made of the right provided for in Article 7 (c), and then only to the extent that national legislation or the legislation of the Contracting Party in whose territory the nuclear installation of the operator liable is situated has made specific provisions concerning damage to the means of transport.
- (d) Any person who has paid compensation in respect of damage caused by a nuclear incident under any international agreement referred to in paragraph (b) of this Article or under any legislation of a non-Contracting State shall, up to the amount which he has paid, acquire by subrogation the rights under this Convention of the person suffering damage whom he has so compensated.
- (e) Any person who has his principal place of business in the territory of a Contracting Party or who is the servant of such a person and who has paid compensation in respect of damage caused by a nuclear incident occurring in the territory of a non-Contracting State or in respect of damage suffered in such territory shall, up to the amount which he has paid, acquire the rights which the person so compensated would have had against the operator but for the provisions of Article 2.
- (f) 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.
- (g) If the operator has a right of recourse to any extent pursuant to paragraph (f) of this Article against any person, that person shall not, to that extent, have a right against the operator under paragraphs (d) or (e) of this Article.
- (h) Where provisions of national or public health insurance, social security, workmen's compensation or occupational disease compensation systems include compensation for damage caused by a nuclear incident, rights of beneficiaries of such systems and rights of recourse by virtue of such systems shall be determined by the law of the Contracting Party or by the regulations of the inter-Governmental organisation which has established such systems.

ARTICLE 7

- (a) The aggregate of compensation required to be paid in respect of damage caused by a nuclear incident shall not exceed the maximum liability established in accordance with this Article.
- (b) The maximum liability of the operator in respect of damage caused by a nuclear incident shall be 15,000,000 European Monetary Agreement units of account as defined at the date of this Convention (hereinafter referred to as "units of account"): provided that any Contracting Party, taking into account the possibilities for the operator of obtaining the insurance or other financial security required pursuant to Article 10, may establish by legislation a greater or less amount, but in no event less than 5,000,000 units of account. The sums mentioned above may be converted into national currency in round figures.
- (c) Any Contracting Party may by legislation provide that the exception in Article 3 (a) (ii) (2) shall not apply: provided that in no case shall the inclusion of damage to the means of transport result in reducing the liability of the operator in respect of other damage to an amount less than 5,000,000 units of account.
- (d) The amount of liability of operators of nuclear installations in the territory of a Contracting Party established in accordance with paragraph (b) of this Article as well as the provisions of any legislation of a Contracting Party pursuant to paragraph (c) of this Article shall apply to the liability of such operators wherever the nuclear incident occurs.
- (e) A Contracting Party may subject the transit of nuclear substances through its territory to the condition that the maximum amount of liability of the foreign operator concerned be increased, if it considers that such amount does not adequately cover the risks of a nuclear incident in the course of the transit: provided that the maximum amount thus increased shall not exceed the maximum amount of liability of operators of nuclear installations situated in its territory.
- (f) The provisions of paragraph (e) of this Article shall not apply:
- (i) to carriage by sea where, under international law, there is a right of entry in cases of urgent distress into the ports of such Contracting Party or a right of innocent passage through its territory; or

- (ii) to carriage by air where, by agreement or under international law, there is a right to fly over or land on the territory of such Contracting Party.
- (g) Any interest and costs awarded by a court in actions for compensation under this Convention shall not be considered to be compensation for the purposes of this Convention and shall be payable by the operator in addition to any sum for which he is liable in accordance with this Article.

ARTICLE 8

(a) The right of compensation under this Convention shall be extinguished if an action is not brought within ten years from the date of the nuclear incident. National legislation may, however, establish a period longer than ten years if measures have been taken by the Contracting Party in whose territory the nuclear installation of the operator liable is situated to cover the liability of that operator in respect of any actions for compensation begun after the expiry of the period of ten years and during such longer period: provided that such extension of the extinction period shall in no case affect the right of compensation under this Convention of any person who has brought an action in respect of loss of life or personal injury against the operator before the expiry of the period of ten years.

(b) In the case of damage caused by a nuclear incident involving nuclear fuel or radioactive products or waste which, at the time of the incident have been stolen, lost, jettisoned or abandoned and have not yet been recovered, the period established pursuant to paragraph (a) of this Article shall be computed from the date of that nuclear incident, but the period shall in no case exceed twenty years from the date of the theft, loss, jettison or abandonment.

(c) National legislation may establish a period of not less than two years for the extinction of the right or as a period of limitation either from the date at which the person suffering damage has knowledge or from the date at which he ought reasonably to have known of both the damage and the operator liable: provided that the period established pursuant to paragraphs (a) and (b) of this Article shall not be exceeded.

(d) Where the provisions of Article 13 (c) (ii) are applicable, the right of compensation shall not, however, be extinguished if, within the time provided for in paragraph (a) of this Article,

- (i) prior to the determination by the Tribunal referred to in Article 17, an action has been brought before any of the courts from which the Tribunal can choose; if the Tribunal determines that the competent court is a court other than that before which such action has already been brought, it may fix a date by which such action has to be brought before the competent court so determined; or
- (ii) a request has been made to a Contracting Party concerned to initiate a determination by the Tribunal of the competent court pursuant to Article 13 (c) (ii) and an action is brought subsequent to such determination within such time as may be fixed by the Tribunal.

(e) Unless national law provides to the contrary, any person suffering damage caused by a nuclear incident who has brought an action for compensation within the period provided for in this Article may amend his claim in respect of any aggravation of the damage after the expiry of such period provided that final judgment has not been entered by the competent court.

ARTICLE 9

The operator shall not be liable for damage caused by a nuclear incident directly due to an act of armed conflict, hostilities, civil war, insurrection or, except in so far as the legislation of the Contracting Party in whose territory his nuclear installation is situated may provide to the contrary, a grave natural disaster of an exceptional character.

ARTICLE 10

(a) To cover the liability under this Convention, the operator shall be required to have and maintain insurance or other financial security of the amount established pursuant to Article 7 and of such type and terms as the competent public authority shall specify.

(b) No insurer or other financial guarantor shall suspend or cancel the insurance or other financial security provided for in paragraph (a) of this Article without giving notice in writing of at least two months to the competent public authority or in so far as such insurance or other financial security relates to the carriage of nuclear substances, during the period of the carriage in question.

(c) The sums provided as insurance, reinsurance, or other financial security may be drawn upon only for compensation for damage caused by a nuclear incident.

ARTICLE 11

The nature, form and extent of the compensation, within the limits of this Convention, as well as the equitable distribution thereof, shall be governed by national law.

ARTICLE 12

Compensation payable under this Convention, insurance and reinsurance premiums, sums provided as insurance, reinsurance, or other financial security required pursuant to Article 10, and interest and costs referred to in Article 7 (g), shall be freely transferable between the monetary areas of the Contracting Parties.

ARTICLE 13

(a) Except as otherwise provided in this Article, jurisdiction over actions under Articles 3; 4, 6 (a) and 6 (c) shall lie only with the courts of the Contracting Party in whose territory the nuclear incident occurred.

(b) Where a nuclear incident occurs outside the territory of the Contracting Parties, or where the place of the nuclear incident cannot be determined with certainty, jurisdiction over such actions shall lie with the courts of the Contracting Party in whose territory the nuclear installation of the operator liable is situated.

(c) Where jurisdiction would lie the courts of more than one Contracting Party by virtue of paragraphs (a) or (b) of this Article, jurisdiction shall lie,

(i) if the nuclear incident occurred partly outside the territory of any Contracting Party and partly in the territory of a single Contracting Party, with the courts of that Contracting Party; and

(ii) in any other case, with the courts of the Contracting Party determined, at the request of a Contracting Party concerned, by the Tribunal referred to in Article 17 as being the most closely related to the case in question.

(d) Judgments entered by the competent court under this Article after trial, or by default, shall, when they have become enforceable under the law applied by that court, become enforceable in the territory of any of the other Contracting Parties as soon as the formalities required by the Contracting Party concerned have been complied with. The merits of the case shall not be the subject of further proceedings. The foregoing provisions shall not apply to interim judgments.

(e) If an action is brought against a Contracting Party under this Convention, such Contracting Party may not, except in respect of measures of execution, invoke any jurisdictional immunities before the court competent in accordance with this Article.

ARTICLE 14

(a) This Convention shall be applied without any discrimination based upon nationality, domicile, or residence.

(b) "National law" and "national legislation" means the national law or the national legislation of the court having jurisdiction under this Convention over claims arising out of a nuclear incident, and that law or legislation shall apply to all matters both substantive and procedural not specifically governed by this Convention.

(c) That law and legislation shall be applied without any discrimination based upon nationality, domicile, or residence.

ARTICLE 15

(a) Any Contracting Party may take such measures as it deems necessary to provide for an increase in the amount of compensation specified in this Convention.

(b) In so far as compensation for damage involves public funds and is in excess of the 5,000,000 units of account referred to in Article 7, any such measure in whatever form may be applied under conditions which may derogate from the provisions of this Convention.

ARTICLE 16

Decisions taken by the Steering Committee under Article 1 (a) (ii), 1 (a) (iii) and 1 (b) shall be adopted by mutual agreement of the members representing the Contracting Parties.

