

NUCLEAR
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Nuclear Energy Agency

Organisation for Economic Co-operation and Development

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LEGISLATIVE AND REGULATORY ACTIVITIES

• *Austria*

TRANSPORT OF RADIOACTIVE MATERIALS

Act of 1979 on the Carriage of Dangerous Goods by Road

This Act, published on 18th May 1979 in the Federal Law Gazette for the Republic of Austria (FLG 209/1979 No. 72), will come into force on 19th May 1980. Its purpose is to apply the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) to the domestic carriage of dangerous goods, including radioactive materials, within Austria.

The competent authority under the Act for granting approval certificates and transport permits is either the Federal Minister of Transport or, in some instances, the Governor of the "Land" in question. A transport permit may be granted for a specific transport operation or for a number of such operations provided they are to be carried out within the following year.

Under the Act, the Federal Minister of Transport may, by Order, issue further regulations concerning, for example, the maximum radiation level of packages, the maximum exposure of drivers to radiation and the use of certain roads or types of road for the transport of radioactive materials.

• *Belgium*

ORGANISATION AND STRUCTURE

1979 Royal Order setting up and organising an Inter-Ministerial Commission for Nuclear Safety and State Security in the Nuclear Field

The licensing and surveillance of installations implying a radiation risk for workers and the population have been the subject of various Royal

Orders, the most important being the Order of 28th February 1963 embodying the general regulations for the protection of the population and workers against the hazards of ionizing radiations.

Following the Three Mile Island incident in the United States, the Belgian Government expressed the intention of reviewing the existing organisation. Accordingly, an Inter-Ministerial Working Party was set up for this purpose and proposed to the Government the setting-up of an Inter-Ministerial Commission for Nuclear Safety and State Security in the Nuclear Field, which would report to the Inter-Ministerial Committee for the Environment chaired by the Prime Minister, and would be in charge of co-ordinating the activities of the following services:

- Central Service for the Safety of Nuclear Installations, under the Ministry of Employment and Labour;
- Central Service for Protection against Ionizing Radiations, under the Ministry of Public Health and the Environment;
- Nuclear Safety Service, under the Ministry of Justice;
- External Relations Service for Nuclear Matters, under the Ministry of Foreign Affairs;
- Safety at Work Service - General Construction Service - General Staff of the Armed Forces, under the Ministry of Defense;
- Emergency Planning Service, under the Ministry of the Interior.

The Inter-Ministerial Working Party made other proposals to the Government, in particular, concerning the statute, designation and financing of controlling bodies approved by the State as well as the guarding of nuclear installations.

The Government followed up these proposals by issuing the above-mentioned Royal Order of 19th October 1979 (published in the Belgian Official Gazette of 23rd October 1979).

The duty of the new Commission is to seek the means to ensure the protection of workers and the population against the hazards which might result from the use, conversion, transport and storage of radioactive substances within and without nuclear installations, by co-ordinating the activities of the above-mentioned ministerial departments.

The Commission consists of a Chairman appointed by the Ministry of Public Health and the Environment, a Vice-Chairman appointed by the Ministry of Employment and Labour, the Chairman of the Special Commission on Ionizing Radiations as well as members appointed by the other ministries concerned. The Central Service for Protection against Ionizing Radiations is in charge of the Secretariat of the Commission.

• *Brazil*

RADIATION PROTECTION

1978 Decree concerning benefits granted for work involving use of X-rays and radioactive substances

Decree No. 81384 of 22nd February 1978 contains provisions on the granting of special benefits to workers in the public services engaged in activities involving X-rays or radioactive substances, as provided under Act No. 1134 of 14th November 1950.

The Decree lays down that such workers are entitled to a working week limited to 24 hours, twenty days' holiday every six months and an additional bonus amounting to 40% of their salary. These benefits are granted to persons assigned to work regularly with X-rays or radioactive substances by the director of the establishment employing them, or who work in the vicinity of radiation sources for a minimum of twelve hours a week and to persons with qualifications in radiological diagnostics or therapy obtained from approved establishments.

Furthermore, government establishments engaged in work involving the use of X-rays or radioactive substances must undergo inspections twice a year to ensure that staff and patients are adequately protected against radiation and that the areas where such work is carried out are suitably isolated.

Finally, this Decree repeals Decrees Nos. 29.155, 40.630, 43.185 and 43.961, respectively of 1951, 1956 and 1958.

• *Finland*

RADIATION PROTECTION

1978 Decree on inspection of radiation-emitting equipment and facilities and radioactive substances

Decree No. 774 of 11th October 1978 (published in the Finnish Official Gazette of 20th October 1978) was made in pursuance of Ordinance No. 328 of 27th September 1957 on radiation protection. This Decree requires that all radiation-emitting equipment and facilities as well as radioactive substances subject to licensing under Radiation Protection Act, No. 174 of 26th April 1957 (see Nuclear Law Bulletin No. 7), should undergo renewed inspection by the Radiation Safety Institute within a period not exceeding ten years, to be determined by the Institute.

TRANSPORT OF RADIOACTIVE MATERIALS

Entry into force of the ADR on 28th March 1979

On 9th August 1978, the Ministry of Communications made an Order No. 610/78 concerning the transport of dangerous goods by road which should have come into force on 1st April 1979. This Order was based on the Annexes of the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).

The ADR came into force in Finland on 28th March 1979. The first Order was subsequently amended by Order No. 344/79 of 22nd March 1979 which introduces changes in Class 7 which includes radioactive materials. However, as regards radioactive materials, the 1979 Order contains only selected paragraphs of the ADR Annexes concerning the labelling of packages and the contents of the consignment note. As to package specifications and approvals, the Order prescribes that the provisions of the ADR (specifically ADR E/ECE/322/Rev.2) apply unless otherwise determined by the competent authority. The Ministry of Communications may, for special reasons, grant exceptions from the provisions of the Order.

• *France*

ORGANISATION AND STRUCTURE

Order of 7th November 1979 concerning the creation of a National Radioactive Waste Management Agency

The purpose of this Order (published in the French Official Gazette of 10th November 1979) is to create within the French Commissariat à l'Energie Atomique (CEA) a National Radioactive Waste Management Agency. This body replaces the CEA Waste Management Bureau.

The new Agency is responsible for long-term radioactive waste management operations and, in particular, the management of long-term waste repositories either directly or through third parties acting on its behalf. It is also in charge of designing and setting up new long-term waste repositories, of preparing in consultation with waste producers, specifications for waste storage and conditioning prior to disposal, of contributing to research and work on long-term waste management processes. The Agency will be consulted on R & D programmes as well as on draft regulations on radioactive waste management.

To this effect, the Agency comprises a Management Committee and a Scientific and Technical Council. They are made up of ex officio members and other members appointed for three years by order of the Ministry of Industry. The Scientific and Technical Council advises on the principles and orientation of long-term radioactive waste management and considers the R & D programme approved by the Management Committee, which must be financed by the Agency.

The Agency is run by a Director appointed by order of the Ministry of Industry, who is placed under the authority of the CEA Administrator-General. The Agency's administrative, financial and staff management is undertaken within the CEA according to that establishment's own rules.

REGIME OF NUCLEAR INSTALLATIONS

Orders implementing Decree No. 75-306 of 28th April 1975 on the protection of workers against the hazards of ionizing radiation in large nuclear installations

Order of 6th October 1977

This Order implements Section 10 of the 1975 Decree by defining the characteristics of each type of large nuclear installation. It concerns nuclear reactors, particle accelerators, plants for the preparation, fabrication or conversion of radioactive substances which include plants for the isotopic separation of nuclear fuels, plants for irradiated fuel reprocessing and finally, plants for radioactive waste processing. Facilities for the storage or use of radioactive substances are also taken into consideration.

Order of 7th October 1977

This Order refers to Section 24 of the 1975 Decree and establishes a periodicity for controls fixed at:

- three years for mobile screens to protect staff against radiation as well as for devices generating ionizing radiation and their protective equipment;
- one year for sealed sources and their equipment as well as for ventilation and filtration devices;
- one month for all devices for radiation detection, signalling and alarm.

The periods fixed are computed as from the date of the last control.

Order of 10th October 1977

This Order concerns Section 40 of the 1975 Decree. It lays down the special safety measures applicable to nuclear reactors and ancillary facilities, to particle accelerators, plants and facilities for irradiated fuels and to specialized facilities for radioactive waste storage.

In installations which comprise a nuclear reactor or a critical assembly there must be continuous monitoring of the radioactivity of the coolant in the primary circuits and periodic measurement of radioactivity of other radioactive fluids. The person responsible must ensure that no critical excursion is possible.

Efficient signalling devices must warn staff about either the imminent start-up of the particle accelerator or about its mode of operation. There may be no intervention in the accelerator chamber without the prior agreement of the qualified person responsible.

In connection with plants and facilities for irradiated fuel reprocessing, no operations may be undertaken with respect to the process equipment or the circuits without written authorisation from the operating engineer responsible for the facility concerned.

In radioactive waste storage facilities, periodic controls must be made of the degree of contamination and the good condition of handling and transport equipment as well as of the degree of contamination of the carriageways.

Order of 11th October 1977

This Order which also refers to implementation of Section 40 of the Decree lists the general safety measures applicable to fluids, radioactive waste, irradiated and unirradiated fuels in large nuclear installations. All possible measures must be taken, as from construction, to limit radioactive dispersion and exposure of workers during normal operation as well as in case of pipe bursts or fluid loss and during maintenance of repair work.

REGIME OF RADIOACTIVE MATERIALS

Order of 25th April 1979 fixing the list of conditions for labelling and packaging of certain dangerous substances and preparations

Hazardous substances within the meaning of this Order are chemical elements, their compounds in their natural state or as produced by industry; preparations mean mixtures or solutions made up of two or more substances.

Explosive, combustible, inflammable, toxic, noxious, corrosive and irritating substances and preparations listed in the Annex to the Order are subject to labelling and packaging conditions imposed by Section L.231.6 of the Labour Code on vendors or distributors of such substances and preparations as well as on directors of establishments where they are used.

This list includes, inter alia, uranium, lithium and beryllium.

A circular dated 30th May 1979 specifies the procedure for applying the Order.

THIRD PARTY LIABILITY

Decree No. 79-623 of 13th July 1979 publishing the two Decisions concerning exclusion adopted on 27th October 1977 by the Steering Committee of the OECD Nuclear Energy Agency

This Decree published in the Official Gazette of 13th July 1979 implements in France the two Decisions adopted on 27th October 1977 by the OECD Nuclear Energy Agency's Steering Committee (see Nuclear Law Bulletin No. 21).

The first Decision concerns the exclusion of certain categories of nuclear substances from the scope of application of the Paris Convention on Third Party Liability in the Field of Nuclear Energy and the second also excludes from its scope small quantities of nuclear substances.

• *Federal Republic of Germany*

NUCLEAR LEGISLATION

Waste Management and Reprocessing of Nuclear Fuels from Nuclear Power Plants (Entsorgung)

The question of the "Entsorgung" of nuclear power plants, a concept which associates the reprocessing of nuclear fuels and the disposal of nuclear waste, and which had given rise to political and legal debate in the Federal Republic, has been placed on a new basis by the "Resolution of the heads of governments of the Bund and the Laender concerning the "Entsorgung" of nuclear power plants" of 28th September 1979 (Bulletin des Presse und Informationsamtes der Bundesregierung No. 122 of 11th October 1979, p.1133).

The nine-point Agreement between the Federal Chancellor and the heads of the Laender governments eliminates in particular the difficulties which had arisen when the State of Lower Saxony decided that the reprocessing plant which was to be erected at Gorleben could not be built for the time being for political reasons. Thus the "integrated Entsorgungszentrum", which, in order to avoid the transportation risks, was to provide for a reprocessing plant as well as a place for the final storage of radioactive waste, has been questioned.

The Agreement upholds in principle the original concept of "Entsorgung"; it does, however, permit other technologies of "Entsorgung" to be examined as to their feasibility. For a limited period, the capacity for temporary storage of nuclear fuels will be enlarged.

THIRD PARTY LIABILITY

Review of the Limited Liability of Nuclear Operators

On the occasion of the Sixth German Nuclear Law Symposium which was held in Münster on 8th and 9th October 1979 a high level representative of the Federal Ministry of the Interior questioned the system of a limited liability for the operators of nuclear installations as established by the Atomic Energy Act (one thousand million D.M.) saying that he was in favour of introducing a system of unlimited liability. In his view, there is no logical reason to limit liability to a given amount especially since the Harrisburg events underline the need to guarantee unlimited compensation for victims of a nuclear incident.

• *Japan*

NUCLEAR LEGISLATION

Amendment of the Regulation Law (1979)

The 1957 Law for the Regulation of Nuclear Source Materials, Nuclear Fuel Material and Reactors (The Regulation Law) (see Nuclear Law Bulletin Nos. 11 and 22) was amended to permit the reprocessing of spent fuel by private industry. The amendment was adopted by the Diet on 1st June 1979.

The revised Regulation Law specifies the conditions to be complied with by private companies engaging in reprocessing work. Until now, only two bodies, the Power Reactor and Nuclear Fuel Development Corporation (PNC) and the Japan Atomic Energy Research Institute (JAERI) were authorized to undertake such activities. The amendments now enable private companies to be approved and designated by the Government to carry out this work.

According to the Japanese Government, the experience gained in the construction and testing at the Tokai Reprocessing Plant is conclusive; and safety can be assured by the Government which will continue to supervise and control safety procedures both during the pre-operational stage and during operation. Furthermore, proper care will be taken in the selection of approved undertakings.

The Federation of Electric Power Companies has decided to set up a new company for irradiated fuel reprocessing at the end of 1979.

• *Netherlands*

THIRD PARTY LIABILITY

Act of 17th March 1979 approving the Paris Convention and the Brussels Supplementary Convention

On 17th March 1979 the Netherlands adopted an Act approving the Convention on Third Party Liability in the Field of Nuclear Energy, signed in Paris on 29th July 1960 and its Additional Protocol, signed in Paris on 28th January 1964, as well as the Convention Supplementary to that Convention, signed in Brussels on 31st January 1963 and its Additional Protocol, signed in Paris on 28th January 1964. This Act entered into force on 28th December 1979 thus bringing into force on that date the Paris Convention and the Brussels Supplementary Convention in the Netherlands.

For the ratification of both Conventions, see "Multilateral Agreements" in this issue of the Bulletin.

Act of 17th March 1979 embodying Regulations on Third Party Liability for Damage caused by Nuclear Incidents: Nuclear Incidents (Third Party Liability) Act

The new Netherlands Nuclear Incidents (Third Party Liability) Act, the text of which is reproduced in the Supplement to this Bulletin, was published in the Netherlands Official Gazette of 17th March 1979. The Act entered into force on 28th December 1979.

This Act adopts the definitions in the Paris Convention concerning the terms "incident", "installation", "nuclear substance", "operator" and "damage".

Under this Act the maximum amount of liability of the operator of a nuclear installation in the Netherlands is set at 100 million guilders in accordance with Article 7(b) of the Paris Convention; it also implements the Brussels Supplementary Convention's compensation mechanism. However, Section 28(a) of the new Act provides that if damage is suffered on the Netherlands territory as a result of a nuclear incident for which compensation is payable pursuant to the Brussels Convention or to this Act and the funds available for this purpose are insufficient to secure compensation of such damage to an amount of one thousand million guilders, the State shall make available the public funds needed to compensate such damage up to that amount.

This ceiling of one thousand million guilders for compensation of nuclear damage suffered in the Netherlands is new as compared to the text of the Netherlands Bill on Liability for Damage caused by Nuclear Incidents.*

If the operator of an installation cannot obtain financial security as provided for under the Article 10(a) of the Paris Convention, the Minister of Finance who is the competent public authority in this respect in the Netherlands, may enter into insurance contracts on behalf of the State as insurer, or provide other guarantees. Also, if the funds available from another financial security are insufficient to compensate damage for which the operator is liable, the State will make public funds available to that operator up to his maximum liability. In such case, the Minister of Finance is entitled to exercise on the operator's behalf, all the rights and obligations of that operator or any such rights and obligations as he may determine for settlement of the damage concerned.

Without prejudice to the time-limit fixed by Article 8 of the Paris Convention, any action for compensation of damage is extinguished after three years from the day the person concerned has had knowledge or ought reasonably to have known of the damage and the operator liable. Article 2013 of the Netherlands Civil Code applies in like manner.

The District Court at the Hague is competent in the first instance in the Netherlands in accordance with Article 13 of the Paris Convention, and also the Court referred to in this Act.

* See Nuclear Law Bulletin No. 18 as well as the analysis of the liability system for operators of land-based nuclear installations in the Netherlands, in the Nuclear Third Party Liability Vol. of the Nuclear Legislation Analytical Studies, NEA/OECD, 1976.

• *Norway*

RADIATION PROTECTION

1978 Regulations on protective measures during work involving ionizing radiations

These Regulations of 31st March 1978 on special protective measures to be taken during work involving ionizing radiations were published in the Official Norwegian Gazette of 29th May 1978. The Regulations, which were made by the Directorate of the Labour Inspectorate in implementation of Act No. 4 of 4th February 1977 on the protection of workers and their working environment, prescribe that workers should undergo a medical examination before commencement of work, and every three years throughout their employment. All radiation doses must be measured and a list kept of personnel exposed to radiation. Reports in this respect must be submitted to the Labour Inspectorate.

A Resolution on the subject by the Crown Prince Regent, dated 21st November 1947 was repealed on 21st April 1978 (published in the Official Norwegian Gazette of 5th May 1978).

• *Portugal*

ORGANISATION AND STRUCTURE

Further reorganisation of nuclear activities in Portugal (1979)

Decree-Law No. 358/76 of 14th May 1976 prescribed the general reorganisation of the Ministry of Industry and Technology, which was further reorganised under Decree-Law No. 548/77 of 31st December 1977. This latter Decree-Law decided, inter alia, the abolition of the Junta de Energia Nuclear whose activities were redistributed to other administrative departments in the Ministry under Decree-Law No. 126/78 of 22nd May 1978 (see Nuclear Law Bulletin No. 22).

The Ministry of Industry and Technology has since issued the following series of Ordinances in furtherance of the reorganisation of the Ministry:

- Ordinance No. 50/79 of 19th February 1979 (published in the Official Gazette of 9th March 1979) which, pending the elaboration of a new licensing Decree for nuclear installations intended to supersede Decree No. 487/72 of 5th December 1972, defines the composition of the Co-ordinating Group on the Licensing of Nuclear Installations and its tasks. This Group was set up by Ordinance of 30th March 1976 and comprised representatives of several, now extinct, departments

of the Junta de Energia Nuclear, which, inter alia, warrants this change. Under this Ordinance, the Group is made up of representatives of the Nuclear Protection and Safety Bureau (GPSN), the General Directorate for Energy (DGE) and the Radiation Protection Section of the National Laboratory of Industrial Engineering and Technology (INETI). The Group's work includes assessment of the status of present licensing activities, recommendation of measures for the transfer of the licensing process to the new bodies which will be responsible for this task.

- Ordinance No. 172/79 of 25th June 1979 (published in the Official Gazette of 2nd July 1979) which defines the responsibilities in the field of international nuclear co-operation of the General Directorate for Energy (DGE) and the National Laboratory of Industrial Engineering and Technology (INETI). The Ministry of Foreign Affairs is competent for all international relations, and is assisted by the DGE, which is responsible for Portuguese representation generally at the international level and the INETI which is responsible for co-operation in technical matters within its specific competence.
- Ordinance No. 204/79 of 16th July 1979 (published in the Official Gazette of 1st August 1979) which establishes the five different research and development sectors within the Ministry and their fields of competence. These five sectors respectively cover physics, nuclear reactors, radioisotope production and application, chemistry and biology.

Decree-Law of 8th August 1979 determining the structure and competence of the National Laboratory of Industrial Engineering and Technology

Decree-Law No. 361/79 by the President of the Republic (published in the Official Gazette of 1st September 1979) determines the structure and scope of the INETI which was set up by Decree-Law No. 548/77 (see above) and now includes the Nuclear Physics and Engineering Laboratory of the Junta de Energia Nuclear and its central services. The nuclear activities of the INETI are divided into three sectors: the Department for Radiological Protection and Safety, responsible for radiation protection in nuclear installations and for the safety of nuclear equipment; the Department for Energy and Nuclear Engineering, responsible for R & D in nuclear engineering and for nuclear energy production; and finally, the Department for Nuclear Science and Technology, in charge of R & D in nuclear science and of promoting the application of nuclear technology for peaceful purposes.

