

NUCLEAR  
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June 1987

Nuclear Energy Agency  
Organisation for Economic Co-operation and Development

Pursuant to article 1 of the Convention signed in Paris on 14th December, 1960 and which came into force on 30th September, 1961, the Organisation for Economic Co-operation and Development (OECD) shall promote policies designed

- to achieve the highest sustainable economic growth and employment and a rising standard of living in Member countries, while maintaining financial stability and thus to contribute to the development of the world economy
- to contribute to sound economic expansion in Member as well as non-member countries in the process of economic development, and
- to contribute to the expansion of world trade on a multilateral non-discriminatory basis in accordance with international obligations.

The original Member countries of the OECD are Austria, Belgium, Canada, Denmark, France, the Federal Republic of Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The following countries became Members subsequently through accession at the dates indicated hereafter: Japan (28th April, 1964), Finland (28th January 1969), Australia (7th June, 1971) and New Zealand (29th May, 1973).

The Socialist Federal Republic of Yugoslavia takes part in some of the work of the OECD (agreement of 28th October, 1961)

*The OECD Nuclear Energy Agency (NEA) was established on 20th April 1972 replacing OECD's European Nuclear Energy Agency (ENEA) on the admission of Japan as a full Member*

*NEA now groups all the European Member countries of OECD and Australia, Canada, Japan, and the United States. The Commission of the European Communities takes part in the work of the Agency*

*The primary objectives of NEA are to promote co-operation between its Member governments on the safety and regulatory aspects of nuclear development and on assessing the future role of nuclear energy as a contributor to economic progress*

*This is achieved by*

- *encouraging harmonisation of governments' regulatory policies and practices in the nuclear field with particular reference to the safety of nuclear installations, protection of man against ionising radiation and preservation of the environment, radioactive waste management and nuclear third party liability and insurance*
- *keeping under review the technical and economic characteristics of nuclear power growth and of the nuclear fuel cycle and assessing demand and supply for the different phases of the nuclear fuel cycle and the potential future contribution of nuclear power to overall energy demand*
- *developing exchanges of scientific and technical information on nuclear energy particularly through participation in common services*
- *setting up international research and development programmes and undertakings jointly organised and operated by OECD countries*

*In these and related tasks NEA works in close collaboration with the International Atomic Energy Agency in Vienna with which it has concluded a Co-operation Agreement as well as with other international organisations in the nuclear field*

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Head of Publications Service, OECD

2, rue André-Pascal, 75775 PARIS CEDEX 16, France

LIST OF CORRESPONDENTS TO THE NUCLEAR LAW BULLETIN

- ARGENTINA - Mr MARTINEZ FAVINI, Head of Legal Department, National Atomic Energy Commission
- AUSTRALIA - Mr M POWER, Information Services Department, Australian Atomic Energy Commission
- AUSTRIA - Dr F W SCHMIDT, Head of Section, Nuclear Co-ordination and Non-Proliferation, Federal Chancellery
- BELGIUM - Mr STALLAERT, Social Security Administration, Ministry of Employment and Labour
- Mrs CONRUYT, Counsellor, Head of Section, Insurance Services, Ministry of Economic Affairs
- Mr RIVALET, Legal Services, Ministry of Economic Affairs
- BRAZIL - Mrs C LINHARES LEITE, Attorney General, Comissao Nacional de Energia Nuclear
- CANADA - Mr BARKER, Director, Legal Services, Atomic Energy Control Board
- DENMARK - Mr M REKLING, Legal Department, Ministry of Justice
- FINLAND - Mr SAHRKORPI, Senior Ministerial Secretary, Ministry of Trade and Industry
- FRANCE - Mr. MAYOUX, Deputy to the Head of the Legal Department, Atomic Energy Commission
- GERMANY (Federal Republic) - The Institute of Public International Law of Göttingen University, Department of Nuclear Law (Dr. PELZER)
- GREECE - Greek Atomic Energy Commission
- IRELAND - Mr. SWEETMAN, Barrister-at-Law, Dublin
- Department of Industry and Energy
- ISRAEL - Mr. G NATIV, Legal Adviser to the Israeli Atomic Energy Commission
- ITALY - Dr NOCERA, Head of Legal Affairs, Nuclear Safety and Health, Protection Directorate, National Committee for Research and Development of Nuclear and Alternative Energies
- JAPAN - Mr F SAKAUCHI, Director, Research and International Affairs Division, Atomic Energy Bureau, Science and Technology Agency