ARTICLE 17

Any dispute arising between two or more Contracting Parties concerning the interpretation or application of this Convention shall be examined by the Steering Committee and in the absence of friendly settlement shall, upon the request of a Contracting Party concerned, be submitted to the Tribunal established by the Convention of 20th December, 1957, on the Establishment of a Security Control in the Field of Nuclear Energy.¹

ARTICLE 18

(a) Reservations to one or more of the provisions of this Convention may be made at any time prior to ratification or accession to this Convention or prior to the time of notification under Article 23 in respect of any territory or territories mentioned in the notification, and shall be admissible only if the terms of these reservations have been expressly accepted by the Signatories.

(b) Such acceptance shall not be required from a Signatory which has not itself ratified this Convention within a period of twelve months after the date of notification to it of such reservation by the Secretary-General of the Organisation in accordance with Article

(c) Any reservation admitted in accordance with this Article may be withdrawn at any time by notification addressed to the Secretary-General of the Organisation.

ARTICLE 19

(a) This Convention shall be ratified. Instruments of ratification shall be deposited with the Secretary-General of the Organisation.

(b) This Convention shall come into force upon the deposit of instruments of ratification by not less than five of the Signatories. For each Signatory ratifying thereafter, this Convention shall come into force upon the deposit of its instrument of ratification.

ARTICLE 20

Amendments to this Convention shall be adopted by mutual agreement of all the Contracting Parties. They shall come into force when ratified or confirmed by two-thirds of the Contracting Parties. For each Contracting Party ratifying or confirming thereafter, they shall come into force at the date of such ratification or confirmation.

ARTICLE 21

(a) The Government of any Member or Associate country of the Organisation which is not a Signatory to this Convention may accede thereto, by notification addressed to the Secretary-General of the Organisation.

(b) The Government of any other country which is not a Signatory to this Convention may accede thereto by notification addressed to the Secretary-General of the Organisation and with the unanimous assent of the Contracting Parties. Such accession shall take effect from the date of such assent.

ARTICLE 22

(a) This Convention shall remain in effect for a period of ten years as from the date of its coming into force. Any Contracting Party may, by giving twelve months' notice to the Secretary-General of the Organisation, terminate the application of this Convention to itself at the end of the period of ten years.

(b) This Convention shall after the period of ten years, remain in force for a period of five years for such Contracting Parties as have not terminated its application in accordance with paragraph (a) of this Article, and thereafter for successive periods of five years for such Contracting Parties as have not terminated its application at the end of one of such periods of five years by giving twelve months' notice to that effect to the Secretary-General of the Organisation.

(c) A conference shall be convened by the Secretary-General of the Organisation in order to consider revisions to this Convention after a period of five years as from the date of its coming into force or, at any other time, at the request of a Contracting Party, within six months from the date of such request.

ARTICLE 23

(a) This Convention shall apply to the metropolitan territories of the Contracting Parties.

(b) Any Signatory or Contracting Party may, at the time of signature or ratification of or accession to this Convention or at any later time notify the Secretary-General of the Organisation that this Convention shall apply to those of its territories, including the territories for whose international relations it is responsible, to which this Convention is not applicable in accordance with paragraph (a) of this Article and which are mentioned in the notification. Any such notification may in respect of any territory or territories mentioned therein be withdrawn by giving twelve months' notice to that effect to the Secretary-General of the Organisation.

(c) Any territories of a Contracting Party, including the territories for whose international relations it is responsible, to which this Convention does not apply shall be regarded for the purposes of this Convention as being a territory of a non-Contracting State.

ANNEX II

This Convention shall not be interpreted as depriving a Contracting Party, on whose territory damage was caused by a nuclear incident occurring on the territory of another Contracting Party, of any recourse which might be available to it under international law.

IN WITNESS WHEREOF, the undersigned Plenipotentiaries, duly empowered, have signed this Convention.

DONE in Paris, this twenty-ninth day of July, Nineteen Hundred and Sixty in the English, French, German, Spanish, Italian and Dutch languages in a single copy which shall remain deposited with the Secretary-General of the Organisation for European Economic Co-operation by whom certified copies will be communicated to all Signatories.

APPENDIX B

PARIS SUPPLEMENTARY CONVENTION ON THIRD PARTY LIABILITY 1963

Convention supplementary to the Paris Convention of 29 July 1960, on Third Party Liability in the Field of Nuclear Energy signed at Brussels on 31 January 1963 as amended by the Additional Protocol signed at Paris on 28 January 1964

The Governments of the Federal Republic of Germany, the Republic of Austria, the Kingdom of Belgium, the Kingdom of Denmark, Spain, the French Republic, the Italian Republic, the Grand Duchy of Luxembourg, the Kingdom of Norway, the Kingdom of the Netherlands, the United Kingdom of Great Britain and Northern Ireland, the Kingdom of Sweden and the Swiss Confederation;

BEING PARTIES to the Convention of 29 July 1960 on Third Party Liability in the Field of Nuclear Energy concluded within the framework of the Organisation for European Economic Co-operation, now the Organisation for Economic Co-operation and Development and as modified by the Additional Protocol concluded at Paris, on 28 January 1964 (hereinafter referred to as the "Paris Convention")

DESIROUS of supplementing the measures provided in that Convention with a view to increasing the amount of compensation for damage which might result from the use of nuclear energy for peaceful purposes;

HAVE AGREED as follows:

ARTICLE 1

The system instituted by this Convention is supplementary to that of the Paris Convention, shall be subject to the provisions of the Paris Convention, and shall be applied in accordance with the following Articles.

ARTICLE 2

(a) The system of this Convention shall apply to damage caused by nuclear incidents, other than those occurring entirely in the territory of a State which is not a Party to this Convention:

(i) for which an operator of a nuclear installation, used for peaceful purposes, situated in the territory of a Contracting Party to this Convention (hereinafter referred to as a "Contracting Party"), and which appears on the list established and kept up to date in accordance with the terms of Article 13, is liable under the Paris Convention,

and

(ii) suffered

(1) in the territory of a Contracting Party; or

(2) on or over the high seas on board a ship or aircraft registered in the territory of a Contracting Party; or

(3) on or over the high seas by a national of a Contracting Party, provided that, in the case of damage to a ship or an aircraft, the ship or aircraft is registered in the territory of a Contracting Party;

provided that the courts of a Contracting Party have jurisdiction pursuant to the Paris Convention.

(b) Any Signatory or acceding Government may, at the time of signature or of accession to this Convention or on the deposit of its instrument of ratification, declare that, for the purposes of the application of paragraph (a) (ii) of this Article, individuals or certain categories thereof, considered under its law as having their habitual residence in its territory, are assimilated to its own nationals.

(c) In this Article, the expression "a national of a Contracting Party" shall include a Contracting Party or any of its constituent sub-divisions, or a partnership, or any public or private body whether corporate or not established in the territory of a Contracting Party.

ARTICLE 3

(a) Under the conditions established by this Convention, the Contracting Parties undertake that compensation in respect of the damage referred to in Article 2 shall be provided up to the amount of 120 million units of account per incident.

(b) Such compensation shall be provided:

(i) up to an amount of at least 5 million units of account, out of funds provided by insurance or other financial security, such amount to be established by the legislation of the Contracting Party in whose territory the nuclear installation of the operator liable is situated;

- (ii) between this amount and 70 million units of account, out of public funds to be made available by the Contracting Party in whose territory the nuclear installation of the operator liable is situated;
 - (iii) between 70 million and 120 million units of account, out of public funds to be made available by the Contracting Parties according to the formula for contributions specified in Article 12.
- (c) For this purpose, each Contracting Party shall either:
- (i) establish the maximum liability of the operator, pursuant to Article 7 of the Paris Convention, at 120 million units of account, and provide that such liability shall be covered by all the funds referred to in paragraph (b) of this Article; or
 - (ii) establish the maximum liability of the operator at an amount at least equal to that established pursuant to paragraph (b) (i) of this Article and provide that, in excess of such amount and up to 120 million units of account, the public funds referred to in paragraph (b) (ii) and (iii) of this Article shall be made available by some means other than as cover for the liability of the operator, provided that the rules of substance and procedure laid down in this Convention are not thereby affected.
- (d) The obligation of the operator to pay compensation, interest or costs out of public funds made available pursuant to paragraphs (b) (ii) and (iii), and (f) of this Article shall only be enforceable against the operator as and when such funds are in fact made available.
- (e) The Contracting Parties, in carrying out this Convention, undertake not to make use of the right provided for in Article 15 (b) of the Paris Convention to apply special conditions:
- (i) in respect of compensation for damage provided out of the funds referred to in paragraph (b) (i) of this Article;
 - (ii) other than those laid down in this Convention in respect of compensation for damage provided out of the public funds referred to in paragraph (b) (ii) and (iii) of this Article.
- (f) The interest and costs referred to in Article 7 (g) of the Paris Convention are payable in addition to the amount referred to in paragraph (b) of this Article and shall be borne in so far as they are awarded in respect of compensation payable out of the funds referred to in:
- (i) paragraph (b) (i) of this Article, by the operator liable;
 - (ii) paragraph (b) (ii) of this Article, by the Contracting Party in whose territory the nuclear installation of that operator is situated;
 - (iii) paragraph (b) (iii) of this Article, by the Contracting Parties together.
- (g) For the purposes of this Convention, "unit of account" means the unit of account of the European Monetary Agreement as defined at the date of the Paris Convention.