• *South Africa*

REGIME OF RADIOACTIVE MATERIALS

Hazardous Substances Amendment Act, 1976

The Hazardous Substances Amendment Act No. 16 of 15th March 1976 (published in the Government Gazette of 31st March 1976) amends the

Hazardous Substances Act No. 15 of 1973 (see Nuclear Law Bulletin No. 15) for the purpose of controlling the sale, use and application of certain hazardous substances. The main amendments therefore make provision for a licensing system for substances classified as hazardous under Groups I and III and for premises where substances in the latter Group are held.

• *Sweden*

REGIME OF NUCLEAR INSTALLATIONS

1979 Act on prohibition to load nuclear reactors with nuclear fuel

This Act, the so-called "time-for-consideration Act" was promulgated on 7th June 1979 and came into force on 19th June 1979. Under the Act, a nuclear reactor which has not been loaded with nuclear fuel before 19th June 1979 must not be loaded with nuclear fuel before the end of June 1980 or any earlier date which may be decided by the government, even if there are no obstacles against such loading under other acts of law. If this Act prevents the operator of the nuclear reactor from using a licence granted under the 1977 Act on special permits to load reactors with nuclear fuels (see Nuclear Law Bulletin Nos. 19 and 20) he is entitled to compensation from the State for losses resulting from the delay in putting the reactor into operation. However, if the operator neglects to take reasonable measures in order to limit such losses, compensation is reduced correspondingly. Any person who intentionally or by carelessness violates the provisions of this Act shall be sentenced to a fine or to a term of imprisonment for a maximum of two years.

This Act is the consequence of an agreement between the five political parties in the Swedish Parliament to subject the whole question of nuclear power in Sweden to a referendum in March 1980. A referendum in Sweden is formally only optional. The decision to organise a referendum and the questions to be subjected to the people must be made in a special act of law. This law is not yet instituted as the questions have not been finally formulated for the Parliament's approval.

Application for a special permit based on the Act on the loading of nuclear reactors with nuclear fuel*

In December 1977, the Swedish State Power Board applied to the Government for special permission to load the Ringhals 3 nuclear reactor with nuclear fuel. A similar application concerning the Forsmark 1 nuclear reactor was made in April 1978.

This special permission is required under Section 2 of Act No. 140 of the 21st April 1977 (see Nuclear Law Bulletin No. 20 - Texts). In accordance with the Act, the special permission is granted only if the operator:

* The purpose of this note is to provide an example of how the licensing procedure for nuclear installations functioned in Sweden before the moratorium.

- produces a contract which adequately provides for the reprocessing of spent fuel and also demonstrates how and where the highly radioactive waste resulting from reprocessing may be disposed of finally with absolute safety, or
- shows how and where the spent, but not reprocessed nuclear fuel, can be stored with absolute safety.

The Swedish State Power Board supplied the following documents in support of its application:

- Agreements reached on 19th April 1977 and 16th March 1978 between the Svensk Kärnbränsleförsörjning AB (The Swedish Nuclear Fuel Supply Company - SKBF) and the French Compagnie Générale des Matières Nucléaires (COGEMA) concerning the transport, storage and reprocessing etc. of spent nuclear fuel discharged, in particular, from Ringhals 3 until 1990;
- an Agreement reached on 21st April 1977 between SKBF, the Swedish State Power Board and Sydkraft AB defining the rights of the Swedish State Power Board with respect to the reprocessing agreement entered into on 19th April 1977. (A similar agreement between the same parties was concluded on 5th April 1978 concerning the above mentioned reprocessing agreement of 16th March 1978);
- a report on the first stage of the work of a Special Project Group - Project Kärnbränslesäkerhet (The Nuclear Fuel Safety Project - KBS) - dealing with the final storage of the high-level waste obtained from reprocessing.

The application of the State Power Board was circulated for comment to twenty-four Swedish agencies.

In response to this application, the Swedish Government made the following Resolution on 5th October 1978: the reprocessing agreement concluded by the applicant was in compliance with Act No. 140. However, the Government, for full compliance with the provisions of the Act, required additional geological studies to enable the applicant to secure the absolute safety of the storage site selected. The characteristics to be considered were the rock formations, the depth and thickness of the layers In its opinion the Government noted that while Act No. 140 did not require that the applicant should specify the definite site for the repository, he should nevertheless demonstrate the existence of areas with the required characteristics. Pending the results of this investigation, the Government postponed its approval.

In a communication of 20th February 1979, the State Power Board declared (with a report in evidence) that the additional geological investigations had been completed in accordance with the Act, and made a new application to load Ringhals 3.

Following this new application, the Government directed the Swedish Nuclear Power Inspectorate to review the State Power Board's application. The Inspectorate concluded in its findings that the measures taken satisfied both the requirements of the Act and the conditions imposed by the Governmental Resolution of 5th October 1978.

In its report, the Inspectorate considered that the studies by the KBS demonstrated the existence of rock formations with the required characteristics and that the research methods and analyses by the KBS were appropriate. While recognizing that these new studies showed that

there were favourable practical possibilities for a repository for high-level radioactive waste, the Inspectorate did not consider that it was in a position to conclude that such possibilities did effectively exist. However, the Inspectorate did not think it necessary to undertake new investigations; its previously-stated favourable opinion should not be reconsidered as a result of the additional studies made by the KBS.

The Government therefore approved the application. The permit granted on 26th April 1972 in accordance with Act No. 306 of 1956 (Section 4 of the Atomic Energy Act) is replaced by the new permit which provides for the operation of the Ringhals 3 reactor until 1990, when a new permit will be necessary to continue operating the reactor. This also applies to Forsmark 1. The Government also asked the State Power Board to continue its investigations on final waste storage.

• *Switzerland*

NUCLEAR LEGISLATION

Ordinance of 17th May 1978 on definitions and licences in the atomic energy field

The Swiss Federal Council issued an Ordinance on 17th May 1978 containing new definitions of radioactive materials and specifying the licences issued in Switzerland as well as the conditions for import, export and transit of such materials.

The definitions concern nuclear fuels, residues and atomic facilities which are not subject to the licensing system, to third party liability or compulsory insurance. These are facilities which are used solely to store or make harmless nuclear fuels or residues with a total activity below one curie.

The Federal Department of Transport, Communications and Energy is the competent authority for licensing the construction and operation of atomic facilities. The Federal Office of Energy Economy is competent for all other licences.

Activities involving import, export and transit are subject to licences issued by the Federal Office of Energy Economy. When an application for export is of a particular political or economic significance, the Office takes a decision with the concurrence of the Federal Political Department and the Trade Division of the Federal Department of Public Economy. The licence cannot be transferred and is valid for six months only; it may be extended on reasoned request.

Import, export and transit operations may only take place in the main customs offices.

The applications, containing all the information required, must be sent to the Federal Office of Energy Economy.

The Annex contains a list of materials subject to this importation and exportation system and the guidelines on nuclear transfers by the nuclear exporting countries (London Club).

The Ordinance came into force on 1st July 1978 and repeals the previous Ordinance of 13th June 1960.

RADIATION PROTECTION

Ordinance of 30th August 1978 on the training of personnel in radiation protection

This Ordinance, which came into force on 1st October 1978, sets up a system of federal subsidies which are granted for training expenses and for furthering knowledge in the radiation protection field.

The courses are organised either by private institutes or by the Confederation. They are intended for technical assistants in medical radiology (ATRM) and for personnel in undertakings governed by the Federal Act on Sickness and Accident Insurance.

Requests for subsidies must be sent to the Federal Public Health Service.

REGIME OF NUCLEAR INSTALLATIONS

Ordinance of 11th July 1979 specifying the procedure applicable concerning the general licence for atomic installations with regard to holders of a site licence

The Federal Assembly of the Swiss Confederation approved the Federal Order concerning the Atomic Energy Act on 6th October 1978 (see Nuclear Law Bulletin No. 22); this Order was submitted to a referendum on 18th February 1979 (see Nuclear Law Bulletin No. 23) and came into force on 1st July 1979.

In implementation of Section 9 of this Federal Order, the Swiss Federal Council made an Ordinance on 11th July 1979 which specifies the procedure for the general licence. Section 1 of the Ordinance provides for a simplified procedure for operators who, having already obtained a site licence, apply for a construction licence. In such cases, the competent authority simply determines whether the energy produced in the installation is likely to meet a real need in the country.

In his application for a licence, the applicant must demonstrate that the energy produced in his installation meets a real need in the country.

The application is then published in the Federal Gazette; it is submitted for discussion and any person may raise objections addressed in writing to the Federal Chancellery within ninety days of publication. Finally, the Federal Council transmits the application, the opinions and the objections to the Energy Commission for expert advice.

This Federal Order came into force on 1st August 1979.

ENVIRONMENTAL PROTECTION

Ordinance of 18th March 1977 concerning the collection and despatch of radioactive waste

On 18th March 1977, the Swiss Federal Department of the Interior issued an Ordinance on Collection and Despatch of Radioactive Waste. It provides for the following four operations: waste collection, treatment, packaging and despatch.

Collection includes the separation of radioactive waste from other waste. The radioactive waste is then placed in special containers which must be lined with a resistant polyethylene bag. A label must be fixed to the bag, providing information on the date it was sealed, the radio-nuclides it contains and their estimated activity.

Treatment varies according to the nature of the waste:

- liquid waste must be solidified;
- chemically reactive and toxic waste which represents an additional hazard must be neutralized and made harmless before being placed in the containers;
- biologically unstable waste must be subjected to autolysis so as to be made stable;
- waste which contaminates the air must be placed in hermetically sealed packages.

Several conditions must be complied with during packaging operations. Only standardized drums with seal-proof fastenings can be used as transport containers. These same containers must be sealed before despatch and bear visible labels indicating the nature of the waste despatched.

Transport is subject to the special regulations on the transport of dangerous goods by rail, boat and road.

A despatch form containing all useful information on the waste carried is prepared for each container and must be submitted to the Federal Public Health Service, Radiation Protection Section, five days prior to the despatch of the transport containers to the collecting centre.

• *Turkey*

ORGANISATION AND STRUCTURE

Reorganisation of the Nuclear Safety Department (1979)

The Nuclear Safety Department has been reorganised in 1979 in the context of a general reorganisation of the nuclear framework in Turkey

(see Nuclear Law Bulletin Nos. 15, 16 and 22). A new division has been created and is entitled "the Division of Safeguards and Physical Protection of Nuclear Material". This Division comprises three groups:

- (a) The Physical Protection Group;
- (b) The Nuclear Material Accounting Group;
- (c) The Inspectorate Group.

• *United Kingdom*

THIRD PARTY LIABILITY

The Nuclear Installations (Guernsey) Order 1978

The Nuclear Installations (Guernsey) Order 1978 dated 24th October 1978 (SI No. 1528) came into operation on the following day. This Order extends to Guernsey, with the exceptions, adaptations and modifications specified in the Schedule to the Order, certain provisions of the Nuclear Installations Act 1965, as amended. It is this Act which implements the Paris Convention on Third Party Liability in the Field of Nuclear Energy and the Brussels Supplementary Convention in the United Kingdom (see Supplement to Nuclear Law Bulletin No. 1 and Nuclear Law Bulletin Nos. 3 and 4).

The provisions so extended impose a duty on the nuclear operator to secure that no nuclear occurrence due to transport of nuclear material taking place within the territorial limits of Guernsey causes nuclear injury or damage, and relate to the right to compensation for breach of that duty as well as to the bringing and satisfaction of claims and certain ancillary provisions. A similar Order in Council was made in relation to the Isle of Man in 1977 (see Nuclear Law Bulletin No. 20).

CASE LAW

• France

LEGALITY OF DECREE AUTHORIZING THE CEA TO SET UP A SUBSIDIARY COMPANY

On 24th November 1978, the Council of State (Conseil d'Etat), at the suit of the "National Union of Nuclear Energy Personnel and Others" delivered a judgment confirming the legality of the Decree of 26th December 1975 authorizing the Commissariat à l'Energie Atomique (CEA) to set up, with the necessary assets and corresponding liabilities, a company (the COGEMA) for the purpose of carrying on in France and abroad any industrial and commercial activity relating to the nuclear materials cycle as determined by Section 2 of the Decree of 20th September 1970 on the duties of the CEA. This same petition before the Council of State also requested the annulment of the Decree of 4th March 1976 approving the Statute of the General Company for Nuclear Materials (COGEMA), set up in accordance with the above-mentioned Decree of 26th December 1975.

The plaintiffs contended that these Decrees violated the provisions of Section 34 of the Constitution which lays down that rules concerning the transfer of ownership of undertakings from the public to the private sector should be fixed by Act of Parliament only. According to this decision, the Council of State acknowledges the legality of the Decree of 26th December 1975 vis-à-vis the provisions of Section 34 of the Constitution to the extent that the CEA holds a majority of the capital of the COGEMA.*

In application of this same principle, the Council of State on the other hand annulled in part the above-mentioned Decree of 4th March 1976, insofar as this Decree does not provide that the COGEMA has to retain ownership of half the capital of the subsidiary companies it might subsequently set up.

It should be specified that these decisions concern transfers of activities in undertakings and not holdings or increased holdings by public bodies in private companies.

* Section 2 of the Decree concerned provides that the CEA must hold at least a majority of the authorized capital of the company (the COGEMA) it is allowed to set up; therefore the COGEMA belongs to the public sector

The above decisions of the Council of State relate only to contributions in kind, not in cash and, more specifically, to additional activities corresponding to the transfer of an undertaking or of one of its activities. Therefore, the two decisions of 24th November 1978 by the Council of State do not in any way modify the question of authorizing holdings. (On the same day, the Council of State delivered an identical judgment concerning a petition for annulment on the same grounds of a Decree authorizing the ELF-ERAP Company to transfer its assets to a subsidiary.)

This explains the publication in the Official Gazette of several joint orders by the Ministers of Economy and Industry, a few days after these decisions, authorizing the CEA to subscribe for capital increases or for minority holdings in the capital of certain private undertakings.

These two decisions therefore provide a useful clarification of Section 34 of the Constitution concerning the concepts of the public sector and transfer from the public to the private sector.

The public sector comprises:

- public bodies;
- bodies corporate in private law a majority of the capital of which is held, jointly or separately, by public bodies or by bodies corporate in private law a majority of the capital of which is held, jointly or separately by public bodies.

"Transfer of ownership" means devolution of property, rights and obligations. If such transfer does not enable the public undertaking to hold a majority of the capital of the undertaking benefiting from the transfer, the latter may be effected by means of an Act of Parliament only.

• Italy

DECISION OF THE SUPREME COURT ON 9TH MARCH 1979 CONCERNING THE SITING OF NUCLEAR POWER PLANTS

By this decision, the Supreme Court (Corte di Cassazione) acknowledged the competence of the ordinary courts in cases concerning "prior technical enquiries" in order to protect real property ownership rights against possible damage caused by the siting of a nuclear power plant.

This decision is the outcome of proceedings brought before the Court of Vercelli by the owners and cultivators of agricultural farms located in the provinces of Alessandria and Vercelli against the region of Piedmont, ENEL (state body which has a monopoly of electricity generation) and CNEN (state nuclear consultative body on technical and scientific matters).

Under Act No. 393 of 2nd August 1975 on requirements for the siting of nuclear electricity generating plants (see Nuclear Law Bulletin No. 16), the CIPE (the Interministerial Committee for Economic Planning) had decided to erect a 2,000 MWe nuclear power plant in the region of Piedmont.

The CNEN, which was entrusted with the technical investigation concerning site selection had, in accordance with the above Act, selected the Alessandria and Trino Vercellese areas as suitable.

The plaintiffs contended that the Trino area possessed unfavourable characteristics for siting the planned nuclear power plant. These were, inter alia, the geology of the land, the existence of underground water, at shallow level, needed for the population and for cattle, the existence of numerous irrigation canals, agricultural crops and finally, other nuclear installations.

For the above reasons, the plaintiffs had asked the President of the court to order a "technical enquiry" under Section 695 of the Italian civil rules of procedure. These findings were to cover climatic conditions and the general environment of the Trino area and neighbouring areas which were likely to be affected by the projected plant siting. The plaintiffs were of the opinion that such an enquiry was necessary in case an action for damages, which would fall within the competence of the ordinary court, was brought.

ENEL opposed this petition and asked for a prior ruling on the competence of the ordinary court, which was what the Supreme Court was called upon to decide. ENEL argued that the concern of the plaintiffs to avoid a risk of damages in the future did not constitute a "subjective right" under Italian law and therefore, could not be the object of legal action. The risk that the petition for a "technical enquiry" would hinder the development of the administrative procedure laid down by the law was also invoked to oppose the competence of the ordinary court. The Supreme Court rejected these arguments and ruled that the personal interests of the plaintiffs were to be considered as "subjective rights" to the extent that they concerned the protection of health and of property against actions likely to affect the environment. The Supreme Court therefore confirmed the competence of the ordinary court to examine proof of damage which might be suffered and the corresponding action for damages.

INTERNATIONAL ORGANISATIONS AND AGREEMENTS

INTERNATIONAL ORGANISATIONS

• *The OECD Nuclear Energy Agency*

REVISION OF THE PARIS CONVENTION AND THE BRUSSELS SUPPLEMENTARY CONVENTION

Work on the modernization of the Paris Convention of 29th July, 1960, on Third Party Liability in the Field of Nuclear Energy, and of the Brussels Convention of 31st January, 1963, supplementary to the Paris Convention, was carried out by the Group of Governmental Experts on Third Party Liability in the Field of Nuclear Energy (called below "the Group of Experts") in accordance with the mandate given to it by the Steering Committee for Nuclear Energy which is the Agency's governing body.

The Group of Experts comprises representatives of the Signatory countries of the Paris and Brussels Conventions together with observers from other interested NEA Member countries: representatives of the Commission of the European Communities and of IAEA as well as observers from non-governmental organisations (International Union of Producers and Distributors of Electrical Energy and the European Insurance Committee) take part in the work of the Group.

The Group of Experts came to the conclusion that to maintain the efficiency of the system instituted by the Paris Convention and the Brussels Supplementary Convention, a number of amendments should be made to the text of these two Conventions. The first of these changes consists in replacing the current unit of account of the Conventions which is based on an official price of gold, now abolished, by the Special Drawing Right (SDR) of the International Monetary Fund, the use of which as a new international unit of account has become more and more widespread. Moreover, in view of the inevitable delay before the entry into effect of this amendment with respect to each of the Conventions, the Group of Experts proposed that the Council adopt a Recommendation under which the Contracting Parties would be invited, in the interim, to implement the provisions of the two Conventions which refer to amounts expressed in European Monetary Agreement units of account as if these amounts

were expressed in Special Drawing Rights of the International Monetary Fund. This would allow serious difficulties to be resolved which, otherwise, might arise in the event of a nuclear incident involving, in particular, the implementation of the Brussels Supplementary Convention.

In addition to the upheaval in the international monetary system, the Signatories of the two Conventions have suffered the effects of inflation, so that the purchasing power of the amounts established by the Conventions has been significantly eroded since the date of their adoption. It did not prove possible to obtain a general agreement to restore the value of the liability amounts established by the Paris Convention, which amounts therefore remain unchanged; on the other hand, agreement was reached to increase the compensation amounts provided for by the Brussels Supplementary Convention in a way calculated to take into account at the same time the average effect of inflation suffered by the Signatories, as well as the technical and financial consequences of the changes of the unit of account. The Group of Experts were of the opinion that the amount of 70 million corresponding to the tier of compensation payable by the State in which the installation concerned is located should be raised to 175 million, and the amount of 120 million corresponding to the ceiling of the joint contribution by the Contracting Parties should become 300 million. These amounts expressed in Special Drawing Rights respectively correspond to 230 million dollars and 390 million dollars in round figures. Also, the amount of liability of the nuclear operator fixed at 15 million by the Paris Convention, when expressed in SDRs reaches approximately 20 million dollars.