- NETHERLANDS** - Mr VAN GALEN LAST, Deputy Director for Council of Europe and Scientific Co-operation, Ministry of Foreign Affairs
- Mr CORNELIS, Directorate of Nuclear Energy and Radiation Protection, Ministry of Public Health and Environmental Protection
- NEW ZEALAND** - Mr W N MacQUARRIE, Department of Scientific and Nuclear Research, Institute of Nuclear Sciences
- NORWAY** - Mrs I M. SITRE, Legal Adviser, Department of Legislation, Ministry of Justice
- PORTUGAL** - Mrs A. SETTE PIMENTA, Head, International Relations of the Nuclear Energy Department, General Directorate for Energy
- SPAIN** - Ms L. CORRETJER, Professor, Faculty of Law, Complutense University, Madrid
- SWEDEN** - Mrs C. HOLTZ, Legal Adviser, Ministry of Justice
- Mr G HEDELIUS, Legal Adviser, Swedish Nuclear Power Inspectorate
- Mr. C G HESSER, Legal Adviser, National Institute of Radiation Protection
- SWITZERLAND** - Mr W A BÖHLMANN, Head, Legal Services, Federal Office of Energy
- TURKEY** - Mrs F. KIPER, Head of External Relations, Turkish Atomic Energy Authority
- UNITED KINGDOM** - Mr. D. GRAZEBROOK, Legal Adviser of the Atomic Energy Authority of the United Kingdom
- Mr. R VENABLES, Assistant Treasury Solicitor, Department of Energy
- UNITED STATES** - Ms L. GILBERT, Senior Attorney, Rulemaking and Fuel Cycle Division, Nuclear Regulatory Commission
- Mr R. NEWTON, Assistant General Counsel for International Development and Defence Programmes, Department of Energy
- Ms S. SHERMAN, Office of the General Counsel, Department of Energy
- URUGUAY** - Dr D. PEREZ PINEYRUA, Legal Adviser, National Atomic Energy Commission
- YUGOSLAVIA** - Mr. M TRAMPUZ, Secretary of the Nuclear Energy Commission

- IAEA - Mr HA VINH PHUONG, Adviser, Legal Division, International Atomic Energy Agency
- EURATOM - Legal Service, Commission of the European Communities
- WHO - Dr COOPER, Principal Editor, Periodicals, World Health Organisation

# LEGISLATIVE AND REGULATORY ACTIVITIES

## • *Australia*

### NUCLEAR LEGISLATION

#### Entry into force of new legislation re-organising nuclear activities (1987)

The December issue of the Nuclear Law Bulletin (No 38) reported on proposed legislation intended to set up a uniform regulatory framework for Australia's nuclear activities. These texts reflect a re-orientation in this country's nuclear activities, thus shifting the focus of research away from work on the nuclear fuel cycle - in particular from power generation towards other peaceful uses of radionuclides.

Three Acts which are part of this legislation entered into force on 26th April 1987:

- the Australian Nuclear Science and Technology Organisation Act 1987 (Act No. 3) - ANSTO;
- the Australian Nuclear Science and Technology (transitional provisions) Act 1987 (Act No. 4); and
- the Atomic Energy Amendment Act 1987 (Act No 5).

It is recalled that ANSTO succeeds the Australian Atomic Energy Commission (AAEC).

### RADIATION PROTECTION

#### 1986 Guideline for 1980 Code of Practice on Radiation Protection in Mining and Milling of Radioactive Ores

The 1980 Code of Practice on Radiation Protection in the Mining and Milling of Radioactive Ores applies to "a mill for the production of ore concentrates or intermediate products that contain at any stage of milling

greater than 0.05 per cent by weight of uranium or greater than 0.05 per cent of thorium".