ARTICLE 4

- (a) If a nuclear incident causes damage which gives rise to liability of more than one operator, the aggregate liability provided for in Article 5 (d) of the Paris Convention shall not, to the extent that public funds have to be made available pursuant to Article 3 (b) (ii) and (iii), exceed 120 million units of account.
- (b) The total amount of the public funds made available pursuant to Article 3 (b) (ii) and (iii) shall not, in such event, exceed the difference between 120 million units of account and the sum of the amounts established with respect to such operators pursuant to Article 3 (b) (i) or, in the case of an operator whose nuclear installation is situated in the territory of a State which is not a Party to this Convention, the amount established pursuant to Article 7 of the Paris Convention. If more than one Contracting Party is required to make available public funds pursuant to Article 3 (b) (ii), such funds shall be made available by them in proportion to the number of nuclear installations situated in their respective territories, which are involved in the nuclear incident and of which the operators are liable.

ARTICLE 5

- (a) Where the operator liable has a right of recourse pursuant to Article 6 (f) of the Paris Convention, the Contracting Party in whose territory the nuclear installation of that operator is situated shall take such legislative measures as are necessary to enable both that Contracting Party and the other Contracting Parties to benefit from this recourse to the extent that public funds have been made available pursuant to Article 3 (b) (ii) and (iii), and (f).
- (b) Such legislation may provide for the recovery of public funds made available pursuant to Article 3 (b) (ii) and (iii), and (f) from such operator if the damage results from fault on his part.

ARTICLE 6

In calculating the public funds to be made available pursuant to this Convention, account shall be taken only of those rights to compensation exercised within ten years from the date of the nuclear incident. In the case of damage caused by a nuclear incident involving nuclear fuel or radioactive products or waste which, at the time of the incident have been stolen, lost, jettisoned, or abandoned and have not yet been recovered, such period shall not in any case exceed twenty years from the date of the theft, loss, jettison or abandonment. It shall also be extended in the cases and under the conditions laid down in Article 8 (d) of the Paris Convention. Amendments made to claims after the expiry of this period, under the conditions laid down in Article 8 (e) of the Paris Convention, shall also be taken into account.

ARTICLE 7

Where a Contracting Party makes use of the right provided for in Article 8 (c) of the Paris Convention, the period which it establishes shall be a period of prescription of three years either from the date at which the person suffering damage has knowledge or from the date at which he ought reasonably to have known of both the damage and the operator liable.

ARTICLE 8

Any person who is entitled to benefit from the provisions of this Convention shall have the right to full compensation in accordance with national law for damage suffered, provided that, where the amount of damage exceeds or is likely to exceed:

- (i) 120 million units of account; or
- (ii) if there is aggregate liability under Article 5 (d) of the Paris Convention and a higher sum results therefrom, such higher sum,

any Contracting Party may establish equitable criteria for apportionment. Such criteria shall be applied whatever the origin of the funds and, subject to the provisions of Article 2 without discrimination based on the nationality, domicile or residence of the person suffering the damage.

ARTICLE 9

(a) The system of disbursements by which the public funds required under Article 3 (b) (ii) and (iii), and (f) are to be made available shall be that of the Contracting Party whose courts have jurisdiction.

(b) Each Contracting Party shall ensure that persons suffering damage may enforce their rights to compensation without having to bring separate proceedings according to the origin of the funds provided for such compensation.

(c) No Contracting Party shall be required to make available the public funds referred to in Article 3 (b) (ii) and (iii) so long as any of the funds referred to in Article 3 (b) (i) remain available.

ARTICLE 10

(a) The Contracting Party whose courts have jurisdiction shall be required to inform the other Contracting Parties of a nuclear incident and its circumstances as soon as it appears that the damage caused by such incident exceeds, or is likely to exceed, 70 million units of account. The Contracting Parties shall without delay make all the necessary arrangements to settle the procedure for their relations in this connection.

(b) Only the Contracting Party whose courts have jurisdiction shall be entitled to request the other Contracting Parties to make available the public funds required under Article 3 (b) (iii) and (f) and shall have exclusive competence to disburse such funds.

(c) Such Contracting Party shall, when the occasion arises, exercise the right of recourse provided for in Article 5 on behalf of the other Contracting Parties who have made available public funds pursuant to Article 3 (b) (iii) and (f).

(d) Settlements effected in respect of the payment of compensation out of the public funds referred to in Article 3 (b) (ii) and (iii) in accordance with the conditions established by national legislation shall be recognized by the other Contracting Parties, and judgments entered by the competent courts in respect of such compensation shall become enforceable in the territory of the other Contracting Parties in accordance with the provisions of Article 13 (d) of the Paris Convention.

ARTICLE 11

(a) If the courts having jurisdiction are those of a Contracting Party other than the Contracting Party in whose territory the nuclear installation of the operator liable is situated, the public funds required under Article 3 (b) (ii) and (f) shall be made available by the first-named Contracting Party. The Contracting Party in whose territory the nuclear installation of the operator liable is situated shall reimburse to the other Contracting Party the sums paid. These two Contracting Parties shall agree on the procedure for reimbursement.

(b) In adopting all legislative, regulatory or administrative provisions, after the nuclear incident has occurred, concerning the nature, form and extent of the compensation, the procedure for making available the public funds required under Article 3 (b) (ii) and, if necessary, the criteria for the apportionment of such funds, the Contracting Party whose courts have jurisdiction shall consult the Contracting Party in whose territory the nuclear installation of the operator liable is situated. It shall further take all measures necessary to enable the latter to intervene in proceedings and to participate in any settlement concerning compensation.

ARTICLE 12

(a) The formula for contributions according to which the Contracting Parties shall make available the public funds referred to in Article 3 (b) (iii) shall be determined as follows:

- (i) as to 50 per cent., on the basis of the ratio between the gross national product at current prices of each Contracting Party and the total of the gross national products at current prices of all Contracting Parties as shown by the official statistics published by the Organisation for Economic Co-operation and Development for the year preceding the year in which the nuclear incident occurs;
- (ii) as to 50 %, on the basis of the ratio between the thermal power of the reactors situated in the territory of each Contracting Party and the total thermal power of the reactors situated in the territories of all the Contracting Parties. This calculation shall be made on the basis of the thermal power of the reactors shown at the date of the nuclear incident in the list referred to in Article 2 (a) (i); provided that a reactor shall only be taken into consideration for the purposes of this calculation as from the date when it first reaches criticality.

(b) For the purposes of this Convention, "thermal power" means

- (i) before the issue of a final operating licence, the planned thermal power;
- (ii) after the issue of such licence, the thermal power authorized by the competent national authorities.

ARTICLE 13

(a) Each Contracting Party shall ensure that all nuclear installations used for peaceful purposes situated in its territory, and falling within the definition in Article 1 of the Paris Convention, appear in the list referred to in Article 2 (a) (i).

(b) For this purpose each Signatory or acceding Government shall, on the deposit of its instrument of ratification or accession, communicate to the Belgian Government full particulars of such installations.

(c) Such particulars shall indicate:

- (i) in the case of all installations not yet completed, the expected date on which the risk of a nuclear incident will exist;
- (ii) and further, in the case of reactors, the expected date on which they will first reach criticality, and also their thermal power.

(d) Each Contracting Party shall also communicate to the Belgian Government the exact date of the existence of the risk of a nuclear incident and, in the case of reactors, the date on which they first reached criticality.

(e) Each Contracting Party shall also communicate to the Belgian Government all modifications to be made to the list. Where such modifications include the addition of a nuclear installation, the communication must be made at least three months before the expected date on which the risk of a nuclear incident will exist.

(f) If a Contracting Party is of the opinion that the particulars, or any modification to be made to the list, communicated by another Contracting Party do not comply with the provisions of Article 2 (a) (i) and of this Article, it may raise objections thereto only by addressing them to the Belgian Government within three months from the date on which it has received notice pursuant to paragraph (h) of this Article.

(g) If a Contracting Party is of the opinion that a communication required in accordance with this Article has not been made within the time prescribed in this Article, it may raise objections only by addressing them to the Belgian Government within three months from the date on which it knew of the facts which, in its opinion, ought to have been communicated.

(h) The Belgian Government shall give notice as soon as possible to each Contracting Party of the communications and objections which it has received pursuant to this Article.

(i) The list referred to in Article 2 (a) (i) shall consist of all the particulars and modifications referred to in paragraph (b), (c), (d) and (e) of this Article, it being understood that objections submitted pursuant to paragraphs (f) and (g) of this Article shall have effect retrospective to the date on which they were raised, if they are sustained.

(j) The Belgian Government shall supply any Contracting Party on demand with an up-to-date statement of the nuclear installations covered by this Convention and the details supplied in respect of them pursuant to this Article.