In addition, the Group of Experts proposed, in the light of experience gained in the application of the two Conventions, the adoption of a number of amendments whose purpose generally is to facilitate the implementation of the Conventions or to further harmonize their application. Several of these amendments consist, moreover, in putting into effect, in the text of the Conventions, the content of Recommendations previously adopted by the Steering Committee and already incorporated in the national legislation of several Signatory countries.

At its meeting on 18th October 1979, the Steering Committee for Nuclear Energy approved the principles of the amendments proposed by the Group of Experts as well as the explanatory report presented by the latter. The Steering Committee therefore recommended that the draft instruments of revision be submitted to the OECD Council with a view to their formal adoption. The instruments may be signed in the early part of 1980.

NUCLEAR LAW DATA PROCESSING FOR INIS

For many years now in the context of its work on harmonization of legislative and regulatory provisions, the OECD Nuclear Energy Agency (NEA) has been collecting and disseminating information on developments in nuclear law at both the national and the international level. These activities have been facilitated by a network of national legal correspondents who provide information for publication in the Nuclear Law Bulletin and assist in the preparation of analytical studies on nuclear legislation. Together with its increasing collection of legal material the flow of requests for information on nuclear law led NEA to seek further means of expanding its role in that field, having regard to the fact that the multiplication of computer-based legal information systems, both at national and international levels, demonstrated that conventional information system were no longer adequate to deal with the increasing volume of information and with users' needs.

The International Atomic Energy Agency (IAEA) had, for its part, developed a computerized system for dissemination of nuclear information on a world-wide level, the International Nuclear Information System (INIS) which also covers nuclear law, although initially, coverage of the latter lacked comprehensiveness. Both NEA and IAEA therefore came to the conclusion that collaboration in this sector would be useful in that an NEA contribution would help to expand the INIS nuclear law subject category and at the same time provide NEA with the means of satisfying large-scale requests for information from the legal community.

As a result, NEA has been processing since 1976 nuclear law data from its interested Member countries* for transmission to INIS; and on 2nd and 3rd April 1979 both Agencies organised in Paris an interdisciplinary Workshop on Nuclear Law Data Processing for INIS (see Nuclear Law Bulletin No. 23). The Workshop brought together for the first time, lawyers and specialists in the management of computerized nuclear information systems for the purpose of discussing the methods used to input legal data and to harmonize them; and also to inform lawyers on the services now provided and to compare these services with their needs.

As a follow-up of the Workshop, NEA prepared a Report which, in addition to containing a record of the meeting, describes its practices for processing nuclear law data, analyses the particular problems likely to be met, given the characteristics of nuclear law, and proposes the solutions applied.

With the exception of its third party liability system which applies the concept of channelling liability onto the operator irrespective of fault, nuclear law does not apply particularly innovative legal techniques. It is characterized on the other hand by a number of features which should be taken into consideration when processing nuclear law data for a computerized information system. In the first place, the State is, to a great extent, involved in all stages of the elaboration and implementation of nuclear law; secondly, nuclear law is wide-ranging, covering fields as diverse as public health (radiation protection), industry (licensing system for nuclear installations, transport (radioactive materials), third party liability, medicine (radioisotopic uses), security control etc. Furthermore, the principles of nuclear law are largely drawn from the variety of treaties, conventions and regulations elaborated by international bodies competent in the nuclear field, which gives this law an international character.

The need to process texts from countries with different legal systems and languages poses practical problems for an international computerized information system, which strives for a standardized terminology and uses a widely-read language (English) since its very purpose is to provide easily-accessible information on a world-wide scale. Solutions or adjustments have been found for these, and other problems of a technical nature encountered in the processing of nuclear law data for INIS and are described in detail in the above-mentioned Report. It may be noted that legal descriptors (or keywords) have been harmonized, due account being taken of the different legal concepts and, to the extent possible, translations of the legislative and regulatory texts processed are entered in the System in addition to abstracts in English and French and the full text in the original language.

* Australia, Austria, Belgium, Denmark, Finland, France, Italy, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Given the international aspect of nuclear activities, demonstrated by the expansion of trade in nuclear materials and equipment and their transport, users and potential users of the INIS nuclear law data base should include, in addition to lawyers specialised in nuclear matters, representatives of other disciplines who, for professional reasons, need to be kept informed of developments in nuclear law in their country and abroad - hence the usefulness of an international computer-based legal information system such as INIS, geared to meet such needs. With this objective, NEA is progressively constituting a nuclear law data base for each of its interested Member countries in order to provide a speedy access to information which is not readily available otherwise.

ORIENTATION PHASE OF THE INTERNATIONAL URANIUM RESOURCES EVALUATION PROJECT

Several years ago, the Nuclear Energy Agency, in co-operation with the International Atomic Energy Agency (IAEA), undertook an evaluation of uranium resources on a world-wide scale and reviewed the possibilities of discovering new deposits. The results of this work which was conducted in the framework of the "International Uranium Resources Evaluation Project" (IUREP) aroused great interest in specialised circles.

Following this first evaluation, several Member countries decided to make a more detailed study covering a number of countries where appreciable quantities of undiscovered uranium resources, called speculative resources, might be found. The purpose of this study will be to collect the information required to set up future uranium prospecting programmes, in collaboration with countries which have such resources. The method selected will consist of sending investigation missions to these countries in order to prepare more detailed reports on the geological characteristics of favourable areas and the different factors influencing uranium prospecting, so as to attain a more reliable judgement of the resources and to make suggestions on further prospecting efforts.

Six interested OECD countries (France, the Federal Republic of Germany, Italy, Japan, the Netherlands and the United States) and the Commission of the European Communities (CEC) have agreed to conduct this study in the framework of a new project called the "IUREP Orientation Phase". An Executive Group made up of representatives of the Participants supervises the work and, in particular, is responsible for preparing the evaluation programme to be carried out and the estimates of expenditure, selecting the countries for which an investigation mission of speculative uranium resources will be considered, and selecting, from the candidates proposed by the Participants, the specialists to be entrusted with such missions. Participants in the project are either the Governments of the above-mentioned countries, or bodies designated by these governments, as well as the CEC. The OECD Nuclear Energy Agency provides the framework for setting up and implementing the project, in collaboration with the IAEA.

The terms and conditions for implementation of the IUREP Orientation Phase were approved by the OECD Council in July 1979. It entered into force on 15th July 1979.

• *International Atomic Energy Agency*

CONVENTION ON THE PHYSICAL PROTECTION OF NUCLEAR MATERIAL

The negotiation of a Convention on the Physical Protection of Nuclear Material, which started in Vienna two years ago under the aegis of the International Atomic Energy Agency, was concluded on 26th October 1979. Fifty-eight countries, as well as the European Atomic Energy Community, participated in the preparation of the Convention which will now be transmitted to governments. The Convention will be opened for signature on 3rd March 1980 simultaneously at the IAEA Headquarters in Vienna and at the United Nations in New York. It requires twenty-one ratifications for its entry into force and the depositary functions are entrusted to the IAEA.

The Convention establishes standard measures of physical protection to apply to nuclear material during international transport. It requires the Contracting Parties to provide for punishment of a number of defined serious criminal offences involving nuclear material. Parties will also co-operate in preventative measures and information exchange with regard to acts such as theft, sabotage and extortion involving nuclear material.

The levels of physical protection to be applied in international transport and a categorization of nuclear material for such purposes are set out in the Annexes which constitute an integral part of the Convention. Amendments to the Convention require acceptance by two thirds of the Contracting Parties to become effective. The Convention further provides that five years after its entry into force a conference of Contracting Parties will be convened by the IAEA to review the implementation of its provisions.

The Convention, which is the first international agreement on the physical protection of nuclear material, is viewed as a significant step forward in international co-operation in the peaceful uses of nuclear energy. (The text of the Convention is reproduced in the "Texts" Chapter of this Bulletin.)

INTERNATIONAL CO-OPERATION IN NUCLEAR SAFETY

In May 1979 the Director General of the IAEA received communications from the Governments of Brazil, the Federal Republic of Germany and Sweden concerning the desirability of amplifying the IAEA activities in nuclear safety. These communications have been circulated to Member States in document INF/CIRC/270.

In the communication from the Government of Brazil, the IAEA is urged to give, within the framework of its activities, prompt and special attention to the safety of nuclear power plants. The Government of the Federal Republic of Germany suggests that a principal activity for international co-operation might be an objective study of the safety of nuclear power plants, with an examination of issues such as (1) an evaluation of safety concepts, (2) a comparison of basic safety requirements, (3) an exchange of views on the future development of safety concepts and (4) intensified international co-operation in safety research and engineering. The

Government of Sweden emphasizes the need to harmonize safety rules and regulations in force in various countries and to identify safety areas suitable for international agreements and, if convenient, is prepared to host a meeting on these matters.

In June 1979, the Director General submitted to the Board of Governors proposals for strengthening the IAEA role and programmes in nuclear safety activities in the light of the recommendations made by a group of experts convened by him on 22nd to 23rd May. The Board approved the proposals and authorized him to proceed with the implementation of a supplementary nuclear power safety programme to the extent that voluntary contributions were made in 1979 for that purpose by Member States.

REVISION OF THE IAEA BASIC SAFETY STANDARDS FOR RADIATION PROTECTION

The 1967 Edition of the IAEA Basic Safety Standards for Radiation Protection (Safety Series No. 9) is in the process of being revised in order to take into account the latest recommendations of the International Commission on Radiological Protection (ICRP), published in 1977 in ICRP report No. 26. The revision, which is co-sponsored by the International Labour Organisation, the World Health Organisation, the NEA and the IAEA, is co-ordinated by a joint secretariat. A first draft revision prepared by an advisory group in October 1977 was circulated in March 1978 to Member States and interested international organisations for comments. In the light of the comments received, the advisory group recommended in October 1978 that the revised Basic Safety Standards consist of three parts:

- Part I would be a model regulatory document for implementation of the dose limitation system recommended in ICRP report No. 26 and would include definitions of the terms used;
- Part II would address itself to operational requirements and give guidance on how the new ICRP concepts can be applied in practice;
- Part III would provide explanatory and advisory material on the safety principles and philosophy underlying the requirements set out in Parts I and II; it would also give guidance on methods for implementing the dose limitation system.

The drafts of Parts I and II prepared by the IAEA Secretariat, and of Part III prepared by the Chairman of ICRP Committee 4 (which deals with the practical application of ICRP recommendations), were circulated to the Member States of all the sponsoring organisations and to other interested international organisations by the end of 1979. A third meeting of the advisory group will study the comments received and prepare a final draft revision in the autumn of 1980, by which time it is hoped that sufficient experience will have been gained in the application of the ICRP dose limitation system. It is thus expected that the revised Basic Safety Standards could be submitted to the governing bodies of each sponsoring organisation for approval in 1981.

The implementation of the ICRP recommendations contained in its report No. 26 raises a number of practical problems; it is apparent that some applications of the concepts of the dose limitation system will be introduced only gradually over the coming years, according to the experience and practices of a number of countries.

SEMINAR ON NUCLEAR LAW AND SAFETY REGULATIONS

At the invitation of the Government of Turkey and in co-operation with the Turkish Atomic Energy Commission, the IAEA held an Interregional Seminar in Nuclear Law and Safety Regulations for countries in Africa and the Middle East in Istanbul from 10th to 14th September 1979. The purpose of the Seminar was to provide an overview of the major areas of nuclear legislation, with particular regard to the regulatory steps required in the planning and implementation of a nuclear power programme.* The Seminar was intended for present and prospective staff of national atomic energy authorities and of other national institutions and organisations involved in or concerned with the establishment of regulatory controls for ensuring the safety of peaceful uses of atomic energy.

The International Labour Organisation was represented at the Seminar by its Resident Representative in Ankara and a total of 34 participants attended the Seminar. This includes five visiting experts provided cost-free to the IAEA by the Governments of France, the Federal Republic of Germany, Spain, the United States and the European Insurance Committee, and twenty-seven other participants from Egypt, Ghana, Iraq, Kenya, Tunisia, Turkey and Zambia. The programme of lectures and discussions covered various regulatory topics in nuclear safety control, reactor licensing, quality assurance, emergency response planning and nuclear export control. Two sessions were also devoted to nuclear liability and insurance, and manpower training and requirements for a nuclear power programme.

The Seminar was viewed by the Turkish authorities and participants as being of special interest and timely help to them in view of Turkey's plan for the construction of a 600 MWe nuclear power plant at Silifke in Southern Turkey, which is expected to come on line by 1986. For the implementation of this project, the IAEA has provided advisory services to both the Turkish Atomic Energy Commission and the Turkish Electricity Authority in such matters as the safety and technical aspects of bid documentation, preliminary safety analysis reports and siting.

* Two of the papers presented to the Seminar are reproduced in the "Articles" Chapter of this Bulletin.

AGREEMENTS

• *F.R. of Germany-United Kingdom*

1979 AGREEMENT ON EXCHANGE OF INFORMATION ON MEASURES FOR THE SAFETY OF NUCLEAR INSTALLATIONS

The Federal Minister of the Interior of the Federal Republic of Germany and the Health and Safety Executive of the United Kingdom concluded on 14th March/4th April, 1979, an Agreement on the permanent exchange of information on important questions concerning the safety of nuclear installations and on co-operation in the preparation of safety standards. The Agreement, published in the Bundesgesetzblatt 1979 II, p. 434, entered into force on 4th April 1979.

According to Article 1 of the Agreement, information is exchanged by communication of reports, research results and studies as well as by mutual information on measures and resolutions concerning the safety of nuclear installations. Reports and information also include decisions and enquiries by courts of law on matters of safety. Co-operation on the drafting of safety standards comprises mutual information about work undertaken or planned and the exchange of texts of laws, rules and regulations.

• *International Atomic Energy Agency*

SECOND AMENDMENT TO THE IAEA-USA CO-OPERATION AGREEMENT

The Agreement for Co-operation between the IAEA and the United States of America was concluded in 1959 to cover chiefly the supply of enriched uranium so as to assist the IAEA in meeting requests from Member States or to meet the needs of its own operations. The Agreement was first amended in 1974 to extend its initial duration of twenty years to fifty years. Within the framework of this Co-operation Agreement, supplies of enriched uranium have been made over the past twenty years by the United States through the IAEA for the operation of twenty-four research reactors and three nuclear power plants in nineteen countries; small quantities of special nuclear material have also been provided to twelve countries for use in research projects not involving reactor operations.

Article IV of the Co-operation Agreement provides that the transfer and export by the United States of material, equipment or facilities and the performance of services in the peaceful uses of atomic energy are

subject to the applicable laws, regulations and licence requirements of the United States. As new criteria are applied to nuclear exports by the United States pursuant to the Nuclear Non-Proliferation Act of 1978, the United States has requested the negotiation of an amendment to the Co-operation Agreement with a view to having the new requirements reflected in the Agreement. Negotiation was started in 1978 and completed in June 1979; the Board of Governors subsequently authorized the Director General to conclude such an amendment to the Co-operation Agreement with the United States. Under this Second Amendment, the United States criteria for transfer and export arrangements are set out in an Annex to the Agreement as being the applicable requirements for obtaining the supply of nuclear material, equipment or facilities from the United States.

MULTILATERAL AGREEMENTS

• Finland •

CONVENTION ON THE PREVENTION OF MARINE POLLUTION BY THE DUMPING OF WASTES AND OTHER MATTER

This Convention, the so-called London Convention (see Nuclear Law Bulletin Nos. 13, 16 to 20, 22) was brought into force in Finland on 2nd June 1979 by Order No. 493/79 dated 18th May 1979.

CONVENTION FOR THE PREVENTION OF MARINE POLLUTION BY DUMPING FROM SHIPS AND AIRCRAFT

This Convention, the so-called Oslo Convention (see Nuclear Law Bulletin No. 13, under "Studies"), was brought into force in Finland on 1st June 1979 by Order No. 495/79 dated 18th May 1979.

• Netherlands

RATIFICATION OF THE PARIS CONVENTION AND THE BRUSSELS SUPPLEMENTARY CONVENTION

On 28th December 1979, the Paris Convention on Third Party Liability in the Field of Nuclear Energy and the Brussels Convention Supplementary to it came into force in the Netherlands.

The Netherlands ratified the Brussels Supplementary Convention in Brussels on 28th September 1979 and the Paris Convention in Paris on 28th December 1979. Both Conventions therefore came into force simultaneously since, contrary to the Paris Convention which came into effect upon deposit of the instruments of ratification, the Brussels Supplementary Convention comes into effect three months after it is ratified.

The Netherlands adopted this order of ratification to ensure that both Conventions enter into operation at the same time for internal reasons (for the corresponding domestic legislation see under the Netherlands in Chapter I and the Supplement to this issue of the Bulletin).

The following Tables give the status of ratifications of and accessions to the Conventions:

CONVENTION ON THIRD PARTY LIABILITY IN THE FIELD OF NUCLEAR ENERGY (PARIS CONVENTION)

Country	Convention	Additional Protocol
Turkey	10th October 1961	5th April 1968
Spain	31st October 1961	30th April 1965
United Kingdom	23rd February 1966	23rd February 1966
France	9th March 1966	9th March 1966
Belgium	3rd August 1966	3rd August 1966
Sweden	1st April 1968	1st April 1968
Greece	12th May 1970	12th May 1970
Finland (accession)	16th June 1972	16th June 1972
Norway	2nd July 1973	2nd July 1973
Denmark	4th September 1974	4th September 1974
Italy	17th September 1975	17th September 1975
Federal Republic of Germany	30th September 1975	30th September 1975
Portugal	29th September 1977	29th September 1977
The Netherlands	28th December 1979	28th December 1979

CONVENTION SUPPLEMENTARY TO THE PARIS CONVENTION
OF 29TH JULY 1960 ON THIRD PARTY LIABILITY IN THE
FIELD OF NUCLEAR ENERGY (BRUSSELS SUPPLEMENTARY CONVENTION)

Country	Convention and Additional Protocol
United Kingdom	24th March 1966
France	30th March 1966
Spain	27th July 1966
Sweden	3rd April 1968
Norway	7th July 1973
Denmark	4th September 1974
Federal Republic of Germany	1st October 1975
Italy	3rd February 1976
Finland (accession)	14th January 1977
The Netherlands	28th September 1979

• *The OECD Nuclear Energy Agency*

AMENDMENT OF THE AGREEMENT ON THE OECD HALDEN REACTOR PROJECT

Further to the Agreement, concluded on 13th June 1978, to extend operation of the OECD Halden Reactor Project until 31st December 1981 (see Nuclear Law Bulletin No. 22), the Parties to the Agreement and the United Kingdom Central Electricity Generating Board (CEGB) signed a new Agreement to enable the latter body to accede to the Halden Project. This Protocol, signed on 28th June 1979 with retroactive effect as from 1st January 1979 therefore amends the Agreement of 13th June 1978 accordingly.

It is recalled that this Project was set up in July 1958 under the auspices of the OECD Nuclear Energy Agency to enable participants to carry out jointly research and experiments with the reactor built by Norway at Halden, and covering in particular, fuel element tests and integrated computer-based control of the reactor.

• *International Atomic Energy Agency*

VIENNA CONVENTION ON CIVIL LIABILITY FOR NUCLEAR DAMAGE

On 24th July 1979 the Government of the Republic of Niger deposited its instrument of accession to the Vienna Convention on Civil Liability for Nuclear Damage of 21st May 1963. Pursuant to Article XXIV, paragraph 3, of the Convention, it became effective with respect to Niger three months after the deposit of the instrument of accession, on 24th October 1979.

The Convention, which entered into force on 12th November 1977, is now in force with respect to the following States:

Argentina, Bolivia (accession), Cuba, Egypt, Niger, Philippines, Trinidad and Tobago (accession), the United Republic of Cameroon (accession) and Yugoslavia.

TREATY ON THE NON-PROLIFERATION OF NUCLEAR WEAPONS (NPT)

By mid-October 1979, a total of 111 States were Parties to NPT. The chart on the state of ratification of NPT, which appeared in Nuclear Law Bulletin No. 20 of December 1977, is to be up-dated by adding the following countries and dates of their ratification of or accession to NPT:

Guinea Bissau	20th August	1976 (accession)
Portugal	15th December	1977 (accession)
Liechtenstein	20th April	1978 (accession)
People's Republic of Congo	23rd October	1978 (accession)
Tuvalu	19th January	1979 (succession)
Sri Lanka	5th March	1979
Democractic Yemen	1st June	1979
Indonesia	12th July	1979
Bangladesh	27th September	1979 (accession)

• *IMCO*

CONVENTION ON THE PREVENTION OF MARINE POLLUTION BY THE DUMPING OF WASTES AND OTHER MATTER

The fourth Consultative Meeting of the Contracting Parties to the London Convention was held at the Headquarters of the Inter-Governmental Maritime Consultative Organisation (IMCO) in London from 22nd to 26th October 1979 (see Nuclear Law Bulletin Nos.17, 18, 20 and 22). The meeting was informed that the following five countries, three of which are NEA Member countries, have become Contracting Parties to the Convention : Finland, Poland, Portugal, South Africa and Switzerland.