ARTICLE 14

(a) Except insofar as this Convention otherwise provides, each Contracting Party may exercise the powers vested in it by virtue of the Paris Convention, and any provisions made thereunder may be invoked against the other Contracting Parties in order that the public funds referred to in Article 3 (b) (ii) and (iii) be made available.

(b) Any such provisions made by a Contracting Party pursuant to Articles 2, 7 (c) and 9 of the Paris Convention as a result of which the public funds referred to in Article 3 (b) (ii) and (iii) are required to be made available may not be invoked against any other Contracting Party unless it has consented thereto.

(c) Nothing in this Convention shall prevent a Contracting Party from making provisions outside the scope of the Paris Convention and of this Convention, provided that such provisions shall not involve any further obligation on the part of the other Contracting Party insofar as their public funds are concerned.

ARTICLE 15

(a) Any Contracting Party may conclude an agreement with a State which is not a Party to this Convention concerning compensation out of public funds for damage caused by a nuclear incident.

(b) To this extent that the conditions for payment of compensation under any such agreement are not more favourable than those which result from the measures adopted by the Contracting Party concerned for the application of the Paris Convention and of this Convention, the amount of damage caused by a nuclear incident covered by this Convention and for which compensation is payable by virtue of such an agreement may be taken into consideration, where the proviso to Article 8 applies, in calculating the total amount of damage caused by that incident.

(c) The provisions of paragraphs (a) and (b) of this Article shall in no case affect the obligations under Article 3 (b) (ii) and (iii) of those Contracting Parties which have not given their consent to such agreement.

(d) Any Contracting Party intending to conclude such an agreement shall notify the other Contracting Parties of its intention. Agreements concluded shall be notified to the Belgian Government.

ARTICLE 16

(a) The Contracting Parties shall consult each other upon all problems of common interest raised by the application of this Convention and of the Paris Convention, especially Articles 20 and 22 (c) of the latter Convention.

(b) They shall consult each other on the desirability of revising this Convention after a period of five years from the date of its coming into force, and at any other time upon the request of a Contracting Party.

ARTICLE 17

Any dispute arising between two or more Contracting Parties concerning the interpretation or application of this Convention shall, upon the request of a Contracting Party concerned, be submitted to the European Nuclear Energy Tribunal established by the Convention of 20th December 1957 on the Establishment of a Security Control in the field of Nuclear Energy.

ARTICLE 18

(a) Reservations to one or more of the provisions of this Convention may be made at any time prior to ratification of this Convention if the terms of these reservations have been expressly accepted by all Signatories or, at the time of accession or of the application of the provisions of Articles 21 and 24, if the terms of these reservations have been expressly accepted by all Signatories and acceding Governments.

(b) Such acceptance shall not be required from a Signatory which has not itself ratified this Convention within a period of twelve months after the date of notification to it of such reservation by the Belgian Government in accordance with Article 25.

(c) Any reservation accepted in accordance with the provisions of paragraph (a) of this Article may be withdrawn at any time by notification addressed to the Belgian Government.

ARTICLE 19

No State may become or continue to be a Contracting Party to this Convention unless it is a Contracting Party to the Paris Convention.

ARTICLE 20

(a) The Annex to this Convention shall form an integral part thereof.

(b) This Convention shall be ratified. Instruments of ratification shall be deposited with the Belgian Government.

(c) This Convention shall come into force three months after the deposit of the sixth instrument of ratification.

(d) For each Signatory ratifying this Convention after the deposit of the sixth instrument of ratification, it shall come into force three months after the date of the deposit of its instrument of ratification.

ARTICLE 21

Amendments to this Convention shall be adopted by agreement among all the Contracting Parties. They shall come into force on the date when all Contracting Parties have ratified or confirmed them.

ARTICLE 22

(a) After the coming into force of this Convention, any Contracting Party to the Paris Convention which has not signed this Convention may request accession to this Convention by notification addressed to the Belgian Government.

(b) Such accession shall require the unanimous assent of the Contracting Parties.

(c) Once such assent has been given, the Contracting Party to the Paris Convention requesting accession shall deposit its instrument of accession with the Belgian Government.

(d) The accession shall take effect three months from the date of deposit of the instrument of accession.

ARTICLE 23

(a) This Convention shall remain in force until the expiry of the Paris Convention.

(b) Any Contracting Party may, by giving twelve months' notice to the Belgian Government, terminate the application of this Convention to itself after the end of the period of ten years specified in Article 22 (a) of the Paris Convention. Within six months after receipt of such notice, any other Contracting Party may, by notice to the Belgian Government, terminate the application of this Convention to itself as from the date when it ceases to have effect in respect of the Contracting Party which first gave notice.

(c) The expiry of this Convention or the withdrawal of a Contracting Party shall not terminate the obligations assumed by each Contracting Party under this Convention to pay compensation for damage caused by nuclear incidents occurring before the date of such expiry or withdrawal.

(d) The Contracting Parties shall, in good time, consult each other on what measures should be taken after the expiry of this Convention or the withdrawal of one or more of the Contracting Parties, to provide compensation comparable to that accorded by this Convention for damage caused by nuclear incidents occurring after the date of such expiry or withdrawal and for which the operator of a nuclear installation in operation before such date within the territories of the Contracting Party is liable.

ARTICLE 24

(a) This Convention shall apply to the metropolitan territories of the Contracting Parties.

(b) Any Contracting Party desiring the application of this Convention to one or more of the territories in respect of which, pursuant to Article 23 of the Paris Convention, it has given notification of application of that Convention, shall address a request to the Belgian Government.

(c) The application of this Convention to any such territory shall require the unanimous assent of the Contracting Parties.

(d) Once such assent has been given, the Contracting Party concerned shall address to the Belgian Government a notification which shall take effect as from the date of its receipt.

(e) Such notification may, as regards any territory mentioned therein, be withdrawn by the Contracting Party which has made it by giving twelve months' notice to that effect to the Belgian Government.

(f) If the Paris Convention ceases to apply to any such territory, this Convention shall also cease to apply thereto.

ARTICLE 25

The Belgian Government shall notify all Signatories and acceding Governments of the receipt of any instrument of ratification, accession or withdrawal, and shall also notify them of the date on which this Convention comes into force, the text of any amendment thereto and the date on which such amendment comes into force, any reservations made in accordance with Article 18, and all notifications which it has received.

IN WITNESS WHEREOF the undersigned Plenipotentiaries, duly empowered, have signed this Convention.

DONE at Brussels, this 31st day of January 1963, in the English, Dutch, French, German, Italian and Spanish languages, the six texts being equally authoritative, in a single copy which shall be deposited with the Belgian Government by whom certified copies shall be communicated to all the other Signatories and acceding Governments.

[Here follow the signatures on behalf of the United Kingdom, Austria, Belgium, Denmark, France, Federal Republic of Germany, Italy, Luxembourg, Netherlands, Norway, Spain, Sweden and Switzerland.]

ANNEX

THE GOVERNMENTS OF THE CONTRACTING PARTIES declare that compensation for damage caused by a nuclear incident not covered by the Supplementary Convention solely by reason of the fact that the relevant nuclear installation, on account of its utilization, is not on the list referred to in Article 2 of the Supplementary Convention, (including the case where such installation is considered by one or more but not all of the Governments to be outside the Paris Convention):

—shall be provided without discrimination among the nationals of the Contracting Parties to the Supplementary Convention; and

—shall not be limited to less than 120 million units of account.

In addition, if they have not already done so, they shall endeavour to make the rules for compensation of persons suffering damage caused by such incidents as similar as possible to those established in respect of nuclear incidents occurring in connection with nuclear installations covered by the Supplementary Convention.

APPENDIX C

VIENNA CONVENTION ON CIVIL LIABILITY FOR NUCLEAR DAMAGE 1963

THE CONTRACTING PARTIES,

HAVING RECOGNIZED the desirability of establishing some minimum standards to provide financial protection against damage resulting from certain peaceful uses of nuclear energy,

BELIEVING that a convention on civil liability for nuclear damage would also contribute to the development of friendly relations among nations, irrespective of their differing constitutional and social systems,

HAVE DECIDED to conclude a convention for such purposes, and thereto have agreed as follows:

ARTICLE I

I. For the purposes of this Convention:

- (a) "Person" means any individual, partnership, any private or public body whether corporate or not, any international organization enjoying legal personality under the law of the Installation State, and any State or any of its constituent sub-divisions.
- (b) "National of a Contracting Party" includes a Contracting Party or any of its constituent sub-divisions, a partnership, or any private or public body whether corporate or not established within the territory of a Contracting Party.
- (c) "Operator", in relation to a nuclear installation, means the person designated or recognized by the Installation State as the operator of that installation.
- (d) "Installation State", in relation to a nuclear installation, means the Contracting Party within whose territory that installation is situated or, if it is not situated within the territory of any State, the Contracting Party by which or under the authority of which the nuclear installation is operated.
- (e) "Law of the competent court" means the law of the court having jurisdiction under this Convention, including any rules of such law relating to conflict of laws.
- (f) "Nuclear fuel" means any material which is capable of producing energy by a self-sustaining chain process of nuclear fission.
- (g) "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 utilization 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.
- (h) "Nuclear material" means:
 - (i) nuclear fuel, other than natural uranium and depleted uranium, capable of producing energy by a self-sustaining chain process of nuclear fission outside a nuclear reactor, either alone or in combination with some other material; and
 - (ii) radioactive products or waste.
- (i) "Nuclear reactor" means any structure containing nuclear fuel in such an arrangement that a self-sustaining chain process of nuclear fission can occur therein without an additional source of neutrons.
- (j) "Nuclear installation" means:
 - (i) any nuclear reactor other than one with which a means of sea or air transport is equipped for use as a source of power, whether for propulsion thereof or for any other purpose;
 - (ii) any factory using nuclear fuel for the production of nuclear material, or any factory for the processing of nuclear material, including any factory for the re-processing of irradiated nuclear fuel; and
 - (iii) any facility where nuclear material is stored, other than storage incidental to the carriage of such material;

provided that the Installation State may determine that several nuclear installations of one operator which are located at the same site shall be considered as a single nuclear installation.
- (k) "Nuclear damage" means:
 - (i) loss of life, any personal injury or any loss of, or damage to, property which arises out of or results from the radioactive properties or a combination of

radioactive properties with toxic, explosive or other hazardous properties of nuclear fuel or radioactive products or waste in, or of nuclear material coming from, originating in, or sent to, a nuclear installation;

- (ii) any other loss or damage so arising or resulting if and to the extent that the law of the competent court so provides; and
- (iii) if the law of the Installation State so provides, loss of life, any personal injury or any loss of, or damage to, property which arises out of or results from other ionizing radiation emitted by any other source of radiation inside a nuclear installation.

- (l) "Nuclear incident" means any occurrence or series of occurrences having the same origin which causes nuclear damage.

2. An Installation State may, if the small extent of the risks involved so warrants, exclude any small quantities of nuclear material from the application of this Convention, provided that:

- (a) maximum limits for the exclusion of such quantities have been established by the Board of Governors of the International Atomic Energy Agency; and
- (b) any exclusion by an Installation State is within such established limits.

The maximum limits shall be reviewed periodically by the Board of Governors.

ARTICLE II

1. The operator of a nuclear installation shall be liable for nuclear damage upon proof that such damage has been caused by a nuclear incident:

- (a) in his nuclear installation; or
- (b) involving nuclear material coming from or originating in his nuclear installation, and occurring—
 - (i) before liability with regard to nuclear incidents involving the nuclear material has been assumed, pursuant to the express terms of a contract in writing, by the operator of another nuclear installation;
 - (ii) in the absence of such express terms, before the operator of another nuclear installation has taken charge of the nuclear material; or
 - (iii) where the nuclear material is intended to be used in a nuclear reactor with which a means of transport is equipped for use as a source of power, whether for propulsion thereof or for any other purpose, before the person duly authorized to operate such reactor has taken charge of the nuclear material; but
 - (iv) where the nuclear material has been sent to a person within the territory of a non-Contracting State, before it has been unloaded from the means of transport by which it has arrived in the territory of that non-Contracting State;
- (c) involving nuclear material sent to his nuclear installation, and occurring:
 - (i) after liability with regard to nuclear incidents involving the nuclear material has been assumed by him, pursuant to the express terms of a contract in writing, from the operator of another nuclear installation;
 - (ii) in the absence of such express terms, after he has taken charge of the nuclear material; or
 - (iii) after he has taken charge of the nuclear material from a person operating a nuclear reactor with which a means of transport is equipped for use as a source of power, whether for propulsion thereof or for any other purpose; but
 - (iv) where the nuclear material has, with the written consent of the operator, been sent from a person within the territory of a non-Contracting State, only after it has been loaded on the means of transport by which it is to be carried from the territory of that State;

provided that, if nuclear damage is caused by a nuclear incident occurring in a nuclear installation and involving nuclear material stored therein incidentally to the carriage of such material, the provisions of sub-paragraph (a) of this paragraph shall not apply where another operator or person is solely liable pursuant to the provisions of sub-paragraph (b) or (c) of this paragraph.

2. The Installation State may provide by legislation that, in accordance with such terms as may be specified therein, a carrier of nuclear material or a person handling radioactive waste may, at his request and with the consent of the operator concerned, be designated or recognized as operator in the place of that operator in respect of such nuclear material or radioactive waste respectively. In this case such carrier or such person shall be considered, for all the purposes of this Convention, as an operator of a nuclear installation situated within the territory of that State.

3. (a) Where nuclear damage engages the liability of more than one operator, the operators involved shall, in so far as the damage attributable to each operator is not reasonably separable, be jointly and severally liable.
- (b) Where a nuclear incident occurs in the course of carriage of nuclear material, either in one and the same means of transport, or, in the case of storage incidental to the carriage, in one and the same nuclear installation, and causes nuclear damage which engages the liability of more than one operator, the total liability shall not exceed the highest amount applicable with respect to any one of them pursuant to Article V.
- (c) In neither of the cases referred to in sub-paragraphs (a) and (b) of this paragraph shall the liability of any one operator exceed the amount applicable with respect to him pursuant to Article V.

4. Subject to the provisions of paragraph 3 of this Article, where several nuclear installations of one and the same operator are involved in one nuclear incident, such operator shall be liable in respect of each nuclear installation involved up to the amount applicable with respect to him pursuant to Article V.

5. Except as otherwise provided in this Convention, no person other than the operator shall be liable for nuclear damage. This, however, shall not affect the application of any international convention in the field of transport in force or open for signature, ratification or accession at the date on which this Convention is opened for signature.

6. No person shall be liable for any loss or damage which is not nuclear damage pursuant to sub-paragraph (k) of paragraph 1 of Article I but which could have been included as such pursuant to sub-paragraph (k) (ii) of that paragraph.

7. Direct action shall lie against the person furnishing financial security pursuant to Article VII, if the law of the competent court so provides.

ARTICLE III

The operator liable in accordance with this Convention shall provide the carrier with a certificate issued by or on behalf of the insurer or other financial guarantor furnishing the financial security required pursuant to Article VII. The certificate shall state the name and address of that operator and the amount, type and duration of the security, and these statements may not be disputed by the person by whom or on whose behalf the certificate was issued. The certificate shall also indicate the nuclear material in respect of which the security applies and shall include a statement by the competent public authority of the Installation State that the person named is an operator within the meaning of this Convention.

ARTICLE IV

1. The liability of the operator for nuclear damage under this Convention shall be absolute.

2. If the operator proves that the nuclear damage resulted wholly or partly either from the gross negligence of the person suffering the damage or from an act or omission of such person done with intent to cause damage, the competent court may, if its law so provides, relieve the operator wholly or partly from his obligation to pay compensation in respect of the damage suffered by such person.

3. (a) No liability under this Convention shall attach to an operator for nuclear damage caused by a nuclear incident directly due to an act of armed conflict, hostilities, civil war or insurrection.
- (b) Except in so far as the law of the Installation State may provide to the contrary, the operator shall not be liable for nuclear damage caused by a nuclear incident directly due to a grave natural disaster of an exceptional character.

4. Whenever both nuclear damage and damage other than nuclear damage have been caused by a nuclear incident or jointly by a nuclear incident and one or more other occurrences, such other damage shall, to the extent that it is not reasonably separable from the nuclear damage, be deemed, for the purposes of this Convention, to be nuclear damage caused by that nuclear incident. Where, however, damage is caused jointly by a nuclear incident covered by this Convention and by an emission of ionizing radiation not covered by it, nothing in this Convention shall limit or otherwise affect the liability, either as regards any person suffering nuclear damage or by way of recourse or contribution, of any person who may be held liable in connection with that emission of ionizing radiation.

5. The operator shall not be liable under this Convention for nuclear damage:

- (a) to the nuclear installation itself or to any property on the site of that installation which is used or to be used in connection with that installation; or
- (b) to the means of transport upon which the nuclear material involved was at the time of the nuclear incident.

6. Any Installation State may provide by legislation that sub-paragraph (b) of paragraph 5 of this Article shall not apply, provided that in no case shall the liability of the operator in respect of nuclear damage, other than nuclear damage to the means of transport, be reduced to less than U.S. \$5 million for any one nuclear incident.

7. Nothing in this Convention shall affect:

- (a) the liability of any individual for nuclear damage for which the operator, by virtue of paragraph 3 or 5 of this Article, is not liable under this Convention and which that individual caused by an act or omission done with intent to cause damage; or
- (b) the liability outside this Convention of the operator for nuclear damage for which, by virtue of sub-paragraph (b) of paragraph 5 of this Article, he is not liable under this Convention.

ARTICLE V

1. The liability of the operator may be limited by the Installation State to not less than U.S. \$5 million for any one nuclear incident.

2. Any limits of liability which may be established pursuant to this Article shall not include any interest or costs awarded by a court in actions for compensation of nuclear damage.

3. The United States dollar referred to in this Convention is a unit of account equivalent to the value of the United States dollar in terms of gold on 29 April 1963, that is to say U.S. \$35 per one troy ounce of fine gold.

4. The sum mentioned in paragraph 6 of Article IV and in paragraph 1 of this Article may be converted into national currency in round figures.