TEXTS

• *International Atomic Energy Agency*

PHYSICAL PROTECTION OF NUCLEAR MATERIAL

The Meeting of Governmental Representatives to Consider the Drafting of a Convention on the Physical Protection of Nuclear Material was held in Vienna at the Headquarters of the International Atomic Energy Agency from 31st October to 10th November 1977, from 10th to 20th April 1978, from 5th to 16th February and from 15th to 26th October 1979. Informal consultations between Governmental Representatives took place from 4th to 7th September 1978 and from 24th to 25th September 1979.

Representatives of fifty-eight States and one Organisation participated, namely, representatives of:

Algeria	Korea, Republic of
Argentina	Libyan Arab Jamahiriya
Australia	Luxembourg
Austria	Mexico
Belgium	Netherlands
Brazil	Niger
Bulgaria	Norway
Canada	Pakistan
Chile	Panama
Colombia	Paraguay
Costa Rica	Peru
Cuba	Philippines
Czechoslovakia	Poland
Denmark	Qatar
Ecuador	Romania
Egypt	South Africa
Finland	Spain
France	Sweden
German Democratic Republic	Switzerland
Germany, Federal Republic of	Tunisia
Greece	Turkey
Guatemala	Union of Soviet Socialist Republics
Holy See	United Arab Emirates
Hungary	United Kingdom of Great Britain and Northern Ireland
India	United States of America
Indonesia	Venezuela
Ireland	Yugoslavia
Israel	Zaire
Italy	European Atomic Energy Community
Japan	

The following States and international organisations participated as observers:

Iran
Lebanon
Malaysia
Thailand
OECD Nuclear Energy Agency

Secretariat services were provided by the International Atomic Energy Agency.

The Meeting had before it the following documents:

- (a) Draft Convention on the Physical Protection of Nuclear Materials, Facilities and Transports, as contained in document CPNM/1;
- (b) IAEA Document INFCIRC/225/Rev.1: The Physical Protection of Nuclear Material;
- (c) IAEA Document INFCIRC/254; Communications Received from Certain Member States regarding Guidelines for the Export of Nuclear Material, Equipment or Technology.

The Meeting completed consideration of a Convention, the text of which follows. Certain delegations expressed reservations with regard to particular provisions in the text. These are recorded in the documents and in the Daily Reports of the Meeting. It was agreed that the text will be referred by delegations to their authorities for consideration.

The Meeting recommended that the text of the Convention be transmitted for information to the Twenty-third General Conference of the International Atomic Energy Agency.

The Convention will, in accordance with its terms, be opened for signature from 3rd March, 1980, at the Headquarters of the International Atomic Energy Agency in Vienna and at the Headquarters of the United Nations in New York.*

* This Note is an extract from the Final Act of the Meeting.

CONVENTION ON THE PHYSICAL PROTECTION OF NUCLEAR MATERIAL

THE STATES PARTIES TO THIS CONVENTION,

RECOGNIZING the right of all States to develop and apply nuclear energy for peaceful purposes and their legitimate interests in the potential benefits to be derived from the peaceful application of nuclear energy,

CONVINCED of the need for facilitating international co-operation in the peaceful application of nuclear energy,

DESIRING to avert the potential dangers posed by the unlawful taking and use of nuclear material,

CONVINCED that offences relating to nuclear material are a matter of grave concern and that there is an urgent need to adopt appropriate and effective measures to ensure the prevention, detection and punishment of such offences,

AWARE OF THE NEED FOR international co-operation to establish, in conformity with the national law of each State Party and with this Convention, effective measures for the physical protection of nuclear material,

CONVINCED that this Convention should facilitate the safe transfer of nuclear material,

STRESSING also the importance of the physical protection of nuclear material in domestic use, storage and transport,

RECOGNIZING the importance of effective physical protection of nuclear material used for military purposes, and understanding that such material is and will continue to be accorded stringent physical protection,

HAVE AGREED as follows:

Article 1

For the purposes of this Convention:

- (a) "nuclear material" means plutonium except that with isotopic concentration exceeding 80% in plutonium-238; uranium-233; uranium enriched in the isotopes 235 or 233; uranium containing the mixture of isotopes as occurring in nature other than in the form of ore or ore-residue; any material containing one or more of the foregoing;
- (b) "uranium enriched in the isotope 235 or 233" means uranium containing the isotopes 235 or 233 or both in an amount such that the abundance ratio of the sum of these isotopes to the isotope 238 is greater than the ratio of the isotope 235 to the isotope 238 occurring in nature;

- (c) "international nuclear transport" means the carriage of a consignment of nuclear material by any means of transportation intended to go beyond the territory of the State where the shipment originates beginning with the departure from a facility of the shipper in that State and ending with the arrival at a facility of the receiver within the State of ultimate destination.

Article 2

1. This Convention shall apply to nuclear material used for peaceful purposes while in international nuclear transport.
2. With the exception of Articles 3 and 4 and paragraph 3 of Article 5, this Convention shall also apply to nuclear material used for peaceful purposes while in domestic use, storage and transport.
3. Apart from the commitments expressly undertaken by States Parties in the Articles covered by paragraph 2 with respect to nuclear material used for peaceful purposes while in domestic use, storage and transport, nothing in this Convention shall be interpreted as affecting the sovereign rights of a State regarding the domestic use, storage and transport of such nuclear material.

Article 3

Each State Party shall take appropriate steps within the framework of its national law and consistent with international law to ensure as far as practicable that, during international nuclear transport, nuclear material within its territory, or on board a ship or aircraft under its jurisdiction insofar as such ship or aircraft is engaged in the transport to or from that State, is protected at the levels described in Annex I.

Article 4

1. Each State Party shall not export or authorize the export of nuclear material unless the State Party has received assurances that such material will be protected during the international nuclear transport at the levels described in Annex I.
2. Each State Party shall not import or authorize the import of nuclear material from a State not party to this Convention unless the State Party has received assurances that such material will during the international nuclear transport be protected at the levels described in Annex I.
3. A State Party shall not allow the transit of its territory by land or internal waterways or through its airports or seaports of nuclear material between States that are not parties to this Convention unless the State Party has received assurances as far as practicable that this nuclear material will be protected during international nuclear transport at the levels described in Annex I.
4. Each State Party shall apply within the framework of its national law the levels of physical protection described in Annex I to nuclear material being transported from a part of that State to another part of the same State through international waters or airspace.

5. The State Party responsible for receiving assurances that the nuclear material will be protected at the levels described in Annex I according to paragraphs 1 to 3 shall identify and inform in advance States which the nuclear material is expected to transit by land or internal waterways, or whose airports or seaports it is expected to enter.

6. The responsibility for obtaining assurances referred to in paragraph 1 may be transferred, by mutual agreement, to the State Party involved in the transport as the importing State.

7. Nothing in this Article shall be interpreted as in any way affecting the territorial sovereignty and jurisdiction of a State, including that over its airspace and territorial sea.

Article 5

1. States Parties shall identify and make known to each other directly or through the International Atomic Energy Agency their central authority and point of contact having responsibility for physical protection of nuclear material and for co-ordinating recovery and response operations in the event of any unauthorized removal, use or alteration of nuclear material or in the event of credible threat thereof.

2. In the case of theft, robbery or any other unlawful taking of nuclear material or of credible threat thereof, States Parties shall, in accordance with their national law, provide co-operation and assistance to the maximum feasible extent in the recovery and protection of such material to any State that so requests. In particular:

- (a) a State Party shall take appropriate steps to inform as soon as possible other States, which appear to it to be concerned, of any theft, robbery or other unlawful taking of nuclear material or credible threat thereof and to inform, where appropriate, international organisations;
- (b) as appropriate, the States Parties concerned shall exchange information with each other or international organisations with a view to protecting threatened nuclear material, verifying the integrity of the shipping container, or recovering unlawfully taken nuclear material and shall:
 - (i) co-ordinate their efforts through diplomatic and other agreed channels;
 - (ii) render assistance, if requested;
 - (iii) ensure the return of nuclear material stolen or missing as a consequence of the above-mentioned events.

The means of implementation of this co-operation shall be determined by the States Parties concerned.

3. States Parties shall co-operate and consult as appropriate, with each other directly or through international organisations, with a view to obtaining guidance on the design, maintenance and improvement of systems of physical protection of nuclear material in international transport.

Article 6

1. States Parties shall take appropriate measures consistent with their national law to protect the confidentiality of any information which they receive in confidence by virtue of the provisions of this Convention from another State Party or through participation in an activity carried out for the implementation of this Convention. If States Parties provide information to international organisations in confidence, steps shall be taken to ensure that the confidentiality of such information is protected.

2. States Parties shall not be required by this Convention to provide any information which they are not permitted to communicate pursuant to national law or which would jeopardize the security of the State concerned or the physical protection of nuclear material.

Article 7

1. The intentional commission of:

- (a) an act without lawful authority which constitutes the receipt, possession, use, transfer, alteration, disposal or dispersal of nuclear material and which causes or is likely to cause death or serious injury to any person or substantial damage to property;
- (b) a theft or robbery of nuclear material;
- (c) an embezzlement or fraudulent obtaining of nuclear material;
- (d) an act constituting a demand for nuclear material by threat or use of force or by any other form of intimidation;
- (e) a threat:
 - (i) to use nuclear material to cause death or serious injury to any person or substantial property damage, or
 - (ii) to commit an offence described in sub-paragraph (b) in order to compel a natural or legal person, international organisation or State to do or to refrain from doing any act;
- (f) an attempt to commit any offence described in paragraphs (a), (b) or (c); and
- (g) an act which constitutes participation in any offence described in paragraphs (a) to (f)

shall be made a punishable offence by each State Party under its national law.

2. Each State Party shall make the offences described in this Article punishable by appropriate penalties which take into account their grave nature.

Article 8

1. Each State Party shall take such measures as may be necessary to establish its jurisdiction over the offences set forth in Article 7 in the following cases:

- (a) when the offence is committed in the territory of that State or on board a ship or aircraft registered in that State;
- (b) when the alleged offender is a national of that State.

2. Each State Party shall likewise take such measures as may be necessary to establish its jurisdiction over these offences in cases where the alleged offender is present in its territory and it does not extradite him pursuant to Article 11 to any of the States mentioned in paragraph 1.

3. This Convention does not exclude any criminal jurisdiction exercised in accordance with national law.

4. In addition to the States Parties mentioned in paragraphs 1 and 2, each State Party may, consistent with international law, establish its jurisdiction over the offences set forth in Article 7 when it is involved in international nuclear transport as the exporting or importing State.

Article 9

Upon being satisfied that the circumstances so warrant, the State Party in whose territory the alleged offender is present shall take appropriate measures, including detention, under its national law to ensure his presence for the purpose of prosecution or extradition. Measures taken according to this Article shall be notified without delay to the States required to establish jurisdiction pursuant to Article 8 and, where appropriate, all other States concerned.

Article 10

The State Party in whose territory the alleged offender is present shall, if it does not extradite him, submit, without exception whatsoever and without undue delay, the case to its competent authorities for the purpose of prosecution, through proceedings in accordance with the laws of that State.

Article 11

1. The offences in Article 7 shall be deemed to be included as extraditable offences in any extradition treaty existing between States Parties. States Parties undertake to include those offences as extraditable offences in every future extradition treaty to be concluded between them.

2. If a State Party which makes extradition conditional on the existence of a treaty receives a request for extradition from another State Party with which it has no extradition treaty, it may at its option consider this Convention as the legal basis for extradition in respect of those offences. Extradition shall be subject to the other conditions provided by the law of the requested State.

3. States Parties which do not make extradition conditional on the existence of a treaty shall recognize those offences as extraditable offences between themselves subject to the conditions provided by the law of the requested State.

4. Each of the offences shall be treated, for the purpose of extradition between States Parties, as if it had been committed not only in the place in which it occurred but also in the territories of the States Parties required to establish their jurisdiction in accordance with paragraph 1 of Article 8.

Article 12

Any person regarding whom proceedings are being carried out in connection with any of the offences set forth in Article 7 shall be guaranteed fair treatment at all stages of the proceedings.

Article 13

1. States Parties shall afford one another the greatest measure of assistance in connection with criminal proceedings brought in respect of the offences set forth in Article 7, including the supply of evidence at their disposal necessary for the proceedings. The law of the State requested shall apply in all cases.

2. The provisions of paragraph 1 shall not affect obligations under any other treaty, bilateral or multilateral, which governs or will govern, in whole or in part, mutual assistance in criminal matters.

Article 14

1. Each State Party shall inform the depositary of its laws and regulations which give effect to this Convention. The depositary shall communicate such information periodically to all States Parties.

2. The State Party where an alleged offender is prosecuted shall, wherever practicable, first communicate the final outcome of the proceedings to the States directly concerned. The State Party shall also communicate the final outcome of the proceedings to the depositary who shall inform all States.

3. Where an offence involves nuclear material used for peaceful purposes in domestic use, storage or transport, and both the alleged offender and the nuclear material remain in the territory of the State Party in which the offence was committed, nothing in this Convention shall be interpreted as requiring that State Party to provide information concerning criminal proceedings arising out of such an offence.

Article 15

The Annexes constitute an integral part of this Convention.

Article 16

1. A conference of States Parties shall be convened by the depositary five years after the entry into force of this Convention to review the implementation of the Convention and its adequacy as concerns the preamble, the whole of the operative part and the annexes in the light of the then prevailing situation.
2. At intervals of not less than five years thereafter, the majority of States Parties may obtain, by submitting a proposal to this effect to the depositary, the convening of further conferences with the same objective.

Article 17

1. In the event of a dispute between two or more States Parties concerning the interpretation or application of this Convention, such States Parties shall consult with a view to the settlement of the dispute by negotiation, or by any other peaceful means of settling disputes acceptable to all parties to the dispute.
2. Any dispute of this character which cannot be settled in the manner prescribed in paragraph 1 shall, at the request of any part to such dispute, be submitted to arbitration or referred to the International Court of Justice for decision. Where a dispute is submitted to arbitration, if, within six months from the date of the request, the parties to the dispute are unable to agree on the organisation of the arbitration, a party may request the President of the International Court of Justice or the Secretary-General of the United Nations to appoint one or more arbitrators. In case of conflicting requests by the parties to the dispute, the request to the Secretary-General of the United Nations shall have priority.
3. Each State Party may at the time of signature, ratification, acceptance or approval of this Convention or accession thereto declare that it does not consider itself bound by either or both of the dispute settlement procedures provided for in paragraph 2. The other States Parties shall not be bound by a dispute settlement procedure provided for in paragraph 2, with respect to a State Party which has made a reservation to that procedure.
4. Any State Party which has made a reservation in accordance with paragraph 3 may at any time withdraw that reservation by notification to the depositary.

Article 18

1. This Convention shall be open for signature by all States at the Headquarters of the International Atomic Energy Agency in Vienna and at the Headquarters of the United Nations in New York from 3rd March 1980 until its entry into force.
2. This Convention is subject to ratification, acceptance or approval by the Signatory States.

3. After its entry into force, this Convention will be open for accession by all States.
4. (a) This Convention shall be open for signature or accession by international organisations and regional organisations of an integration or other nature, provided that any such organisation is constituted by sovereign States and has competence in respect of the negotiation, conclusion and application of international agreements in matters covered by this Convention.
(b) In matters within their competence, such organisations shall, on their own behalf, exercise the rights and fulfil the responsibilities which this Convention attributes to States Parties.
(c) When becoming party to this Convention such an organisation shall communicate to the depositary a declaration indicating which States are members thereof and which Articles of this Convention do not apply to it.
(d) Such an organisation shall not hold any vote additional to those of its Member States.
5. Instruments of ratification, acceptance, approval or accession shall be deposited with the depositary.

Article 19

1. This Convention shall enter into force on the thirtieth day following the date of deposit of the twenty first instrument of ratification, acceptance or approval with the depositary.
2. For each State ratifying, accepting, approving or acceding to the Convention after the date of deposit of the twenty-first instrument of ratification, acceptance or approval, the Convention shall enter into force on the thirtieth day after the deposit by such State of its instrument of ratification, acceptance, approval or accession.

Article 20

1. Without prejudice to Article 16 a State Party may propose amendments to this Convention. The proposed amendment shall be submitted to the depositary who shall circulate it immediately to all States Parties. If a majority of States Parties request the depositary to convene a conference to consider the proposed amendments, the depositary shall invite all States Parties to attend such a conference to begin not sooner than thirty days after the invitations are issued. Any amendment adopted at the conference by a two-thirds majority of all States Parties shall be promptly circulated by the depositary to all States Parties.
2. The amendment shall enter into force for each State Party that deposits its instrument of ratification, acceptance or approval of the amendment on the thirtieth day after the date on which two-thirds of the States Parties have deposited their instruments of ratification, acceptance or approval with the depositary. Thereafter, the amendment shall enter into force for any other State Party on the day on which that State Party deposits its instrument of ratification, acceptance or approval of the amendment.

Article 21

1. Any State Party may denounce this Convention by written notification to the depositary.
2. Denunciation shall take effect one hundred and eighty days following the date on which notification is received by the depositary.

Article 22

The depositary shall promptly notify all States of:

- (a) each signature of this Convention;
- (b) each deposit of an instrument of ratification, acceptance, approval or accession;
- (c) any reservation or withdrawal in accordance with Article 17;
- (d) any communication made by an organisation in accordance with paragraph 4(c) of Article 18;
- (e) the entry into force of this Convention;
- (f) the entry into force of any amendment to this Convention; and
- (g) any denunciation made under Article 21.

Article 23

The original of this Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Director-General of the International Atomic Energy Agency who shall send certified copies thereof to all States.

IN WITNESS WHEREOF, the undersigned, being duly authorized, have signed this Convention, opened for signature at Vienna and at New York on 3rd March, 1980.

ANNEX I

LEVELS OF PHYSICAL PROTECTION TO BE APPLIED IN INTERNATIONAL TRANSPORT OF NUCLEAR MATERIAL AS CATEGORIZED IN ANNEX II

1. Levels of physical protection for nuclear material during storage incidental to international nuclear transport include:
 - (a) For Category III materials, storage within an area to which access is controlled;
 - (b) For Category II materials, storage within an area under constant surveillance by guards or electronic devices, surrounded by a physical barrier with a limited number of points of entry under appropriate control or any area with an equivalent level of physical protection;

- (c) For Category I material, storage within a protected area as defined for Category II above, to which, in addition, access is restricted to persons whose trustworthiness has been determined, and which is under surveillance by guards who are in close communication with appropriate response forces. Specific measures taken in this context should have as their object the detection and prevention of any assault, unauthorized access or unauthorized removal of material.

2. Levels of physical protection for nuclear material during international transport include:

- (a) For Category II and III materials, transportation shall take place under special precautions including prior arrangements among sender, receiver, and carrier, and prior agreement between natural or legal persons subject to the jurisdiction and regulation of exporting and importing States, specifying time, place and procedures for transferring transport responsibility;
- (b) For Category I materials, transportation shall take place under special precautions identified above for transportation of Category II and III materials, and in addition, under constant surveillance by escorts and under conditions which assure close communication with appropriate response forces;
- (c) For natural uranium other than in the form of ore or ore-residue, transportation protection for quantities exceeding 500 kilograms U shall include advance notification of shipment specifying mode of transport, expected time of arrival and confirmation of receipt of shipment.