ARTICLE VI

1. Rights of compensation under this Convention shall be extinguished if an action is not brought within ten years from the date of the nuclear incident. If, however, under the law of the Installation State the liability of the operator is covered by insurance or other financial security or by State funds for a period longer than ten years, the law of the competent court may provide that rights of compensation against the operator shall only be extinguished after a period which may be longer than ten years, but shall not be longer than the period for which his liability is so covered under the law of the Installation State. Such extension of the extinction period shall in no case affect rights of compensation under this Convention of any person who has brought an action for loss of life or personal injury against the operator before the expiry of the aforesaid period of ten years.

2. Where nuclear damage is caused by a nuclear incident involving nuclear material which at the time of the nuclear incident was stolen, lost, jettisoned or abandoned, the period established pursuant to paragraph 1 of this Article shall be computed from the date of that nuclear incident, but the period shall in no case exceed a period of twenty years from the date of the theft, loss, jettison or abandonment.

3. The law of the competent court may establish a period of extinction or prescription of not less than three years from the date on which the person suffering nuclear damage had knowledge or should have had knowledge of the damage and of the operator liable for the damage, provided that the period established pursuant to paragraphs 1 and 2 of this Article shall not be exceeded.

4. Unless the law of the competent court otherwise provides, any person who claims to have suffered nuclear damage and who has brought an action for compensation within the period applicable pursuant to this Article may amend his claim to take into account any aggravation of the damage, even after the expiry of that period, provided that final judgment has not been entered.

5. Where jurisdiction is to be determined pursuant to sub-paragraph (b) of paragraph 3 of Article XI and a request has been made within the period applicable pursuant to this Article to any one of the Contracting Parties empowered so to determine, but the time remaining after such determination is less than six months, the period within which an action may be brought shall be six months, reckoned from the date of such determination.

ARTICLE VII

1. The operator shall be required to maintain insurance or other financial security covering his liability for nuclear damage in such amount, of such type and in such terms as the Installation State shall specify. The Installation State shall ensure the payment of claims for compensation for nuclear damage which have been established against the operator by providing the necessary funds to the extent that the yield of insurance or other financial security is inadequate to satisfy such claims, but not in excess of the limit, if any, established pursuant to Article V.

2. Nothing in paragraph 1 of this Article shall require a Contracting Party or any of its constituent sub-divisions, such as States or Republics, to maintain insurance or other financial security to cover their liability as operators.

3. The funds provided by insurance, by other financial security or by the Installation State pursuant to paragraph 1 of this Article shall be exclusively available for compensation due under this Convention.

4. No insurer or other financial guarantor shall suspend or cancel the insurance or other financial security provided pursuant to paragraph 1 of this Article without giving notice in writing of at least two months to the competent public authority or, in so far as such insurance or other financial security relates to the carriage of nuclear material, during the period of the carriage in question.

ARTICLE VIII

Subject to the provisions of this Convention, the nature, form and extent of the compensation, as well as the equitable distribution thereof, shall be governed by the law of the competent court.

ARTICLE IX

1. Where provisions of national or public health insurance, social insurance, social security, workmen's compensation or occupational disease compensation systems include compensation for nuclear damage, rights of beneficiaries of such systems to obtain compensation under this Convention and rights of recourse by virtue of such systems against the operator liable shall be determined, subject to the provisions of this Convention, by the law of the Contracting Party in which such systems have been established, or by the regulations of the intergovernmental organization which has established such systems.

2. (a) If a person who is a national of a Contracting Party, other than the operator, has paid compensation for nuclear damage under an international convention or under the law of a non-Contracting State, such person shall, up to the amount which he has paid, acquire by subrogation the rights under this Convention of the person so compensated. No rights shall be so acquired by any person to the extent that the operator has a right of recourse against such person under this Convention.
- (b) Nothing in this Convention shall preclude an operator who has paid compensation for nuclear damage out of funds other than those provided pursuant to paragraph 1 of Article VII from recovering from the person providing financial security pursuant to that paragraph or from the Installation State, up to the amount he has paid, the sum which the person so compensated would have obtained under this Convention.

ARTICLE X

The operator shall have a right of recourse only:

- (a) if this is expressly provided for by a contract in writing; or
- (b) if the nuclear incident results from an act or omission done with intent to cause damage, against the individual who has acted or omitted to act with such intent.

ARTICLE XI

1. Except as otherwise provided in this Article, jurisdiction over actions under Article II shall lie only with the courts of the Contracting Party within whose territory the nuclear incident occurred.
2. Where the nuclear incident occurred outside the territory of any Contracting Party, or where the place of the nuclear incident cannot be determined with certainty, jurisdiction over such actions shall lie with the courts of the Installation State of the operator liable.
3. Where under paragraph 1 or 2 of this Article jurisdiction would lie with the courts of more than one Contracting Party, jurisdiction shall lie:
 - (a) if the nuclear incident occurred partly outside the territory of any Contracting Party, and partly within the territory of a single Contracting Party, with the courts of the latter; and
 - (b) in any other case, with the courts of that Contracting Party which is determined by agreement between the Contracting Parties whose courts would be competent under paragraph 1 or 2 of this Article.

ARTICLE XII

1. A final judgment entered by a court having jurisdiction under Article XI shall be recognized within the territory of any other Contracting Party, except:
 - (a) where the judgment was obtained by fraud;
 - (b) where the party against whom the judgment was pronounced was not given a fair opportunity to present his case; or
 - (c) where the judgment is contrary to the public policy of the Contracting Party within the territory of which recognition is sought, or is not in accord with fundamental standards of justice.
2. A final judgment which is recognized shall, upon being presented for enforcement in accordance with the formalities required by the law of the Contracting Party where enforcement is sought, be enforceable as if it were a judgment of a court of that Contracting Party.
3. The merits of a claim on which the judgment has been given shall not be subject to further proceedings.

ARTICLE XIII

This Convention and the national law applicable thereunder shall be applied without any discrimination based upon nationality, domicile or residence.

ARTICLE XIV

Except in respect of measures of execution, jurisdictional immunities under rules of national or international law shall not be invoked in actions under this Convention before the courts competent pursuant to Article XI.

ARTICLE XV

The Contracting Parties shall take appropriate measures to ensure that compensation for nuclear damage, interest and costs awarded by a court in connection therewith, insurance and reinsurance premiums and funds provided by insurance, reinsurance or other financial security, or funds provided by the Installation State, pursuant to this Convention, shall be freely transferable into the currency of the Contracting Party within whose territory the damage is suffered, and of the Contracting Party within whose territory the claimant is habitually resident, and, as regards insurance or reinsurance premiums and payments, into the currencies specified in the insurance or reinsurance contract.

ARTICLE XVI

No person shall be entitled to recover compensation under this Convention to the extent that he has recovered compensation in respect of the same nuclear damage under another international convention on civil liability in the field of nuclear energy.

ARTICLE XVII

This Convention shall not, as between the parties to them, affect the application of any international agreements or international conventions in civil liability in the field of nuclear energy in force, or open for signature, ratification or accession at the date on which this Convention is opened for signature.

ARTICLE XVIII

This Convention shall not be construed as affecting the rights, if any, of a Contracting Party under the general rules of public international law in respect of nuclear damage.

ARTICLE XIX

1. Any Contracting Party entering into an agreement pursuant to sub-paragraph (b) of paragraph 3 of Article XI shall furnish without delay to the Director General of the International Atomic Energy Agency for information and dissemination to the other Contracting Parties a copy of such agreement.

2. The Contracting Parties shall furnish to the Director General for information and dissemination to the other Contracting Parties copies of their respective laws and regulations relating to matters covered by this Convention.

ARTICLE XX

Notwithstanding the termination of the application of this Convention to any Contracting Party, either by termination pursuant to Article XXV or by denunciation pursuant to Article XXVI, the provisions of this Convention shall continue to apply to any nuclear damage caused by a nuclear incident occurring before such termination.

ARTICLE XXI

This Convention shall be open for signature by the States represented at the International Conference on Civil Liability for Nuclear Damage held in Vienna from 29 April to 19 May 1963.

ARTICLE XXII

This Convention shall be ratified, and the instruments of ratification shall be deposited with the Director General of the International Atomic Energy Agency.

ARTICLE XXIII

This Convention shall come into force three months after the deposit of the fifth instrument of ratification, and, in respect of each State ratifying it thereafter, three months after the deposit of the instrument of ratification by that State.

ARTICLE XXIV

1. All States Members of the United Nations, or of any of the specialized agencies or of the International Atomic Energy Agency not represented at the International Conference on Civil Liability for Nuclear Damage, held in Vienna from 29 April to 19 May 1963, may accede to this Convention.

2. The instruments of accession shall be deposited with the Director General of the International Atomic Energy Agency.

3. This Convention shall come into force in respect of the acceding State three months after the date of deposit of the instrument of accession of that State but not before the date of the entry into force of this Convention pursuant to Article XXIII.

ARTICLE XXV

1. This Convention shall remain in force for a period of ten years from the date of its entry into force. Any Contracting Party may, by giving before the end of that period at least twelve months' notice to that effect to the Director General of the International Atomic Energy Agency, terminate the application of this Convention to itself at the end of that period of ten years.