ANNEX II
TABLE CATEGORIZATION OF NUCLEAR MATERIAL

Material	Form	Category		
		I	II	III ^(c)
1. Plutonium ^(a)	Unirradiated ^(b)	2 kg or more	Less than 2 kg but more than 500 g	500 g or less but more than 15 g
2. Uranium-235	Unirradiated ^(b) - uranium enriched to 20% ²³⁵ U or more - uranium enriched to 10% ²³⁵ U but less than 20% - uranium enriched above natural, but less than 10% ²³⁵ U	5 kg or more	Less than 5 kg but more than 1 kg 10 kg or more	1 kg or less but more than 15 g Less than 10 kg but more than 1 kg 10 kg or more
3. Uranium-233	Unirradiated ^(b)	2 kg or more	Less than 2 kg but more than 500 g	500 g or less but more than 15 g
4. Irradiated fuel			Depleted or natural uranium, thorium or low-enriched fuel (less than 10% fissile content) ^{(d)(e)}	

- (a) All plutonium except that with isotopic concentration exceeding 80% in plutonium-238
- (b) Material not irradiated in a reactor or material irradiated in a reactor but with a radiation level equal to or less than 100 rads/hour at one metre unshielded.
- (c) Quantities not falling in Category III and natural uranium should be protected in accordance with prudent management practice.
- (d) Although this level of protection is recommended, it would be open to States, upon evaluation of the specific circumstances, to assign a different category of physical protection
- (e) Other fuel which by virtue of its original fissile material content is classified as Category I and II before irradiation may be reduced one category level while the radiation level from the fuel exceeds 100 rads/hour at one metre unshielded.

STUDIES AND ARTICLES

ARTICLES

RADIATION EMERGENCY MEASURES

FOREWORD

Following the accident which occurred on 28th March, 1979, at the Three Mile Island nuclear power plant in the United States, ten experts in industrial and nuclear safety from Argentina, Canada, Czechoslovakia, France, the Federal Republic of Germany, India, Japan, the United Kingdom, the United States and the Union of Soviet Socialist Republics were invited by the Director General of the International Atomic Energy Agency (IAEA) to meet on 22nd-23rd May, 1979, in Vienna to make a preliminary review of the implications of the accident for the IAEA programme and to provide advice regarding the strengthening of the IAEA role and programme in nuclear safety activities. The recommendations made by the experts were brought to the attention of the Board of Governors by the Director General in June 1979.

Among other things, the experts recommended that increased efforts by the IAEA should focus on radiation emergency assistance, and that Member States should also consider bilateral, multilateral, regional or international agreements to facilitate mutual assistance in the event of an accident emergency.

In this connection, it is deemed useful to reproduce below the texts of two lectures presented at the Interregional Seminar on Nuclear Law and Safety Regulations, held by the IAEA in Istanbul, Turkey, from 10th to 14th September 1979, and dealing with the subject matter within a national framework as well as from an international standpoint.

MUTUAL EMERGENCY ASSISTANCE ARRANGEMENTS
AT THE INTERNATIONAL LEVEL

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International Atomic Energy Agency

I. GENERAL

Circumstances may arise in which the resources of a country in skilled manpower, equipment and facilities are not sufficient for dealing satisfactorily with all the consequences of a radiation accident. In those circumstances, it may be necessary to seek help as quickly as possible from other conveniently located countries that have available assistance of the type required and would be prepared to provide it at that time. In general, any help from other countries can hardly be expected to arrive before 24 hours or more have elapsed; therefore, local emergency response planning must be able to cope with that initial period following a radiation occurrence.

Two examples of international co-operation may be cited - the medical examination and treatment of the persons exposed in the accidents at the Boris Kidric Institute in Yugoslavia and at Mol in Belgium. In each case the subsequent medical treatment was carried out in Paris.

There are disadvantages in making arrangements for assistance after an accident has occurred. Some of the problems that arise are determining in which country assistance may be available, selecting the appropriate channel of communication with that country, obtaining without delay the necessary visas, customs clearance, agreement or reimbursement of costs, liability and other administrative matters. Therefore, it is reasonable to assume that help could be obtained more rapidly by direct arrangements made in advance between countries that are suitably located geographically. Regional co-operation has thus been established within the framework of the European Atomic Energy Community (EURATOM). Another example of such co-operation is that established by agreement between Denmark, Finland, Norway, Sweden and the IAEA.

II. THE NORDIC MUTUAL EMERGENCY ASSISTANCE AGREEMENT

The Nordic Mutual Emergency Assistance Agreement in Connection with Radiation Accidents** was concluded on 17th October 1963. It entered into force on 19th June 1964.

Its purpose is to set out the general terms on which, in the event of a radiation emergency or nuclear incident, a Contracting Party may request assistance from another Party or from the Agency.

* Responsibility for the views and facts in this paper rests solely with the authors.

** Reproduced in IAEA document INFCIRC/49.

The main features of such mutual emergency assistance are as follows:

- full responsibility and any liability for the use of the assistance rest with the requesting Party;
- equipment or material provided by the assisting Party remains the property of that Party and is to be returned to it, unless otherwise agreed between the requesting Party and the assisting Party;
- any expense incurred by the assisting Party is to be reimbursed by the requesting Party, unless otherwise agreed between them;
- no public statement on the emergency or incident may be made by the assisting Party, except with the prior consent of the requesting State.

At the request of the requesting Party under the Agreement, the IAEA may;

- perform advisory functions concerning the measures to be taken and the assistance required;
- help the requesting Party to obtain assistance from other Member States; and
- co-ordinate the provision of assistance.

On the lines of the Nordic Agreement, a set of bilateral and multi-lateral agreements for the provision of mutual emergency assistance had been elaborated in 1965-1966, under the guidance of the Board of Governors of the IAEA, with the help of an Expert Committee and a Committee of the Whole established by the Board. At the Board's request, such draft agreements were made available to Member States by the Director General of the IAEA in June 1967 for use by national authorities as they deem appropriate. In this connection, the Board also expressed the view that the draft agreements in question could be of valuable help to Member States wishing to conclude bilateral or multilateral arrangements to ensure the speedy provision of mutual assistance in the event of a radiation emergency.

III. THE ROLE OF INTERNATIONAL ORGANISATIONS

Several international organisations have a particular interest in joining efforts to prepare themselves for providing assistance to Member States in emergency situations. Thus, starting in 1963, the IAEA in collaboration with the World Health Organisation (WHO) and the Food and Agriculture Organisation of the United Nations (FAO) had collected information from Member States on the type of assistance that they might be prepared to make available upon request to another country. This information, together with indications concerning the appropriate channels through which requests for or offers of assistance should be made, have been issued in a joint document entitled "Mutual Emergency Assistance for Radiation Accidents". The last issue of this document /WP.35/Rev.3, 1971/ is being revised by the three organisations with the further participation of the International Labour Organisation (ILO) and the United Nations Disaster Relief Office (UNDRO), and it is expected to

be published by the end of 1979. Through the Joint Advisory Services system established between them, the IAEA is also prepared on request to advise on emergency planning and to review any such plans that may be submitted to it.

Advice on appropriate planning for dealing with emergency situations during the transport of radioactive materials is also provided in an IAEA document issued in 1973* and in a further manual of guidance to be published under the title: "Emergency Response Planning for Incidents During the Transport of Radioactive Materials".

The provision of such information and advisory material to national authorities is part of an action plan carried out by the IAEA and which also comprises the following components:

1. Preplanning

Member States have been encouraged to analyse in advance various types of radiation-related incidents which they could experience and to build up their own capabilities in terms of manpower and equipment resources. They should identify those specialized services and facilities that may not be available locally. Examples of these would be a whole body counter, medical facilities for providing treatment of individuals with radiation injuries.

2. Training

The IAEA, in many cases in collaboration with WHO, FAO, and ILO, has organised a series of meetings, training courses and study groups to deal with emergency plans and procedures. The published proceedings of these meetings, together with other manuals published in the IAEA Safety Series and Technical Reports Series, should be of help to national authorities in setting up adequate arrangements for dealing with radiation emergencies. Programmes of two weeks' duration have been conducted in Manila, Philippines, in 1967, in Vienna and Teheran, Iran, in 1969 and in Buenos Aires, Argentina, in 1970.

3. IAEA emergency assistance

The IAEA is prepared to act as an intermediary in assisting any Member State to seek assistance from another country and can upon request send a small team of its staff to the scene of an accident. In an emergency, there are a number of operations that may have to be carried out within a few hours and almost certainly before any external help could arrive. Such operations would include the rapid evacuation of the plant personnel, and perhaps the public in the vicinity of a plant, as a precaution against inhalation of airborne contamination or irradiation by deposited material. The most likely requirement for assistance from the IAEA or from other countries would be in connection with (a) monitoring to assess the extent of a contamination zone with need for subsequent controls on contaminated foodstuffs, milk, etc.,

* Advisory Material for the Application of the IAEA Transport Regulations, Safety Series No. 37, Vienna, 1973.

and (b) the medical care of either seriously irradiated persons or persons who had inhaled or ingested significant amounts of radioactive material. There might also be a need for further help in the remedial phases of the operations, but this could be delayed until convenient as long as the appropriate initial measures have been taken to protect the people directly involved in the accident.

Internal arrangements have been made within the IAEA Secretariat to ensure that responsible staff members can be contacted at all times if a request is received in connection with emergency assistance. Through a duty officer roster (twenty technical staff members) an emergency control post can usually be established within one hour of a request for assistance. A control team headed by the Director, Nuclear Safety and Environmental Protection is then assembled to arrange through administrative, technical, legal and diplomatic channels to respond to the request. Usually the nearest Member State having the required resources or capability will be requested to respond.

The programme also includes the capability for the IAEA to send a small group of observers or consultants to the scene of the emergency. Four suitcase-type kits are available with instruments and protective clothing suitable to provide support to the IAEA group for any radiological situation. In addition, the facilities of the Agency's laboratory for radiochemical analysis of environmental samples or for bioassay and whole-body counting are also available to provide support.

Thus a small team of IAEA selected staff could be sent at short notice to the scene of the accident. A limited amount of money has been set aside for this purpose; a group of staff have been inoculated for travel to any part of the world, visa photographs are kept in hand and an air travel credit card can be used for obtaining air tickets very quickly. The task of the visiting team would be to assess the overall situation, to establish firm liaison between the local emergency controller and the IAEA Headquarters, and to provide any advice requested by the emergency controller. The equipment would be intended primarily for use by the visiting team so that they could be self-sufficient in protecting themselves and not add to the burdens of the local emergency controller. If a request for assistance is received by the IAEA, the other organisations concerned will also be kept informed.

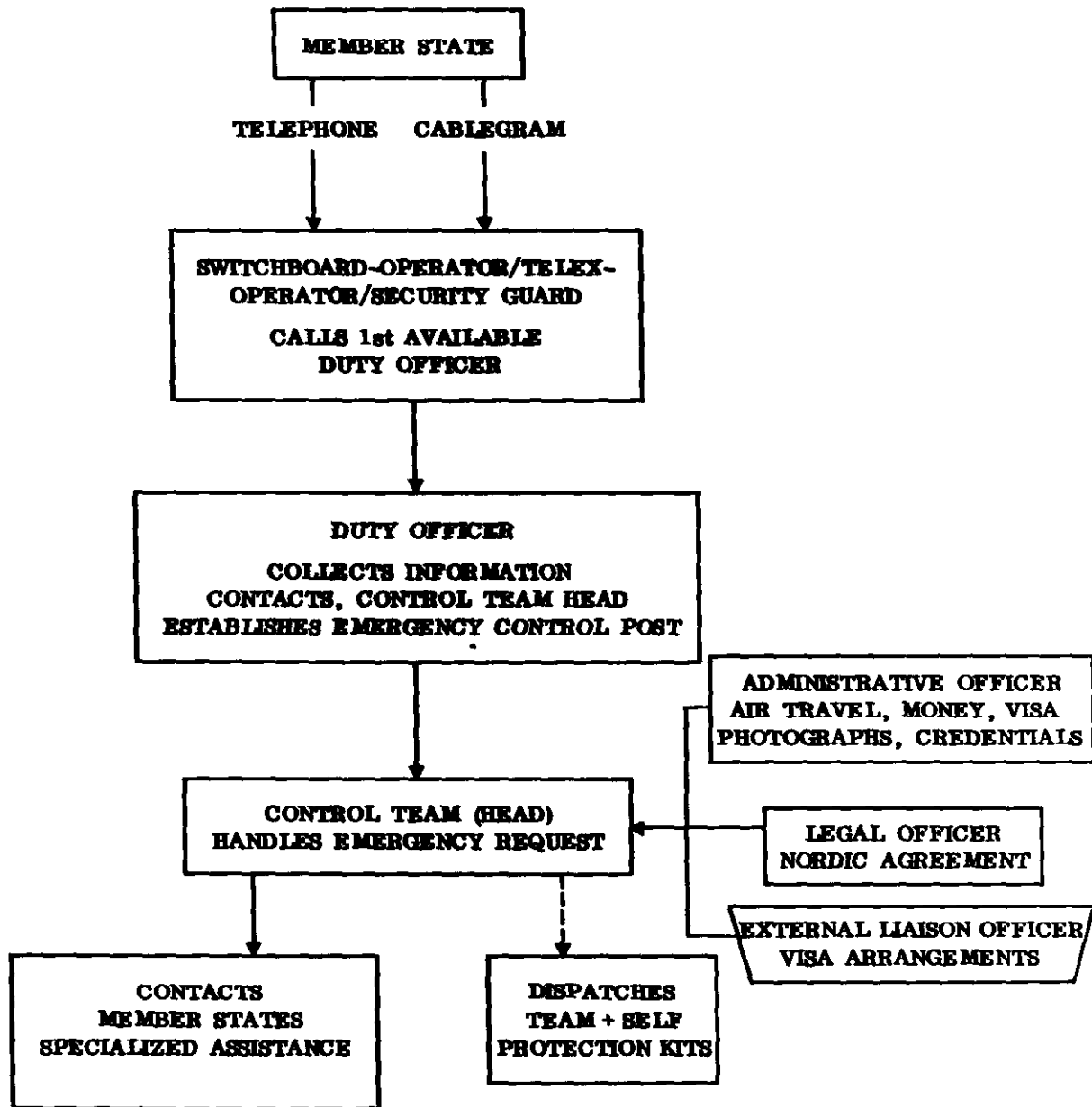
Tests have been organised from time to time to check the smooth working of these arrangements and are carried to the point where selected staff members are transported, ready to travel, to the airport.

It should be further pointed out that since 1960 the IAEA General Conference has every year, in conjunction with its approval of the IAEA budget, authorized the Director General, with the prior approval of the Board of Governors - unless in the opinion of the Director General the situation requires immediate action in advance of such approval - to meet the costs incurred by the Agency in organising and rendering radiation emergency assistance to Member States, up to US\$50,000 in each case.

In concluding, it is worth mentioning that in the twenty-year history of the IAEA Emergency Assistance Plan there have been only two requests for assistance for medical treatment of radiation injuries. It should, however, be stressed that in the event of a radiation occurrence help from other countries cannot be expected until more than 24 hours have elapsed. Local emergency response planning and medical assistance should therefore be aimed at coping with that initial period.

IAEA

RADIATION EMERGENCY ASSISTANCE



FRAMEWORK FOR RADIATION
EMERGENCY RESPONSE IN THE U.S.A.

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INTRODUCTION

The accident at Three Mile Island brought into sharp focus the question of whether current Nuclear Regulatory Commission (NRC) regulations, guidance, and related administrative functions were adequate to protect the public health and safety from a radiological incident. However, even before the accident at Three Mile Island, questions had been raised as to the effectiveness of the existing radiological emergency response planning and preparedness in the event of an accident at a nuclear facility. The following is an examination of the framework for radiation emergency response in the United States, including the NRC's current emergency preparedness regulations and responsibilities, the problem areas that have been identified both before and after the incident at Three Mile Island, and current rulemaking and legislative initiatives to deal with perceived problems in this area.

I. EMERGENCY PLANNING REQUIREMENTS FOR APPLICANTS AND LICENSEES

Two provisions of the current NRC regulations require consideration of emergency planning during the licensing of a nuclear power reactor. The first of these provisions is set forth in 10 CFR Part 100. This part of the regulations provides for the establishment of a "low population zone" surrounding the facility.

Specifically, Section 100.3(b) defines a "low population zone" as that

"area immediately surrounding the [facility] which contains residents, the total number and density of which are such that there is a reasonable probability that appropriate protective measures could be taken in their behalf in the event of a serious accident".

Section 100.11(a)(2) requires that the low population zone be

"of such size that an individual located at any point on its outer boundary who is exposed to the radioactive cloud resulting from the postulated fission product release (during the entire period of its passage) would not receive a total radiation dose to the whole body in excess of 25 rem or a total radiation dose in excess of 300 rem to the thyroid from iodine exposure".

* The views expressed in this paper are solely those of the author, and do not necessarily represent the views of the U.S. Nuclear Regulatory Commission.

Finally, Section 100.11(a)(3) stipulates that

"the distance from the reactor to the nearest boundary of a densely populated centre containing more than about 25,000 residents be at least one and one-third times the distance from the reactor to the outer boundary of the low population zone".

In determining whether "appropriate protective measures could be taken in the event of a serious accident", consideration is given to such factors as the feasibility of evacuating persons within the low populations zone (access roads, seasonal influxes of people, etc.) and the adequacy of public and private shelters for a situation where evacuation is not considered necessary (gymnasiums, homes, large public buildings, etc.) Additional factors are considered on a site-by-site basis, and may include such things as the location of a hospital, prison or mental institution within the low populations zone.

The second provision of the regulations relating to emergency planning during the licensing of a nuclear power reactor is set forth in 10 CFR Part 50, Appendix E. (1) In general, Appendix E requires that, before a construction permit can be issued, the applicant must submit an emergency plan that includes a description of the applicant's means of coping with an emergency, contacts and arrangements with local, State and Federal government agencies responsible for handling such emergencies, measures to be taken within and outside the site boundary, and the applicant's procedure for training employees and other persons who are needed for coping with an emergency.

For the issuance of an operating license, Appendix E generally requires an update of the information submitted at the construction permit stage, and the submission of additional information on such matters as: (i) the means for determining the magnitude of any release of radioactive materials; (ii) the criteria to be used in determining when protective measures should be considered; (iii) provisions for testing emergency plans by periodic drills; (iv) procedures for notifying, and agreements reached with, local, State, and Federal agencies for early warning of the public; and (v) procedures for public evacuation or other necessary protective measures. Appendix E also provides that the details of those plans and the details of their implementation need not be included. It has been considered sufficient for licensing purposes if the plans submitted contain a description of the elements sufficient to demonstrate that the plans provide "reasonable assurance" that appropriate measures can and will be taken in the event of an emergency to protect public health and safety and prevent damage to property. For example, it has not been considered necessary to develop detailed plans encompassing every conceivable type of emergency situation, nor has it been necessary to include details that can reasonably be expected to change from time to time, e.g., names and telephone numbers, specific items of equipment and supplies, inventory lists, and step-by-step procedures or checklists that may be altered as a result of experience or test exercises.

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- (1) Current NRC regulations (10 CFR Part 70) also require that an application for a license to possess and use special nuclear material for processing and fuel fabrication, scrap recovery, or conversion of uranium hexafluoride shall contain plans for coping with emergencies. The plans must contain the elements required by Appendix E for the issuance of an operating license.

After the operating license has been issued, the implementation procedures of the emergency plan are periodically inspected by NRC's Office of Inspection and Enforcement, which also monitors the licensee's drills.

II. EMERGENCY PLANNING BY STATE AND LOCAL GOVERNMENTS

In addition to the regulatory role of NRC in determining the adequacy of emergency plans of applicants and licensees, NRC provides guidance to State and local governments regarding the preparation of radiological response plans, and reviews and concurs in the emergency plans of State and local governments. These responsibilities are set forth in a Federal Register Notice promulgated by the Federal Preparedness Agency on 24th December, 1975 /40 FR 594947.

Detailed review of State emergency plans leading to concurrence takes place as part of ongoing field assistance at the regional level via ten Federal Interagency Regional Advisory Committees especially established for this purpose. The basic NRC guidance document, "Guide and Checklist for the Development and Evaluation of State and Local Government Radiological Emergency Response Plans /NUREG 75/1117 and Supplement Number 1 to that publication, are used as the basic criteria against which the plans are evaluated. Of 154 recommended checklist planning elements identified in the "Guide and Checklist", 70 are listed in Supplement No. 1 as essential for NRC concurrence.