2. This Convention shall, after that period of ten years, remain in force for a further period of five years for such Contracting Parties as have not terminated its application pursuant to paragraph 1 of this Article, and thereafter for successive periods of five years each for those Contracting Parties which have not terminated its application at the end of one of such periods, by giving, before the end of one of such periods, at least twelve months' notice to that effect to the Director General of the International Atomic Energy Agency.

ARTICLE XXIX

The original of this Convention, of which the English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Director General of the International Atomic Energy Agency, who shall issue certified copies.

IN WITNESS WHEREOF, the undersigned Plenipotentiaries, duly authorized thereto, have signed this Convention.

DONE in Vienna, this twenty-first day of May, one thousand nine hundred and sixty-three.

APPENDIX D

THE US ATOMIC ENERGY ACT

Sec. 170 - Indemnification and Limitation of Liability(Price-Anderson Act, as amended 1975)

a. Each license issued under section 103 or 104 and each construction permit issued under section 185 shall, and each license issued under section 53, 63, or 81 may, for the public purposes cited in subsection 2 i. of the Atomic Energy Act of 1954, as amended, have as a condition of the license a requirement that the licensee have and maintain financial protection of such type and in such amounts as the Commission in the exercise of its licensing and regulatory authority and responsibility shall require in accordance with subsection 170 b. to cover public liability claims. Whenever such financial protection is required, it may be a further condition of the license that the licensee execute and maintain an indemnification agreement in accordance with subsection 170 c. The Commission may require, as a further condition of issuing a license, that an applicant waive any immunity from public liability conferred by Federal or State law.

b. The amount of financial protection required shall be the amount of liability insurance available from private sources, except that the Commission may establish a lesser amount on the basis of criteria set forth in writing, which it may revise from time to time, taking into consideration such factors as the following: (1) the cost and terms of private insurance, (2) the type, size, and location of the licensed activity and other factors pertaining to the hazard, and (3) the nature and purpose of the licensed activity: *Provided*, That for facilities designed for producing substantial amounts of electricity and having a rated capacity of 100,000 electrical kilowatts or more, the amount of financial protection required shall be the maximum amount available at reasonable cost and on reasonable terms from private sources. Such financial protection may include private insurance, private contractual indemnities, self-insurance, other proof of financial responsibility, or a combination of such measures and shall be subject to such terms and conditions as the Commission may, by rule, regulation, or order, prescribe. In prescribing such terms and conditions for licensees required to have and maintain financial protection equal to the maximum amount of liability insurance available from private sources, the Commission shall, by rule initially prescribed not later than twelve months from the date of enactment of this Act, include, in determining such maximum amount, private liability insurance available under an industry retrospective rating plan providing for premium charges deferred in whole or major part until public liability from a nuclear incident exceeds or appears likely to exceed the level of the primary financial protection required of the licensee involved in the nuclear incident: *Provided*, That such insurance is available to, and required of, all of the licensees of such facilities without regard to the manner in which they obtain other types or amounts of such financial protection: *And provided further*, That the standard deferred premium which may be charged following any nuclear incident under such a plan shall be not less than \$2,000,000 nor more than \$5,000,000 for each facility required to maintain the maximum amount of financial protection: *And provided further*, That the amount which may be charged a licensee following any nuclear incident shall not exceed the licensee's *pro rata* share of the aggregate public liability claims and costs arising out of the

nuclear incident. Payment of any State premium taxes which may be applicable to any deferred premium provided for in this Act shall be the responsibility of the licensee and shall not be included in the retrospective premium established by the Commission. The Commission is authorized to establish a maximum amount which the aggregate deferred premiums charged for each facility within one calendar year may not exceed. The Commission may establish amounts less than the standard premium for individual facilities taking into account such factors as the facility's size, location, and other factors pertaining to the hazard. The Commission shall establish such requirements as are necessary to assure availability of funds to meet any assessment of deferred premiums within a reasonable time when due, and may provide reinsurance or shall otherwise guarantee the payment of such premiums in the event it appears that the amount of such premiums will not be available on a timely basis through the resources of private industry and insurance. Any agreement by the Commission with a licensee or indemnitor to guarantee the payment of deferred premiums may contain such terms as the Commission deems appropriate to carry out the purposes of this section and to assure reimbursement to the Commission for its payments made due to the failure of such licensee or indemnitor to meet any of its obligations arising under or in connection with financial protection required under this subsection including without limitation terms creating liens upon the licensed facility and the revenues derived therefrom or any other property or revenues of such licensee to secure such reimbursement and consent to the automatic revocation of any license.

c. The Commission shall, with respect to licenses issued between August 30, 1954, and August 1, 1987, for which it requires financial protection of less than \$560,000,000, agree to indemnify and hold harmless the licensee and other persons indemnified, as their interest may appear, from public liability arising from nuclear incidents which is in excess of the level of financial protection required of the licensee. The aggregate indemnity for all persons indemnified, in connection with each nuclear incident shall not exceed \$500,000,000 excluding costs of investigating and settling claims and defending suits for damage: *Provided, however,* That this amount of indemnity shall be reduced by the amount that the financial protection required shall exceed \$60,000,000. Such a contract of indemnification shall cover public liability arising out of or in connection with the licensed activity. With respect to any production or utilization facility for which a construction permit is issued between August 30, 1954, and August 1, 1987, the requirements of this subsection shall apply to any license issued for such facility subsequent to August 1, 1987.

d. In addition to any other authority the Commission may have, the Commission is authorized until August 1, 1987, to enter into agreements of indemnification with its contractors for the construction or operation of production or utilization facilities or other activities under contracts for the benefit of the United States involving activities under the risk of public liability for a substantial nuclear incident. In such agreements of indemnification the Commission may require its contractor to provide and maintain financial protection of such a type and in such amounts as the Commission shall determine to be appropriate to cover public liability arising out of or in connection with the contractual activity, and shall indemnify the persons indemnified against such claims above the amount of the financial protection

required, in the amount of \$500,000,000, excluding costs of investigating and settling claims and defending suits for damage in the aggregate for all persons indemnified in connection with such contract and for each nuclear incident: *Provided*, That this amount of indemnity shall be reduced by the amount that the financial protection required shall exceed \$60,000,000: *Provided further*, That in the case of nuclear incidents occurring outside the United States, the amount of the indemnity provided by the Commission shall not exceed \$100,000,000. The provisions of this subsection may be applicable to lump sum as well as cost type contracts and to contracts and projects financed in whole or in part by the Commission. A contractor with whom an agreement of indemnification has been executed and who is engaged in activities connected with the underground detonation of a nuclear explosive device shall be liable, to the extent so indemnified under this section, for injuries or damage sustained as a result of such detonation in the same manner and to the same extent as would a private person acting as a principal, and no immunity or defense founded in the Federal, State, or municipal character of the contractor or of the work to be performed under the contract shall be effective to bar such liability.

e. The aggregate liability for a single nuclear incident of persons indemnified, including the reasonable costs of investigating and settling claims and defending suits for damage shall not exceed (1) the sum of \$500,000,000 together with the amount of financial protection required of the licensee or contractor or (2) if the amount of financial protection required of the licensee exceeds \$60,000,000, such aggregate liability shall not exceed the sum of \$560,000,000 or the amount of financial protection required of the licensee, whichever amount is greater: *Provided*, That in the event of a nuclear incident involving damages in excess of that amount of aggregate liability, the Congress will thoroughly review the particular incident and will take whatever action is deemed necessary and appropriate to protect the public from the consequences of a disaster of such magnitude: *And provided further*, That with respect to any nuclear incident occurring outside of the United States to which an agreement of indemnification entered into under the provisions of 170 d. is applicable, such aggregate liability shall not exceed the amount of \$100,000,000 together with the amount of financial protection required of the contractor.

f. The Commission is authorized to collect a fee from all persons with whom an indemnification agreement is executed under this section. This fee shall be \$30 per year per thousand kilowatts of thermal energy capacity for facilities licensed under section 103: *Provided*, That the Commission is authorized to reduce the fee for such facilities in reasonable relation to increases in financial protection required above a level of \$60,000,000. For facilities licensed under section 104, and for construction permits under section 185, the Commission is authorized to reduce the fee set forth above. The Commission shall establish criteria in writing for determination of the fee for facilities licensed under section 104, taking into consideration such factors as (1) the type, size, and location of facility involved, and other factors pertaining to the hazard, and (2) the nature and purpose of the facility. For other licenses, the Commission shall collect such nominal fees as it deems appropriate. No fee under this subsection shall be less than \$100 per year.

g. In administering the provisions of this section, the Commission shall use, to the maximum extent practicable, the facilities and services of private insurance organizations, and the Commission may contract to pay a reasonable compensation for such services. Any contract made under the provisions of this subsection may be made without regard to the provisions of section 3709 of the Revised Statutes, as amended, upon a showing by the Commission that advertising is not reasonably practicable and advance payments may be made.