The review and concurrence process is conducted in a voluntary, cooperative atmosphere, since neither the NRC nor any other Federal agency has statutory authority to require States to develop or upgrade radiological emergency response plans in support of fixed nuclear facilities. To date, twelve States have radiological emergency plans which have received NRC concurrence.

After the NRC concurs in an emergency plan, the State (and its involved local governments) must conduct an annual exercise with a fixed nuclear facility as a provision for maintaining the concurrence. The NRC reserves the right to withdraw the concurrence in the event a plan becomes substandard through inadequate tests and updating.

III. ROLE OF FEDERAL AGENCIES IN RADIOLOGICAL EMERGENCIES

The role of Federal agencies in responding to a radiological emergency is set forth in an Interagency Radiological Assistance Plan (IRAP), which was developed by an interagency committee of Federal agency representatives as a means for providing radiological assistance in the event of a peacetime radiological incident. Although thirteen Federal agencies are signatories to IRAP, the major responsibilities for coping with a radiological emergency involving a nuclear power facility are assigned to the NRC, the Environmental Protection Agency (EPA), and the Department of Energy (DOE).(2) The responsibilities assigned follow their respective

(2) The other signatories are the Defense Civil Preparedness Agency, Interstate Commerce Commission, National Aeronautics and Space Administration, Postal Service, and the Departments of Agriculture, Commerce, Defense, Labor, Transportation, and Health, Education and Welfare.

areas of expertise and availability of resources. Thus, IRAP assigns to the NRC the responsibility for collecting and evaluating the facts and circumstances attending inadvertent or accidental release of radioactive material to the environment from a licensed nuclear facility. However, since the NRC has limited emergency "hardware" resources, IRAP assigns to DOE the responsibility of providing the manpower and physical resources to protect the health and safety of individuals, the public and the environment in the event of the accidental release of radioactive material or ionizing radiation. EPA is assigned the responsibility for providing monitoring teams that have the capability for measuring environmental radiation, evaluating the extent of the contamination, and providing advice as to the actions that should be taken for protection of the public's health and safety. The emergency response roles assigned to the other Federal agency signatories also generally follow their respective areas of expertise and resource capabilities.

IV. RECENT EVENTS NOT RELATED TO THREE MILE ISLAND

Even before the incident at Three Mile Island, several events focused attention on the question of whether the NRC's regulatory requirements and programs for emergency planning should be revised.

The first of these events was the release of a report by a Joint Task Force composed of representatives from the Environmental Protection Agency (EPA) and the NRC. This report, entitled "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants" /NUREG-0396, December 1978/, deals with the planning basis (distances, type of radioisotopes and time frames) that should be taken into account by State and local governments in preparing emergency response plans for accidents at nuclear power reactors. In reference to distances, the report introduced the concept of generic Emergency Planning Zones (EPZs) as a basis for the planning of response actions, and recommended that two EPZs be established around each facility. The first, for the plume exposure pathway, would cover an area approximately ten miles in radius from the facility, and the second, for the ingestion pathway, would cover an area approximately fifty miles in radius from the facility. Although the report was issued primarily for guidance for State and local governments, the concept of establishing generic EPZs of approximately ten and fifty miles in radius for regulatory purposes has been receiving increasing attention, as will be noted below. If adopted as a regulatory requirement, generic EPZs would replace current use of a facility-specific "low population zone" (which rarely exceeds three miles in radius) as the planning area for taking protective action.

The second event was the release of a Report to the Congress by the Comptroller General of the United States, entitled "Areas around Nuclear Facilities should be better prepared for Radiological Emergencies" /MD78110, 30th March, 1979/. This report was prepared by the Comptroller General as part of his evaluation of the effectiveness of the NRC's regulatory activities as required by the Energy Reorganization Act of 1974 /42 U.S.C. 5876/. In his report the Comptroller General made the following recommendations regarding NRC procedures:

- Require that the people living near nuclear facilities be provided with information about the potential hazard, the emergency actions planned, and what to do in the event of an accidental radiological release;

- Allow nuclear power plants to begin operation only where State and local emergency response plans meet all of NRC's essential planning elements. In addition, NRC should require license applicants to make agreements with State and local agencies assuring their full participation in annual emergency drills over the life of the facility;
- Establish an emergency planning zone of about ten miles around all nuclear power plants as recommended by the NRC/EPA Task Force, and require licensees to modify their emergency plans accordingly.

The third event focusing on the adequacy of existing emergency preparedness was the release of an NRC staff report entitled, "Cost and Funding of State and Local Government Radiological Emergency Response Plans and Preparedness in Support of Commercial Nuclear Power Stations" /NUREG-0553, 30th March 1979/. This report was the result of an extensive field survey of the funding problems confronting State and local governments in developing and maintaining adequate emergency preparedness. The report found that only limited funds were made available to many State and local governments, and that the lack of funding was a major factor affecting the level of their emergency planning and preparedness. The report estimated that approximately \$147 million would be needed for the period 1980-2000 for such undertakings as achieving NRC concurrence in the emergency plans of State and local governments, implementing the Emergency Planning Zone (EPZ) concept recommended by the NRC/EPA Task Force report, providing consultants to State and local governments, and upgrading plans and preparedness involving monitoring atmospheric releases. After considering various means by which appropriate funding could be obtained, the report recommended that applicants and licensees be required to pay an assessment which would then be allocated to State and local governments. The report also recommended that funds should be diverted from the NRC Light Water Reactor safety research in order to partially cover the costs of plans and preparedness for higher risk sites of relative high populations within the proposed ten mile EPZ which require special consideration, with the State and local governments providing the balance needed through the use of tax revenues already imposed by State and local governments.

One other event which may impact on the NRC's emergency preparedness regulatory and support functions was the creation of the Federal Emergency Management Agency (FEMA). Established by the President's Reorganization Plan No. 3 of 1978, FEMA brings together the three Federal agencies that currently have the major responsibilities for peacetime and wartime emergency planning - the Federal Preparedness Agency, the Defense Civil Preparedness Agency and the Federal Disaster Assistance Administration. As noted previously, it was the Federal Preparedness Agency that issued the Federal Register Notice on 24th December, 1975, which assigned to the NRC the primary responsibility for developing guidance to State and local governments for the preparation of radiological emergency response plans, and for reviewing and concurring in the emergency plans of State and local governments. Under the President's reorganization plan establishing FEMA, the NRC will retain those responsibilities, unless FEMA assumes the responsibilities by rescinding, or modifying, the Federal Register Notice. In this regard, it might be noted that another of the recommendations in the Report to the Congress by the Comptroller General was that FEMA "... assume the responsibility for making policy and coordinating radiological emergency response planning around nuclear facilities...". To date, no formal action has been taken on that recommendation.

V. DEVELOPMENTS SUBSEQUENT TO THREE MILE ISLAND

Following the incident at Three Mile Island (TMI), the Commission established a Task Force on Emergency Planning. The Task Force was directed to review all current regulations and guidance, evaluate the roles of other Federal agencies and State and local governments in responding to a radiological incident, and to develop for Commission consideration a list of major issues that it believed should be addressed through rulemaking proceedings.

In its report to the Commission, the Task Force identified seventeen issues that should be considered for rulemaking. In response, the NRC issued an "Advance Notice of Proposed Rulemaking" [44 FR 41483], stating that it was considering the adoption of additional regulations which would establish as conditions of power reactor operation increased emergency readiness for public protection in the vicinity of nuclear power reactors on the part of both the licensee and the local and State authorities. The Notice solicited public comments on fourteen specific issues, including the following:

- Should NRC concurrence in the associated State and local emergency response plans be a requirement for continued operation of any nuclear power plant with an existing operating license? If so, when should this general requirement become effective?
- Should prior NRC concurrence in the associated State and local emergency response plans be a requirement for the issuance of any new operating license for a nuclear power plant? If so, when should this general requirement become effective?
- Should financial assistance be provided to State and local governments for radiological emergency response planning and preparedness? If so, to what extent and by what means? What should be the source of the funds?
- Should radiological emergency response drills be a requirement? If so, under whose authority: Federal, State or local government? To what extent should Federal, State, and local governments, and licensees be required to participate?
- What actions should be taken in response to the recommendation of the joint NRC/EPA Task Force Report that generic Emergency Planning Zones be established?
- How should Federal agencies interface with State and local governments and the licensee during emergencies?

The Notice also indicated that, based on the comments it receives from the public and the analysis of the issues presented by the NRC Staff, the Commission would determine whether to proceed with proposed rules for notice and comment and/or whether to make such rules immediately effective. It is expected that the Commission will complete its rulemaking review within six months after receipt of the public comments.

The Commission also established a TMI-2 Lessons Learned Task Force, whose task it was to focus specifically on the events at Three Mile Island. Following its investigation, the Task Force issued a "Status Report and Short-Term Recommendations" [NUREG-0578], in which it identified two areas relating to emergency procedures and preparations.

The first area concerned the adequacy of the instrumentation needed during an accident. The Task Force concluded that the Three Mile Island experience showed that more instrumentation was needed, and recommended:

Improved Post-Accident Sampling Capability

Review and upgrade the capability to obtain samples from the reactor coolant system and containment atmosphere under high radioactivity conditions. Provide the capability for chemical and spectrum analysis of high-level samples on site.

Increased Range of Radiation Monitors

Provide high range radiation monitors for noble gases in plant effluent lines and a high range radiation monitor on the containment. Provide instrumentation for monitoring effluent release lines capable of measuring and identifying radioiodine and particulate radioactive effluents under accident conditions.

Improved In-Plant Iodine Instrumentation

Provide instrumentation for accurately determining in-plant airborne radioiodine concentrations to minimize the need for unnecessary use of respiratory protection equipment.

The second area concerned the need to improve in-plant operations procedures and preparations for accident conditions. The Task Force recommended:

Control Room Access

Review plant emergency procedures, and revise as necessary, to assure that access to the control room under normal and accident conditions is limited to those persons necessary to the safe command and control of operations.

Onsite Technical Support Center

A separate technical support center shall be provided for use by plant management, technical, and engineering support personnel. In an emergency, this center shall be used for assessment of plant status and potential offsite impact in support of the control room command and control function. The center should also be used in conjunction with implementation of onsite and offsite emergency response center.

Onsite Operational Support Center

Each operating nuclear power plant should establish and maintain a separate onsite operational support center outside the control room. In the event of an emergency, shift support personnel (e.g., auxiliary operators and technicians) other than those required and allowed in the control room shall report to this center for further orders and assignment.

The Commission has also approved a program to be undertaken over the next year by the NRC's Office of Nuclear Reactor Regulation to improve licensee preparedness at all operating power reactors and those reactors scheduled for an operating licensee decision within the next year. The program will be closely coordinated with a similar effort by the Office

of State Programs to improve State and local response plans, and the Office of Inspection and Enforcement to verify proper implementation of licensee emergency preparedness activities. The program is designed to

- Assure the implementation of the related recommendations of the TMI-2 Lessons Learned Task Force involving instrumentation to follow the course of an accident and relate the information provided by this instrumentation to the emergency plan action levels,
- Determine that an Emergency Operations Center for Federal, State and local personnel has been established with suitable communications to the plant, and that upgrading of the facility in accordance with the Lessons Learned recommendation for an in-plant technical support center is underway,
- Assure that improved licensee offsite monitoring capabilities have been provided for all sites,
- Assess the relationship of State/local plans to the licensee's and Federal plans so as to assure the capability to take appropriate emergency actions. Assure that this capability will be extended to a distance of ten miles as soon as practical, but not later than 1st January, 1981,
- Require test exercises of approved Emergency Plans (Federal, State, local, licensees), review plans for such exercises, and participate in a limited number of joint exercises.

VI. CONGRESSIONAL ACTION FOLLOWING THREE MILE ISLAND

Following the accident at Three Mile Island, several Congressional committees instituted inquiries into the circumstances surrounding the TMI accident, and some have now introduced legislation to deal with TMI related problems which they perceived. Certain of the bills introduced relate directly to emergency planning and preparedness. Specifically, the NRC's authorization bills for Financial Year 1980, S. 562 and H.R. 2608, contain significant provisions relating to this matter. S. 562, which the Senate passed on 17th July, 1979, would require the following:

- An adequate (i.e., NRC concurred in) State radiological emergency response plan as a precondition to the issuance of any new operating license for a utilization facility,
- In those States where a facility is in operation and the Commission has not concurred in the State plan, the granting of such concurrence by the Commission before 1st June, 1980, in consultation with the Director of the Federal Emergency Management Agency (FEMA) and using the guidelines in effect on 16th July, 1979, or the facility for which the State plan applies would be ordered to terminate operations until the State plan received NRC concurrence,
- That the Commission, within six months of enactment, by rule promulgate minimum requirements for State plans, again in consultation with the Director, FEMA. The period for compliance with this rule would be left to the discretion of the Commission and during the interim the guidelines in use on 16th July, 1979, would be considered adequate for concurring in State plans,

- That the Commission, within sixty days of enactment, take compensatory measures to safeguard the public health and safety against the risks of any operating utilization facility where the State's emergency plan does not conform to Commission guidelines.

S.562 also contains provisions that would require the NRC to promulgate by rule, within six months of enactment, a contingency plan detailing NRC's emergency response capabilities and responsibilities. It would also require the President to prepare and publish within 120 days of enactment a national contingency plan which would include an inter-agency task force headed by FEMA and including at a minimum the NRC, the Environmental Protection Agency, and the Departments of Defense, Energy and Health, Education and Welfare. The contingency plan promulgated by the NRC would be incorporated into the national contingency plan. Other provisions of S. 562 require that the NRC conduct a comprehensive investigation into the deficiencies in communication encountered by NRC officials, licensee personnel, and the Governor and other State officials in the period following the accident at Three Mile Island, and that the NRC prepare a plan for remote and instantaneous monitoring of each principal component system of a nuclear power facility which is designed to prevent substantial health or safety hazards or to measure radioactive releases to the atmosphere.

With regard to H.R. 2608, there are presently two versions of this bill - one reported out by the House Interior and Insular Affairs Committee, and another reported out by the House Interstate and Foreign Commerce Committee. The Interior Committee version would forbid, during FY 1980, the expenditure of any funds for the issuance of an operating license for a nuclear power plant until the NRC has examined and approved emergency evacuation plans provided by the State or multi-State region involved. Although the approach is different, this requirement parallels the requirement in S. 562 that an NRC concurred in State radiological emergency plan is a precondition to the issuance of an operating license. The Interior Committee also parallels S. 562 in that it requests (but does not require, as S. 562 does) that NRC report to the Congress setting out what it believes is its proper role during emergency situations.

The Commerce Committee version would require the NRC to establish by rule standards for state radiological emergency plans, to review all plans for such an emergency, to assess the adequacy of the plans and the ability to carry out the plans, and to report any inadequacies to the Governors of the States involved. This version differs from both S. 562 and the Interior Committee version in that it does not make concurred in State plans a precondition for the issuance of an operating license. Both versions are currently awaiting action by the House Rules Committee.

Although not linked to any specific legislation, the House Committee on Government Operations has issued a Report on "Emergency Planning Around U.S. Nuclear Power Plants" /House Report No. 96413, 8th August 1979/. In the Report, the Committee recommended, among other things, that to improve emergency planning the NRC should:

- Upgrade the existing NRC standards for emergency planning, as expressed by Appendix E, to ensure that compliance with them will, in fact, produce an effective emergency plan.
- Require annual drills of utility emergency plans with a condition that they be held jointly with drills of State and local emergency plans.

- Require regular inclusion in customers' electric bills of accurate and specific information about the possibility and nature of nuclear accidents, the potential human health effects of such accidents and their causes, and the protective actions planned if an accident occurs,
- Review and upgrade its own requirements for State and local plans, particularly with regard to the adequacy of planning by local governments and the demonstrated capability for evacuation,
- Require, as a condition for the issuance of a construction permit for a nuclear power plant, the existence of both a state emergency plan for the state in which the plant is sited and, for that site and each additional nuclear plant site in that state, a local plan that comply with NRC standards,
- Abandon the Low Populations Zone and replace it with the concept of Emergency Planning Zones as developed by the Joint Task Force of the NRC and the EPA for both plume and ingestion pathways, making these the areas within which, by rule, the utility is required to carry out those emergency planning tasks for which it is responsible.



FINANCIAL AND LEGAL IMPLICATIONS OF THE
THREE MILE ISLAND ACCIDENT

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United States Nuclear Regulatory Commission

On 28th March 1979, the most serious accident in the history of commercial nuclear power occurred in the United States at the Three Mile Island Nuclear Power Plant, Unit 2 ("TMI-2"), near Harrisburg, Pennsylvania. Despite considerable damage to the reactor and contamination of the containment building, only minimal amounts of radiation were released off site. While all the implications of the accident will not be known for some time, it is already apparent that a comprehensive review of nuclear power, from the licensing process and safety regulations to the financial impact upon each affected segment of society, will be addressed. This paper focuses on one aspect of the accident - the functioning and the future of the financial theories and mechanisms established to deal with liability arising out of a nuclear accident. It does so by including a discussion of costs - direct, indirect, incurred and projected.

THE PRICE-ANDERSON ACT - AN OVERVIEW

As would be expected, much attention and activity is being directed by the general public as well as those persons in the vicinity of and affected by the accident at TMI-2, the nuclear industry and their insurers, the Congress and the Nuclear Regulatory Commission (NRC) on how the financial protection and indemnity system created by the Price-Anderson Act will function.

The Price-Anderson Act was first enacted in 1957 (1) to meet two broad policy issues relating to compensation for damages suffered by the public in the event of a nuclear accident: (i) to remove a deterrent to private industry entering the nuclear energy field based upon high potential liability from low probability accidents, and (ii) to assure that adequate funds existed to compensate injured members of the public for damages resulting in the event of a serious nuclear accident.

The Act, initially enacted for a ten-year period, was amended and extended for a subsequent decade in 1965, amended in 1966, and amended and extended in 1975 for an additional ten-year period until 1st August 1987.

* Responsibility for the views and facts expressed in this Article rests solely with the author.

(1) Public Law 85-256, as amended, 42 U.S.C. 2210, 2014, 2073(e)(8).

Under the Act there is a system of private funds and government indemnity totalling \$560 million to pay public liability claims for personal injury and property damage resulting from a "nuclear incident".(2) The Act requires licensees of commercial nuclear power plants having a rated capacity of 100,000 electrical kilowatts or more to provide proof to the NRC that they have financial protection in the form of private nuclear liability insurance, or in some other form approved by the Commission, in an amount equal to the maximum amount of liability insurance available at reasonable cost and on reasonable terms from private sources. That financial protection, \$495 million, consists of a primary layer of nuclear liability insurance of \$160 million (which was increased from \$140 million on 1st May, 1979) and a secondary retrospective premium insurance layer. In the event of a nuclear incident causing damages exceeding \$160 million, each commercial nuclear power plant licensee would be assessed a prorated share of damages in excess of the primary insurance layer up to \$5 million per reactor per incident but not in excess of \$10 million for each reactor in any calendar year. With 67 commercial reactors operating under this system, the secondary insurance layer totals \$335 million.

The Price-Anderson Act also directs the Commission to enter into indemnity agreements with each licensee required to provide financial protection to indemnify the licensee from public liability arising out of a nuclear incident in excess of the licensee's primary and secondary insurance amounts with indemnification limited to \$500 million for each nuclear incident. The Act limits the aggregate liability for a single nuclear incident to \$560 million or the amount of primary and secondary insurance required of the licensee, whichever is greater.

The difference of \$65 million between the financial protection layer of \$495 million and the \$560 million liability limit is the present government indemnity level. Government indemnity will gradually be phased out as more commercial reactors are licensed and licensees participate in the retrospective premium system. When the primary and secondary financial protection layers by themselves provide liability coverage of \$560 million, government indemnity will be eliminated. The present liability limit of \$560 million would thereafter increase in increments of \$5 million for each new commercial reactor licensed to operate.

Both the primary and secondary insurance and the government's indemnity agreements cover not only licensees but also any other person who may be liable. For example, should offsite damage be caused by failure of a component, the public would have the benefit of the financial protection and related prompt compensation provisions of Price-Anderson even though the vendor of the faulty part might otherwise be without substantial coverage.

(2) A "nuclear incident" is defined by Section 11(q) of the Atomic Energy Act to be "any occurrence, including an extraordinary nuclear occurrence, within the United States causing, within or outside the United States, bodily injury, sickness, disease, or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of source, special nuclear, or byproduct material". Section 170(b) requires the maximum amount of protection for power reactors rated at 100,000 electrical kilowatts or more to be \$560 million.

Public protection comes from more than simple assurance that funds will be available. The Act provides for specific and effective procedures to assure prompt and equitable payment of claims, under court supervision if necessary.

A 1966 amendment to the Act provided that, in the event of an "extraordinary nuclear occurrence" all damage claims may be transferred to a single federal district court. That court is empowered to consider comprehensive plans for a fair distribution of the available funds submitted by the Commission or any interested person. If it appears that damages may exceed the limit of liability, total payments may not exceed 15 percent of that amount unless made pursuant to a distribution plan approved by the court. Moreover, emergency assistance payments made be made immediately following a nuclear incident. The 1966 amendments also provided for the waiver of certain defenses to facilitate recovery by claimants in the event of a declaration of an "extraordinary nuclear occurrence" or "ENO". (3) The amendment authorizes the Commission to require provisions in insurance policies and indemnity agreements whereby licensees waive ordinary tort defenses or possible immunities with respect to any ENO. The waivers extend to "any issue or defense based on any statute of limitation 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...but in no event more than twenty years after the date of the nuclear incident", 42 U.S.C. (Supp V) 2210A/

This panoply of waivers is activated if the Commission declares an accident to be an ENO. Implementing the statutory two-pronged test which defines an ENO - (1) substantial offsite release or substantial offsite radiation, and (11) substantial offsite damages - the Commission issued, in 1968 after a period of public comment, specific numerical criteria for determining whether a particular incident constitutes an ENO. (4)

These criteria, and other matters related to the ENO determination, are found in Part 140 of the Commission's regulations. Recently, the Commission published a notice in the Federal Register 44 F.R. 43126, 23rd July, 1979, that it is considering whether the recent accident at Three Mile Island was an ENO, and invited comments from interested members of the public.

THE SITUATION AT THREE MILE ISLAND

Direct Costs Incurred

At the time of the accident a pool of private insurance companies known as American Nuclear Insurers (ANI) provided \$140 million in liability coverage. Representatives of ANI arrived at Harrisburg,

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- (3) The term "extraordinary nuclear occurrence" is defined in the Atomic Energy Act as any event causing a discharge or disposal of source, special nuclear, or byproduct material from its intended place of confinement in amounts offsite, which the Commission determines to be substantial, and which the Commission determines has resulted or probably will result in substantial damages to persons offsite.
- (4) 10 CFR Part 140, paragraphs 140.81-85.

Pennsylvania on 29th March, 1979 to ascertain the necessity of establishing a claims office. Following the advisory by the Governor of Pennsylvania that pregnant women and pre-school age children living within a five-mile radius of the plant should leave the area, ANI established a claims office to pay claims for living expenses of families with pregnant women or pre-school children together with others who had special medical problems, who had evacuated the area within five miles of the plant. On 31st March, 1979, the first day of operation at the emergency claims center, ANI made payments of almost \$12,000. The payments increased daily and reached a peak of \$167,286 on 9th April, 1979. As of mid-September, cumulative payments made to approximately 12,000 individuals were \$1,302,220.

A total of 4,224 claims have been received by ANI to date, including 113 economic consequences claims. The total also includes payments for lost wages of those individuals who were covered by Governor's advisory. Not included in the total are the expenses incurred by the insurance pools, totalling approximately \$155,000-160,000 to date.

OTHER ACTIONS AND COSTS ARISING OUT OF TMI

It would be impossible to review the financial and legal implications of the accident at Three Mile Island Unit 2 without factoring in the gamut of present and future actions and costs. Hence, beyond the immediate and simple tallies noted above, lie a range of actions and costs which may not be fully known or quantifiable for some time.

Utility

The utility, Metropolitan Edison Co. and its parent company, General Public Utilities Corp., (5) will initially bear the cost of reasserting control over the reactor, clean-up and decontamination; restoration to operation; interest and other charges on a non-operating facility; movement of wastes to storage sites and storage costs; and the cost of purchased energy for replacement of that lost from the nuclear plant.

The utility has stated that the cost of purchasing replacement power for that which would have been produced by TMI Unit 1 and Unit 2 is \$24 million per month or \$288 million per year. Unit 1 was not damaged by the accident at Unit 2 but has been shutdown by order of the NRC pending completion of the investigation into the accident and will require a hearing prior to restart-up. The cost of replacement power is not covered by insurance supplied to the company by either private insurers or the Federal Government.

The utility has further indicated that as a result of the Pennsylvania Public Utility Commission's suspension of a previously granted rate increase it is incurring approximately \$8 million per month in fixed costs related to the construction and financing of the plant. These costs are not included in any insurance coverage of the TMI facility.

(5) Metropolitan Edison Company is the operator and partial owner of TMI-2. TMI Unit 2 is owned by Met. Ed. (50%), Pennsylvania Electric Co. (25%), and Jersey Central Power and Light Co. (25%). All of these Utilities are wholly owned subsidiaries of General Public Utilities Corp.

Finally, while TMI carries the maximum \$300 million in on-site property damage insurance coverage, it is not yet known whether this will be sufficient to cover all the damage. The insurance does not cover costs incurred as a result of plant design modification that may be necessary.

Regulatory Actions

Numerous federal and state agencies and commissions are involved in the review of the accident. Each has responsibility or a mandate to investigate, recommend, and/or act. Among the government activities arising out of the accident are the following:

1. The appointment of the President's Commission on the Three Mile Island Accident (directed by Dr. John Kemeny), issued its report on 31st October, 1979.
2. The designation by the NRC of a NRC Special Inquiry (directed by Mitchel Rogovin, Esq.).
3. NRC Office of Inspection and Enforcement, "Investigation into the 28th March, 1979 Three Mile Accident by Office of Inspection and Enforcement," NUREG-0600 (August 1979).
4. NRC Office of Nuclear Reactor Regulation, Lessons Learned Task Force, published "TMI-2 Lessons Learned Task-Force Status Report and Short-Term Recommendations," NUREG-0578 (July 1979), which contained interim recommendations, some of which are being implemented immediately while others may require rulemaking.
5. The establishment of the Ad Hoc Interagency Dose Assessment Group. Includes input from the Department of Energy, the Environmental Protection Agency and the Nuclear Regulatory Commission, NUREG-0558 (May 1979).
6. The establishment of the NRC Extraordinary Nuclear Occurrence Panel. Pursuant to regulation, 10 CFR paragraph 140.82, the Commission has initiated the making of a determination as to whether or not the TMI accident constitutes an ENO. (See discussion above). This action was initiated despite the fact that no petition had then been received.

Subsequent to the publication of notice of this undertaking, the Commission received a petition from the Public Citizens Litigation Group and the Critical Mass Energy Project asking that the Commission find that the TMI accident was an ENO and requesting that the NRC amend Subpart E of 10 CFR Part 140 to make less stringent the criteria used by the Commission for determination of whether or not an ENO has occurred. The rule-making portion of this petition - which is prospective only - will be handled separately from the determination of whether the TMI accident was an ENO.

The Commission has also received a request from certain plaintiffs in the TMI class action (discussed, *infra*.) that a hearing be held (and that they be allowed to participate) with respect to the TMI ENO determination. The Commission has granted this request and has scheduled a hearing in Harrisburg, Pennsylvania for mid November, in which the public may participate, on the issue of whether the accident was an ENO.

7. Though not directly related to financial implications of the accident, several other NRC regulatory issues have received increased emphasis since the accident: e.g., emergency planning, evacuation planning, consideration of class 9 accidents, and siting policy.

The costs of these regulatory activities stemming from the accident at TMI are not yet known. They are more difficult to quantify than those direct costs which carry precise dollar figures. But increased regulatory activity, with the likelihood of recommendations which involve changes and additional safety requirements, perforce carry a price tag. At present, the apportionment of such cost does not come directly under the existing financial mechanisms for dealing with a nuclear accident.

Litigation

Numerous actions alleging personal injury were initiated following the accident seeking recovery under the Price-Anderson Act. At present, approximately twenty actions have been consolidated as a class action complaint in the Federal District Court for the Middle District of Pennsylvania in Harrisburg, (entitled Gerald S. Fantasky, et. al. v. General Public Utilities Corp. etc. al., Civil Action, Docket No. 79-432). The court has received the complaint as a yet uncertified class action and has renamed the case In re Three Mile Island Litigation. These class actions allege, among other things, emotional injury, property value decline and possible long-term health effects. They claim that aggregate damages are or may exceed \$560 million.

Several smaller cases, from the surrounding municipalities, seek compensation for expenditures incurred as a result of services rendered, e.g., police and clean-up.

There is, of course, no way to speculate at this early date as to how those cases will fare through the court nor what the final awards, if any, will be.

Congressional Activity

There has been a flurry of activity in both the Senate and House of Representatives resulting from the accident at TMI. Most of the Congressional debates have been in the context of the NRC authorization for fiscal year 1980. The issues which Congress has addressed include contingency planning and emergency preparedness; review of the management structures, procedures and operations of the NRC; on-site inspectors and direct link communications; improved training of operators; epidemiological research.

Of particular interest in the context of this paper are the activities of various Congressional committees to review the Price-Anderson Act. Thus far, no specific amendments or modifications have been proposed with respect to the Price-Anderson Act. It is clear, however, that several Committees with jurisdiction over the NRC are interested in how the Price-Anderson Act will operate and whether any changes may be necessary.

On 9th July, 1979, the Chairman of the Nuclear Regulatory Commission appeared before Congressman Udall's Subcommittee on Energy and the Environment to testify on the Price-Anderson Act and liability for nuclear incidents. The Subcommittee asked for specific comments on the following three subjects:

1. The claims handling procedures instituted by the insurance pools following the accident;
2. The examination by the Commission as to whether that accident could be classified as an extraordinary nuclear occurrence; and
3. Increase in insurance capacity to \$160 million for TMI as well as reinstatement of the funds to pay claims arising out of that accident.

In separate inquiries, Congressional interest has been directed at the present amount of insurance available, the existing limitation on liability, the probability assumptions on which the existing financial protection and indemnity system may have been based, and those nuclear activities which are not covered by the Price-Anderson Act.

It is not clear at this time to what extent Congress will pursue its re-examination of the Price-Anderson Act and, concomitantly what, if any, changes will be recommended. What is obvious is that the financial system established for dealing with a nuclear accident is receiving close scrutiny and examination by Congress. If the system performs well, it is possible that Congress will make few or no changes. If, on the other hand, there is some real or perceived difficulty with the financial protection layer, and if called upon, the indemnity layer of the existing system, it is likely that Congress will act to change the system.

CONCLUSION

The legal and financial impact of the accident is presently unquantifiable, and may not be known for some time. This paper has attempted to particularize some known: the current costs to the utility, the regulatory actions, the number and types of legal actions and claims filed to date, compensation already paid, and the level of Congressional interest.

This paper has also briefly attempted to suggest those areas in which speculation takes the place of present fact - the ultimate cost to society, the future regulatory actions to be performed and their cost, the ultimate disposition of litigation, and the possible changes to the Price-Anderson regime.

BIBLIOGRAPHY

• *Brazil*

Direito Nuclear, Revista da Associação Brasileira de Direite Nuclear, No. 1, Rio de Janeiro, 1979, 111 pages

A new periodical on nuclear law has just been issued: the Brazilian Nuclear Law Association's periodical which will be published twice a year. This periodical which demonstrates the interest of Brazilian lawyers in the legal aspects of the uses of nuclear energy, may be obtained from its Scientific Director Madame Machado de Fariã, at the Headquarters of the National Nuclear Energy Commission.

This first issue deals with a fairly wide range of subjects, inter alia, the construction of nuclear power plants in Brazil, application of the IAEA Safeguards, as well as the status of the latter body's inspectors, safety and transport of nuclear fuels, penal provisions in nuclear law ... The periodical also includes a section on "legislation" describing legislative and regulatory developments in the nuclear field; this section will also include any new texts on the subject.

• *France*

Droit Nucléaire, Séries Synthèse, Collection CEA, Edition Eyrolles, 1979, 462 pages

This book on nuclear law is the first in a series of analytical studies on the different aspects of nuclear activities to be published by the French Commissariat à l'Energie Atomique.

This study which should be considered as a first attempt at an overall presentation of French nuclear law does not intend to be comprehensive. Its main purpose is to provide information on the legal problems which may arise from the multiple uses of nuclear energy. It is divided into ten chapters, covering the main sectors of nuclear law and their system of application in France.

After a review of the background and sources of nuclear law in Chapter I, national and international institutions are described in Chapter II. The French nuclear administrative organisation comprises the State departments as well as two public bodies, namely the

Commissariat à l'Energie Atomique (CEA) and Electricité de France (EDF). As regards international institutions those are divided into inter-governmental organisations (IAEA, EURATOM, NEA/OECD, IEA, CERN) and non-governmental organisations (ICRP, SEEA, SEEN, FORATOM). Although mining law has little nuclear specificity it is described in Chapter III because exploration, exploitation and production of uranium, which is a nuclear source material, are governed by the mining code.

Nuclear installations are dealt with in Chapter IV. The legal conditions for setting up, commissioning, operation and shut down of nuclear installations are described; organisation charts and several regulatory texts are reproduced in Annex.

Chapter V covers nuclear law and the sea; the following aspects are studied:

- nuclear ships and national and international regulations;
- carriage of nuclear materials by sea and in harbours at national and international level;
- prevention of radioactive marine pollution by means of international conventions and national legislation.

Chapter VI deals with radioisotopes and their uses, covering general regulations as well as regulations for natural radioisotopes, for artificial radioisotopes and finally, for nuclear materials, namely fissile materials which are a special case.

Protection against ionizing radiation (Chapter VII) is one of the most important aspects of nuclear activities: from the legal viewpoint this means the protection of workers, the public and the environment.

The carriage of radioactive materials other than by sea is described in Chapter VIII. International regulations, French normative texts and the procedures in force are reviewed.

Third party liability and insurance (Chapter IX) are probably the most important aspects of the nuclear legal system. International nuclear third party liability law stems mainly from the Paris, Brussels and Vienna Conventions. French legislation makes a distinction between the system for land-based installations and that for nuclear ships. As for insurance, it may concern either the operator of a nuclear installation or the user of radioisotopes outside a nuclear installation.

Chapter X describes the question of dissemination of know-how, its protection and valorization. This Chapter also covers the non-proliferation of nuclear weapons and regulations for nuclear exports.

Although this book was written by specialists in nuclear law it is easily read by the non-specialist, as the technical problems and their incidence are described in simple, concise terms. The desire to inform, which underlies preparation of this book, has provided a positive contribution to the much-needed efforts to clarify nuclear activities which still remain a complex and even mysterious subject for a wide sector of the public.

• *United Kingdom*

Summary of the Law relating to Atomic Energy and Radioactive Substances as at March 1979, D. F. Sim, K. J. S. Ritchie, 21 pages

This summary which supplements a series of notes issued in 1978 (see Nuclear Law Bulletin No. 22) reviews the different texts which constitute the nuclear legislation in force.

Reference is made to the main Acts on atomic energy (1946), radioactive substances (1948 and 1960), on nuclear installations (1965, 1969) amended by the 1971 and 1978 Regulations.

The summary also provides information on different aspects of nuclear activities: protection of workers, safety, medicine and food-stuffs, transport, import and export.

Finally, information is provided on international regulations: the Euratom Treaty, the IAEA Regulations, the different conventions on international transport and on the special nuclear third party liability system.

• *INLA*

Nuclear Inter Jura '77, Proceedings, Florence, 1977, 748 pages

The International Nuclear Law Association (INLA) which held its Third Congress in Florence from 3rd to 5th October 1977 (see Nuclear Law Bulletin No. 20) has just published the Proceedings of this meeting. They include the texts of the papers presented in their original language and the discussions. An English translation of the papers is reproduced in the last part of the Proceedings.

The subjects dealt with respectively concerned contractual aspects of nuclear activities, the impact of nuclear power on the environment and public acceptance, radiological protection, third party liability and insurance, harmonization of licensing regulations, export of nuclear equipment in relation to the Non-Proliferation Treaty and finally, computerization of nuclear law.

• *Organization of American States*

Study of Legal Measures Governing Radiation Safety in the Peaceful Uses of Nuclear Energy (Second revised edition), Inter-American Nuclear Energy Commission (IANEC), Washington, 1976, 87 pages

This Study is divided into two main parts. The first deals with the need for measures governing radiation protection and safety. These measures and standards are prepared by international bodies such as the International Commission on Radiological Protection (ICRP), the International Atomic Energy Agency (IAEA), the OECD Nuclear Energy Agency (NEA).

The second part analyses the different national laws on radiation protection and safety. The review covers the following fifteen Latin American countries: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Mexico, Paraguay, Peru, Uruguay and Venezuela.

The United States' relevant legislation is then reviewed as are the laws of several other countries: Canada, France, the Federal Republic of Germany, Italy, Japan, Spain and the United Kingdom.

Estudio comparativo de la legislacion sobre usos pacificos de la energia nuclear en los estados americanos y algunos otros paises, Comision Interamericana de Energia Nuclear (CIEN), Washington, 1977, 127 pages

This comparative study of legislation governing the peaceful uses of nuclear energy in the American States and several other countries with nuclear programmes treats the subject under four main headings: the competent authorities in each country; exploration and use of nuclear ores; possession, use and transport of nuclear materials and installations; third party liability and financial security for nuclear damage. Information is also provided concerning patents in the nuclear field and the legal terminology in use in each country.

The Study covers fifteen Latin American countries: Argentina, Bolivia, Brazil, Colombia, Costa Rica, Chile, Dominican Republic, Ecuador, El Salvador, Guatemala, Mexico, Paraguay, Peru, Uruguay, Venezuela as well as the United States, Canada, France, the Federal Republic of Germany, Italy, Spain and the United Kingdom.