h. The agreement of indemnification may contain such terms as the Commission deems appropriate to carry out the purposes of this section. Such agreement shall provide that, when the Commission makes a determination that the United States will probably be required to make indemnity payments under this section, the Commission shall collaborate with any person indemnified and may approve the payment of any claim under the agreement of indemnification, appear through the Attorney General on behalf of the person indemnified, take charge of such action, and settle or defend any such action. The Commission shall have final authority on behalf of the United States to settle or approve the settlement of any such claim on a fair and reasonable basis with due regard for the purposes of this Act. Such settlement shall not include expenses in connection with the claim incurred by the person indemnified.

i. After any nuclear incident which will probably require payments by the United States under this section or which will probably result in public liability claims in excess of \$560,000,000, the Commission shall make a survey of the causes and extent of damage which shall forthwith be reported to the Joint Committee, to the Congressmen of the affected districts, and to the Senators of the affected States, and, except for information which would cause serious damage to the national defense of the United States, all final findings shall be made available to the public, to the parties involved and to the courts. The Commission shall report to the Joint Committee by April 1, 1958, and every year thereafter on the operations under this section.

j. In administering the provisions of this section, the Commission may make contracts in advance of appropriations and incur obligations without regard to section 3679 of the Revised Statutes, as amended.

k. With respect to any license issued pursuant to section 53, 63, 81, 104a., or 104c. for the conduct of educational activities to a person found by the Commission to be a nonprofit educational institution, the Commission shall exempt such licensee from the financial protection requirement of subsection 170a. With respect to licenses issued between August 30, 1954, and August 1, 1987, for which the Commission grants such exemption:

(1) the Commission shall agree to indemnify and hold harmless the licensee and other persons indemnified, as their interests may appear, from public liability in excess of \$250,000 arising from nuclear incidents. The aggregate indemnity for all persons indemnified in connection with each nuclear incident shall not exceed \$500,000,000, excluding cost of investigating and settling claims and defending suits for damage;

(2) such contracts of indemnification shall cover public liability arising out of or in connection with the licensed activity; and shall include damage to property of persons indemnified,

except property which is located at the site of and used in connection with the activity where the nuclear incident occurs; and

(3) such contracts of indemnification, when entered into with a licensee having immunity from public liability because it is a State agency, shall provide also that the Commission shall make payments under the contract on account of activities of the licensee in the same manner and to the same extent as the Commission would be required to do if the licensee were not such a State agency.

Any licensee may waive an exemption to which it is entitled under this subsection. With respect to any production or utilization facility for which a construction permit is issued between August 30, 1954, and August 1, 1987, the requirements of this subsection shall apply to any license issued for such facility subsequent to August 1, 1987.

l. The Commission is authorized until August 1, 1977, to enter into an agreement of indemnification with any person engaged in the design, development, construction, operation, repair, and maintenance or use of the nuclear-powered ship authorized by section 716 of the Merchant Marine Act, 1936, and designated the "nuclear ship Savannah." In any such agreement of indemnification the Commission may require such person to provide and maintain financial protection of such a type and in such amounts as the Commission shall determine to be appropriate to cover public liability arising from a nuclear incident in connection with such design, development, construction, operation, repair, maintenance or use and shall indemnify the person indemnified against such claims above the amount of the financial protection required, in the amount of \$500,000,000 excluding costs of investigating and settling claims and defending suits for damage in the aggregate for all persons indemnified in connection with each nuclear incident: *Provided*, That this amount of indemnity shall be reduced by the amount that the financial protection required shall exceed \$60,000,000.

m. The Commission is authorized to enter into agreements with other indemnitors to establish coordinated procedures for the prompt handling, investigation, and settlement of claims for public liability. The Commission and other indemnitors may make payments to, or for the aid of, claimants for the purpose of providing immediate assistance following a nuclear incident. Any funds appropriated to the Commission shall be available for such payments. Such payments may be made without securing releases, shall not constitute an admission of the liability of any person indemnified or of any indemnitor, and shall operate as a satisfaction to the extent thereof of any final settlement or judgment.

n. (1) With respect to any extraordinary nuclear occurrence to which an insurance policy or contract furnished as proof of financial protection or an indemnity agreement applies and which—

(a) arises out of or results from or occurs in the course of the construction, possession, or operation of a production or utilization facility, or

(b) arises out of or results from or occurs in the course of transportation of source material, byproduct material, or special nuclear material to or from a production or utilization facility, or

(c) during the course of the contract activity arises out of or results from the possession, operation, or use by a Commission con-

tractor or subcontractor of a device utilizing special nuclear material or byproduct material,

the Commission may incorporate provisions in indemnity agreements with licensees and contractors under this section, and may require provisions to be incorporated in insurance policies or contracts furnished as proof of financial protection, which waive (i) any issue or defense as to conduct of the claimant or fault of persons indemnified, (ii) any issue or defense as to charitable or governmental immunity, and (iii) any issue or defense based on any statute of limitations if suit is instituted within three years from the date on which the claimant first knew, or reasonably could have known, of his injury or damage and the cause thereof, but in no event more than twenty years after the date of the nuclear incident. The waiver of any such issue or defense shall be effective regardless of whether such issue or defense may otherwise be deemed jurisdictional or relating to an element in the cause of action. When so incorporated, such waivers shall be judicially enforceable in accordance with their terms by the claimant against the person indemnified. Such waivers shall not preclude a defense based upon a failure to take reasonable steps to mitigate damages, nor shall such waivers apply to injury or damage to a claimant or to a claimant's property which is intentionally sustained by the claimant or which results from a nuclear incident intentionally and wrongfully caused by the claimant. The waivers authorized in this subsection shall, as to indemnitors, be effective only with respect to those obligations set forth in the insurance policies or the contracts furnished as proof of financial protection and in the indemnity agreements. Such waivers shall not apply to, or prejudice the prosecution of defense of, any claim or portion of claim which is not within the protection afforded under (i) the terms of insurance policies or contracts furnished as proof of financial protection, or indemnity agreements, and (ii) the limit of liability provisions of subsection 170e.

(2) With respect to any public liability action arising out of or resulting from an extraordinary nuclear occurrence, the United States district court in the district where the extraordinary nuclear occurrence takes place, or in the case of an extraordinary nuclear occurrence taking place outside the United States, the United States District Court for the District of Columbia, shall have original jurisdiction without regard to the citizenship of any party or the amount in controversy. Upon motion of the defendant or of the Commission, any such action pending in any State court or United States district court shall be removed or transferred to the United States district court having venue under this subsection. Process of such district court shall be effective throughout the United States.

o. Whenever the United States district court in the district where a nuclear incident occurs, or the United States District Court for the District of Columbia in case of a nuclear incident occurring outside the United States, determines upon the petition of any indemnitor or other interested person that public liability from a single nuclear incident may exceed the limit of liability under subsection 170e.:

(1) Total payments made by or for all indemnitors as a result of such nuclear incident shall not exceed 15 per centum of such limit of liability without the prior approval of such court;

(2) The court shall not authorize payments in excess of 15 per centum of such limit of liability unless the court determines that such payments are or will be in accordance with a plan of distribution which has been approved by the court or such payments are not likely to prejudice the subsequent adoption and implementation by the court of a plan of distribution pursuant to subparagraph (3) of this subsection (o); and

(3) The Commission shall, and any other indemnitor or other interested person may, submit to such district court a plan for the disposition of pending claims and for the distribution of remaining funds available. Such a plan shall include an allocation of appropriate amounts for personal injury claims, property damage claims, and possible latent injury claims which may not be discovered until a later time and shall include establishment of priorities between claimants and classes of claims, as necessary to insure the most equitable allocation of available funds. Such court shall have all power necessary to approve, disapprove, or modify plans proposed, or to adopt another plan; and to determine the proportionate share of funds available for each claimant. The Commission, any other indemnitor, and any person indemnified shall be entitled to such orders as may be appropriate to implement and enforce the provisions of this section, including orders limiting the liability of the persons indemnified, orders approving or modifying the plan, orders staying the payment of claims and the execution of court judgments, orders apportioning the payments to be made to claimants, and orders permitting partial payments to be made before final determination of the total claims. The orders of such court shall be effective throughout the United States.

(4) The Commission shall, within ninety days after a court shall have made such determination, deliver to the Joint Committee a supplement to the report prepared in accordance with subsection 170 i. of this Act setting forth the estimated requirements for full compensation and relief of all claimants, and recommendations as to the relief to be provided.

p. The Commission shall submit to the Congress by August 1, 1983, a detailed report concerning the need for continuation or modification of the provisions of this section, taking into account the condition of the nuclear industry, availability of private insurance, and the state of knowledge concerning nuclear safety at that time, among other relevant factors, and shall include recommendations as to the repeal or modification of any of the provisions of this section. [42 U. S. C. 2210.]

[Sec. 170 was added by Public Law 85-256, Act of September 2, 1957, and amended by Public Law 85-602, Act of August 8, 1958, Public Law 85-744, Act of August 23, 1958, Public Law 87-206, Act of September 6, 1961, Public Law 87-615, Act of August 29, 1962, Public Law 88-394, Act of August 1, 1964, Public Law 89-210, Act of September 29, 1965, Public Law 89-645, Act of October 13, 1966, Public Law 94-197, Act of December 31, 1975.]