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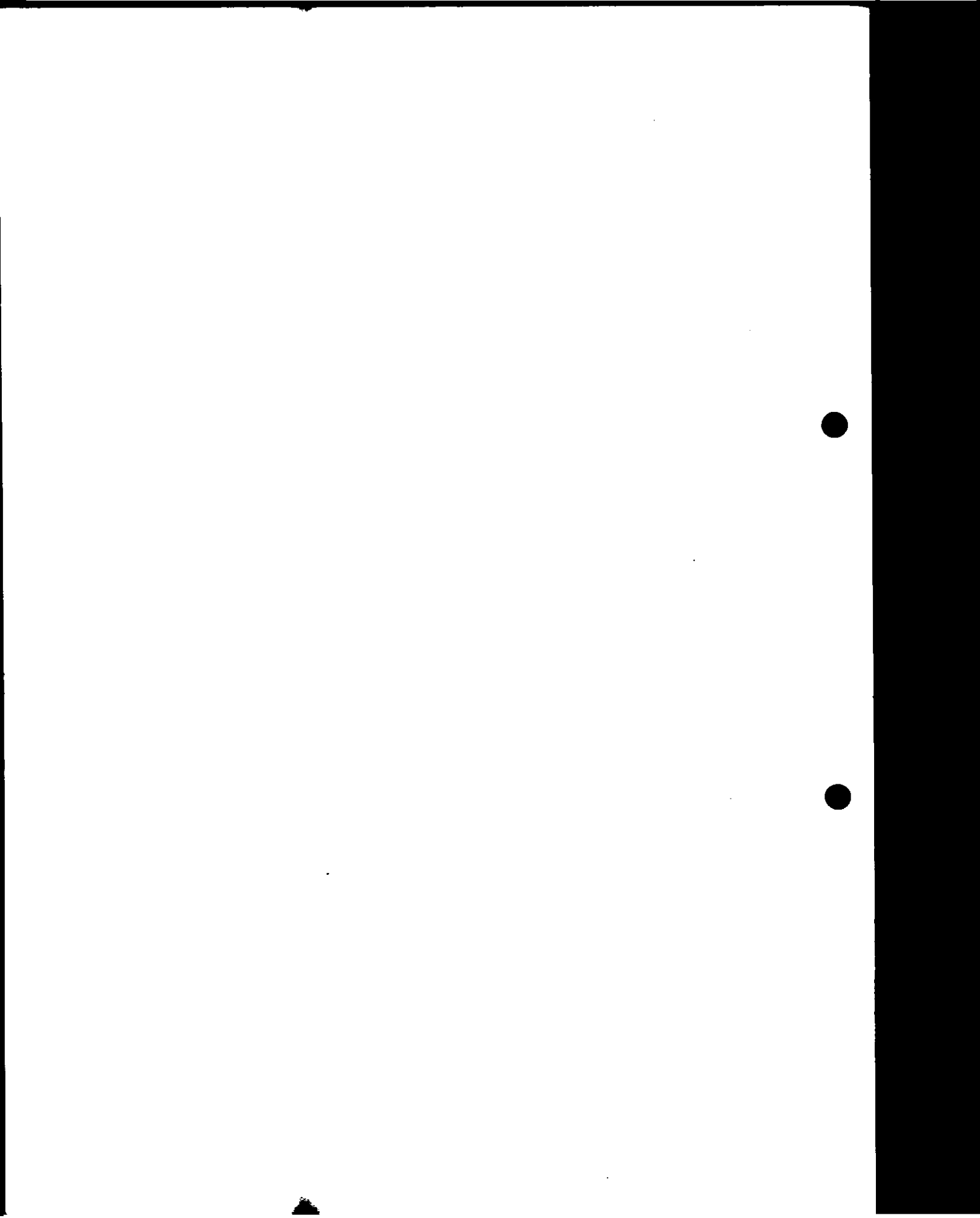
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FOR DAMAGE CAUSED BY NUCLEAR INCIDENTS:

NUCLEAR INCIDENTS (THIRD PARTY LIABILITY) ACT

*supplement
See supplement no 29*

December 1979



THE NETHERLANDS

ACT OF 17 MARCH 1979

CONTAINING REGULATIONS CONCERNING THIRD PARTY LIABILITY

FOR DAMAGE CAUSED BY NUCLEAR INCIDENTS:

NUCLEAR INCIDENTS (THIRD PARTY LIABILITY) ACT*

(Official Gazette 1979, No. 225)

CHAPTER I

Definitions

Section 1

1. For the purposes of this Act and its implementation:

The "Paris Convention" shall mean the Convention on Third Party Liability in the Field of Nuclear Energy concluded in Paris on 29 July 1960 (Netherlands Treaty Series 1961, No. 27; 1962, No. 64), as amended by the Additional Protocol to that Convention concluded in Paris on 28 January 1964 (Netherlands Treaty Series 1964, No. 178);

The "Brussels Convention" shall mean the Convention concluded in Brussels on 31 January 1963 Supplementary to the Paris Convention (Netherlands Treaty Series 1963, No. 171) as amended by the Additional Protocol to that Convention concluded in Paris on 28 January 1964 (Netherlands Treaty Series 1964, No. 179);

"nuclear incident", "nuclear installation", "nuclear substances", "operator" and "damage" shall have the same definitions as in the Paris Convention.

* Translation by the Netherlands authorities.

2. For the purposes of applying the provisions of or by virtue of the Paris Convention, the Brussels Convention and the present Act, the operator of a nuclear installation situated in the Netherlands shall be deemed to be the duly authorised person who establishes, puts into operation or operates a nuclear installation in the Netherlands. Loss of such authority by revocation or suspension of the relevant licence or exemption shall not cause him to lose his status as an operator of a nuclear installation situated in the Netherlands as concerns liability for damage caused by a nuclear incident involving fissionable materials or radioactive products or waste in respect whereof he was liable at the time of losing his authority or would have become liable owing to commitments already undertaken at such time, until such time as his liability as an operator has been taken over by someone else.

CHAPTER II

Implementation of the Paris Convention

Section 2

Sections 1 to 17 of this Act shall be observed in implementing the Paris Convention.

Section 3

1. The maximum liability of the operator of a nuclear installation situated in the Netherlands shall be established, pursuant to Article 7(b) of the Paris Convention, at one hundred million guilders.
2. The maximum amount stated in sub-section 1 hereof may be increased by General Administrative Order, taking into account the possibilities of obtaining insurance.
3. The exception in Article 3(a)(ii)(2) of the Paris Convention shall not apply to the operator of a nuclear installation situated in the Netherlands, provided always that such operator shall be liable for damage to the means of transport only to such an extent that at least the amount stated in Article 7(c) of the Paris Convention remains available for compensation for the other damage out of the maximum amount stated in sub-section 1 hereof.

Section 4

The liability of the operator of a nuclear installation situated in the Netherlands shall include liability for damage which arises out of or results from ionizing radiations emitted by any source of radiation inside his installation other than those referred to in Article 3(a) of the Paris Convention.

Section 5

At the request of a carrier and with the consent of the operator of a nuclear installation situated in the Netherlands Our Minister of Finance may, provided the requirements of Article 10(a) of the Paris Convention have been fulfilled, decide that under such terms as he shall stipulate the carrier shall be liable in accordance with the Paris Convention and this Act in place of the operator.

Section 6

Notwithstanding the period of limitation stated in Article 8 of the Paris Convention, the right of compensation shall be extinguished if an action is not brought within three years from the date at which the person suffering damage or, if he has a legal representative, such legal representative has knowledge of or ought reasonably to have known of both the damage and the operator liable. Article 2013 of the Civil Code shall apply in like manner.

Section 7

1. The competent public authority referred to in Article 10(a) and (b) of the Paris Convention is Our Minister of Finance.
2. Our Minister of Finance may, in concurrence with Our other Ministers concerned, direct that two or more nuclear installations operated by one and the same operator at the same site are to be regarded as one nuclear installation for the purposes of the Paris Convention and this Act.

Section 8

1. If in the opinion of Our Minister of Finance an operator of a nuclear installation situated in the Netherlands cannot obtain adequate financial security as referred to in Article 10(a) of the Paris Convention or if such financial security in the opinion of Our Minister of Finance is obtainable only for an unreasonable premium or other payment, Our aforesaid Minister may enter into insurance contracts on behalf of the State as insurer or provide other State guarantees on such terms and for such premiums or other payments as he may determine.
2. In cases in which he deems the risks involved to be so slight or of such a nature as to warrant this, Our Minister of Finance may direct that a proportion to be established by him of the financial security referred to in Article 10(a) of the Paris Convention shall consist of the public funds mentioned in Section 9, sub-section 1, of this Act.

Section 9

1. To such extent as the funds becoming available from other financial security are insufficient to compensate for the damage for which the operator of a nuclear installation situated in the Netherlands is liable, the State shall make public funds available to such operator up to his maximum liability.
2. To such extent as the lack of the other financial security referred to in sub-section 1 hereof is the operator's own fault, the State shall have the right to recover from the operator the funds it has provided in connection therewith.
3. Up to the amount it has made available to the operator out of public funds pursuant to sub-section 1 hereof, the State shall hold the operator's right of recourse referred to in Article 6(f) of the Paris Convention. In the exercise of this right the State shall take priority over the insurers or other persons providing financial security as referred to in Article 10(a) of the Paris Convention.

Section 10

1. Recognition and payment of claims for compensation for damage caused by a nuclear incident and arrangements and amicable settlements of such claims may be made only with the approval or Our Minister of Finance.
2. Acts or transactions contrary to sub-section 1 hereof are legally void. They shall be pronounced as such by the court ex officio.

Section 11

1. If it must reasonably be assumed that there is a possibility of the State having to make public funds available to compensate for damage caused by a nuclear incident, Our Minister of Finance may order that he will carry out on the operator's behalf all the operator's rights and obligations with respect to settlement of the claim or any of such rights and obligations as he may decide.

In so far as any contracts made between such operator and insurers or other persons providing financial security as referred to in Article 10(a) of the Paris Convention are contrary thereto they shall be disregarded.

2. An order as referred to in sub-section 1 hereof shall be published in the Government Gazette. Such an order may contain further rules for filing claims for compensation for damage.

Section 12

Acts or transactions by insurers or other persons providing financial security as referred to in Article 10(a) of the Paris Convention contrary to the provisions of Article 10(b) of such Convention are legally void. They shall be pronounced as such by the Court ex officio.

Section 13

The District Court at The Hague shall be the court of first instance in the Netherlands, competent in accordance with Article 13 of the Paris Convention, and also the Court referred to in this Act.

Section 14

1. Upon application by a person concerned the Court may order that the insurers and other persons providing financial security as referred to in Article 10(a) of the Paris Convention shall pay the funds they have to provide in consequence thereof for the settlement of recognised or awarded claims for compensation direct to the claimants. Such an order may be revoked by the Court at any time.
2. The Court shall not decide on an application as referred to in sub-section 1 hereof until the applicant, Our Minister of Finance and the operator have been heard or summoned to attend the hearing.
3. The Court's order shall be pronounced at a public session and be published by the Clerk of the Court in the Government Gazette. The applicant may appeal against the order to the Court of Appeal within fourteen days of the date of the Government Gazette in which the order is published.

4. The Court of Appeal's order shall be pronounced at a public session and be published by the Clerk of the Court in the Government Gazette. The appellant may appeal to the Court of Cassation within three weeks of the date of the Government Gazette in which the order is published.

5. An order as referred to in the first sentence of sub-section 1 hereof shall be immediately enforceable. Even if it is set aside on appeal or cassation payments made in conformity with such order before the order setting it aside has become final shall remain valid and binding.

Section 15

1. If the aggregate of compensation required to be paid by the operator exceeds the maximum liability established pursuant to Article 7(b) of the Paris Convention, the claims to compensation shall be reduced proportionately.

2. In cases in which sub-section 1 hereof applies, regulations concerning the manner of settling the relevant claims for compensation may be made by General Administrative Order.

Section 16

1. If it must reasonably be assumed that there is a possibility of the case referred to in Section 15 occurring and the amount of each claim payable has not yet been established a person concerned may apply to the Court for an injunction against payment with respect to compensation for damage. The Clerk of the Court shall give notice of the filing of such application forthwith to the operator, Our Minister of Finance and the insurers or other persons providing financial security as referred to in Article 10(a) of the Paris Convention.

2. The operator and the insurers or other persons providing financial security as referred to in Article 10(a) of the Paris Convention may make no payments in respect of compensation for damage from the day on which they filed an application as referred to in sub-section 1 hereof or on which it came to their notice that such an application had been filed, as the case may be, until the day on which an order concerning the application has become final.

3. If the Court finds the application well-founded it shall make an injunction against payment as referred to in sub-section 1 hereof against the operator and the insurers or other persons providing financial security as referred to in Article 10(a) of the Paris Convention. Section 14, sub-sections 2, 3 and 4 hereof shall apply in like manner to such order and also to any order declaring the application unfounded.

4. Acts or transactions contrary to the provisions of sub-section 2 hereof or an order as referred to in the first sentence of sub-section 3 hereof shall be legally void. They shall be pronounced as such by the Court ex officio.

5. The Court may terminate the injunction referred to in sub-section 3 hereof ex officio or upon application by a person concerned.

Section 17

During the time the injunction against payment referred to in Section 16 is in force claims for compensation recognised or awarded shall bear interest at a rate to be determined by Our Minister of Finance.

CHAPTER III

Implementation of the Brussels Convention

Section 18

Sections 1 and 18 to 25 of this Act shall be observed in implementing the Brussels Convention.

Section 19

To such extent as the maximum amount stated in Section 3 of this Act is insufficient to compensate for damage as referred to in Article 2 of the Brussels Convention for which the operator of a nuclear installation situated in the Netherlands is liable under the Paris Convention, the public funds referred to in Article 3(b)(ii) and (iii) and (f) of the Brussels Convention for compensation in respect of such damage shall be made available other than as cover for the liability of the operator.

Section 20

The public funds required to be made available pursuant to the Brussels Convention shall be disbursed to persons who have suffered damage as referred to in Article 2 of such Convention and who have a right to compensation for such damage under the Paris Convention as evidenced by a final judgment of the competent court or by a written acknowledgment by the operator, without embarking upon an assessment of the grounds for giving such judgment or acknowledgment.

Section 21

1. If it must reasonably be assumed that there is a possibility of the State having to make public funds available pursuant to the Brussels Convention, Our Minister of Finance shall announce this in the Government Gazette.
2. As from the day on which an announcement is made as referred to in sub-section 1 hereof, persons who can claim compensation for damage as referred to in Article 2 of the Brussels Convention may file an application to that effect with Our Minister of Finance.
3. An application as referred to in sub-section 2 hereof should contain:
 - (a) the applicant's name and address;
 - (b) a description of the circumstances by reason whereof the applicant believes he has a claim to compensation from public funds pursuant to the Brussels Convention.
4. The applicant should submit a certified copy of a final judgment by the competent court establishing the correctness of the claim filed against the operator and the amount of the damage or a written acknowledgment by the operator of the correctness of the claim and the amount of the damage.
5. Our Minister of Finance may make regulations for giving effect to this Section. Such regulations shall be published in the Government Gazette.

Section 22

1. Should the aggregate damage exceed the amount stated in Article 3(a) of the Brussels Convention the claims to compensation pursuant to the Brussels Convention shall be reduced proportionately.

2. In cases in which sub-section 1 hereof applies regulations concerning the manner of settling the relevant claims for compensation may be made by General Administrative Order.

Section 23

During the time an injunction against payment as referred to in Section 16 hereof is in force no disbursements pursuant to Section 20 may be made.

Section 24

The States which have made public funds available pursuant to Article 3(b)(ii) and (iii) and (f) of the Brussels Convention shall hold the operator's right of recourse referred to in Article 6(f) of the Paris Convention up to the amount so made available. In the exercise of this right those States shall have priority over the insurers or other persons providing financial security as referred to in Article 10(a) of the Paris Convention.

Section 25

The State in whose territory the nuclear installation of the operator liable is situated shall at all times be deemed to be an interested party in joinder or intervention in court actions relating to claims for compensation for damage.

CHAPTER IV

Supplementary provisions

Section 26

1. The limitations upon its application referred to in Article 2 of the Paris Convention shall not apply to the liability of the operator of a nuclear installation situated in the Netherlands for damage suffered on Netherlands territory or resulting from a nuclear incident occurring on that territory.

2. Exceptions to the provisions of Article 2 of the Paris Convention other than those referred to in sub-section 1 hereof may be made by General Administrative Order as far as concerns the liability of the operator of a nuclear installation situated in the Netherlands.

3. If within three months of the coming into force of a General Administrative Order as referred to in sub-section 2 hereof we have not presented a Bill to the States-General for amendment of this Act in conformity with such Order or if such Bill is withdrawn or rejected we shall cancel the said Order forthwith.

Section 27

The Paris Convention and Sections 1 to 17 of this Act shall also apply to nuclear installations situated in the Netherlands that do not appear on the list established and kept up to date in accordance with the terms of Article 13 of the Brussels Convention, provided always that the maximum liability referred to in Section 3 of this Act shall be the amount stated in Article 3(a) of the Brussels Convention.

Section 28

1. As regards a nuclear incident occurring on Netherlands territory the consignor and the carrier of the nuclear substances involved in the incident and also the person who held such substances at the time of the incident shall be deemed to be the operator of a nuclear installation situated in the Netherlands and as such be held jointly and severally liable for the damage thereby caused unless it is proved that some other person is liable therefor pursuant to the Paris Convention, provided always that their maximum joint liability shall be the amount stated in Article 3(a) of the Brussels Convention.
2. Article 6 of the Paris Convention and Sections 10, 11, 13 to 17 and 29, sub-section 1, of this Act shall also apply to liability pursuant to sub-section 1 hereof.
3. Sub-section 1 hereof shall not apply:
 - (a) with respect to a person who did not know of the nuclear nature of the substances involved nor ought reasonably to have known of it;
 - (b) with respect to a person who at the time of the nuclear incident was transporting the nuclear substances involved therein in compliance with a transport contract or had them in storage incidental thereto if he could reasonably assume:
 - (i) that some other person would be liable for the damage under the Paris Convention, or
 - (ii) that some other person would be liable for the damage pursuant to sub-section 1 hereof and that such person had an insurance or other financial security approved by Our Minister of Finance to cover his liability.

Section 28a

1. If damage is suffered on Netherlands territory as a result of a nuclear incident for which compensation is payable pursuant to the Brussels Convention or this Act and the funds becoming available therefor from other sources are insufficient to compensate for such damage to an amount of one thousand million guilders, the State shall make available the public funds needed to compensate for the damage up to this amount.
2. The State shall have a right of recourse in respect of the disbursements and any costs relating thereto against the persons liable therefor pursuant to this Act.
3. Sections 21 to 25 hereof shall apply in like manner to the provision of public funds pursuant to sub-section 1 hereof.

4. The provisions of sub-section 1 hereof shall also apply to damage as referred to therein suffered in States which are parties to the Brussels Convention and in which regulations were in force at the time of the nuclear incident equivalent in their nature, area of application and amount to those in this Act.

5. Regulations may be made by or by virtue of a General Administrative Order regarding the provision of public funds in pursuance of sub-section 1 hereof.

Section 29

1. The operator of a nuclear installation situated in the Netherlands shall notify Our Minister of Finance forthwith of:

- (a) every nuclear incident which may have caused damage for which he is liable;
- (b) every presentation out of court of a claim for compensation for damage in connection with such nuclear incident;
- (c) every court action claiming compensation for damage in connection with such nuclear incident;
- (d) every payment of compensation for damage in connection with such nuclear incident.

2. Sub-section 1 hereof shall apply in like manner as regards the operator of a nuclear installation not situated in the Netherlands if the nuclear incident has occurred on Netherlands territory.

3. In so far as the State makes available or disburses public funds as referred to in Section 9, sub-section 1, and Sections 19 and 28a in compensation for damage in respect of which the obligation pursuant to sub-sections 1 or 2 hereof has not been complied with, the State shall have a right of recourse against the operator in respect of the amount so paid unless the operator can show that he was not reasonably in a position to comply with such obligation.

Section 30

If and in so far as the Netherlands social security legislation gives entitlement to benefits as compensation for the damage, the right to compensation therefor under the Paris and Brussels Convention and this Act shall accrue to whomsoever is chargeable for such benefits, provided always that in the case of periodic benefits the damage shall be deemed to be the capitalised value of the benefits due. Otherwise the provisions of the said legislation shall remain in force.

Section 31

1. Our Minister of Finance may make appropriate advance payments to persons who have suffered damage as a result of a nuclear incident.

2. Our Minister of Finance shall decide the amount of such advances having regard to the nature and extent of the damage, the benefit to which the person concerned will presumably be entitled and his personal circumstances.

3. Any advance payment will be deducted from the amount of compensation due to the person concerned.

4. Notwithstanding the provisions of Section 16, sub-sections 3 and 4, hereof, Our Minister of Finance may, whether or not during the time the injunction against payment is in force, demand of the insurers and other persons providing financial security as referred to in Article 10(a) of the Paris Convention that, as and when amounts are recognised or awarded as compensation for damage, they pay to him the funds referred to in such Article up to the amount of the advance payments made by him.

Section 32

Our Minister of Finance shall have authority to make contracts of insurance on behalf of the State as insurer or give other guarantees on behalf of the State not exceeding the sum of one thousand guilders per nuclear incident for the benefit of the operator of a nuclear installation situated in the Netherlands with respect to compensation for damage caused by a nuclear incident, otherwise than pursuant to the Paris Convention and this Act, on such terms and for such premiums or payments as he may decide.

CHAPTER V

Final provisions

Section 33

1. The Act of 27 October 1965 containing regulations concerning Third Party Liability in the Field of Nuclear Energy (Bulletin of Acts, Orders and Decrees No. 546) is hereby revoked.

2. The Act referred to in sub-section 1 hereof shall continue to be applicable with respect to damage caused by a nuclear incident occurring prior to this Act coming into force.

3. The Royal Decree of 28 December 1965 (Bulletin of Acts, Orders and Decrees No. 647) to implement Section 2 of the Act referred to in sub-section 1 hereof and the Orders by Our Minister of Finance under Section 1, sub-section 2, and Section 10, sub-section 2 of that Act are deemed to have been made by reason of the corresponding provisions of this Act and shall remain in force until revoked or replaced.

Section 34

1. This Act may be cited as: The Nuclear Incidents (Third Party Liability) Act.

2. It shall come into force at a time to be decided by Us.*

* Note by the Secretariat: This Act was published on 3rd May 1979; it entered into force on 28th December 1979.