The above Guideline on storage and packaging of uranium concentrates was issued by the Department of Arts, Heritage and Environment. It is intended to provide assistance in the application of the 1980 Code of Practice.

Its purpose is to give advice relevant to the design, construction and operation of a uranium concentrate storage and packaging facility in which exposure to ionizing radiation from uranium-bearing concentrate will not only conform to the Code, but will also be as low as reasonably achievable. The Guideline does not apply to thorium concentrates.

## ENVIRONMENTAL PROTECTION

### Environment Protection (Sea Dumping) Act 1981 - Amendment Act 1986

The above Act of 1981 provides for protection of the environment by regulating the dumping into the sea (and incineration at sea) of wastes and other matter.

This Act has now been modified by the Environment Protection (Sea Dumping) Amendment Act 1986 (No. 141 of 1986) which was assented to on 9th December 1986 and entered into force on 6th January 1987. The main purpose of the amendments is to prohibit the dumping of radioactive material into the sea.

The new Act specifically states that it is forbidden to dump any radioactive material into Australian waters or into any part of the sea from any Australian vessel, aircraft or platform. Loading of radioactive material on any vessel or aircraft in Australia or in Australian waters for dumping into the sea is also prohibited. In addition, it is forbidden to incinerate radioactive material at sea or to load such material for purposes of incineration at sea.

Fines are set for contravening the provisions of the Act concerning radioactive material. The fine shall not exceed 50 000 Australian dollars for a natural person and 100 000 Australian dollars for a body corporate.

### South Pacific Nuclear Free Zone Treaty Act 1986

The above Act (No. 140 of 1986) was assented to on 9th December 1986. Its purpose is to give effect to Australia's obligations as a Party to the South Pacific Nuclear Free Zone Treaty of 6th August 1985 (see "Agreements" Chapter of this issue of the Bulletin).

The Act is supplemented by the provisions of the Environment Protection (Sea Dumping) Act 1981 as amended in 1986 (see above) as regards dumping of radioactive material into the sea.

The Act repeats the substantive provisions of the Treaty and lays down prohibitions in relation to nuclear explosive devices, it refers specifically to the Nuclear Non-Proliferation (Safeguards) Act 1986 (see Nuclear Law Bulletin No 38) and the Environment Protection (Sea Dumping) Act 1981 concerning safeguards and sea dumping of radioactive material respectively

In particular, it is prohibited to manufacture, produce, acquire or test nuclear explosive devices or to facilitate such actions by any person, including a foreign country, whether in or outside Australia. Research in that field is also forbidden

## • *Belgium*

### RADIATION PROTECTION

#### 1987 Royal Orders amending the Royal Order of 28th February 1963 laying down general regulations on protection against radiation

The Royal Order of 28th February 1963 laying down General Regulations concerning Protection of the Public and Workers against the Hazards of Ionizing Radiation (see Nuclear Law Bulletin Nos. 1, 7, 23, 34 and 36) has been amended successively by two Royal Orders made within a month of each other Royal Orders of 16th January 1987 and 11th February 1987 (both published in the Official Gazette of 12th March 1987)

Both Orders - without affecting the principles of the 1963 Order - implement in Belgium Community Law on radiation protection

The Royal Order of 16th January 1987 brings Belgian radiation protection law into line with the provisions of Council Directive No 80/836/Euratom of 15th July 1980 laying down revised basic safety standards for the health protection of the general public and workers against the dangers of ionizing radiation (amended by Directive No 84/467/Euratom of 3rd September 1984 mainly in respect of its Annexes). The Order also takes into account Council Directive No 84/466 laying down basic measures for the radiation protection of persons undergoing medical examinations or treatment (see Nuclear Law Bulletin Nos 26 and 34)

It is recalled that the Directive of 15th July 1980, amended in 1984, is based on the principle that any activity implying exposure to ionizing radiation should be justified in advance by the advantages which it produces, and all exposures should be kept as low as reasonably achievable (the ALARA principle). The second Directive concerning radiation protection during medical treatments and examinations also applies the ALARA principle and specifies that individual or collective radiological examinations should be carried out only if they are medically or epidemiologically justified



The amendments made by the Order of 16th January 1987 mainly concern individual and collective dose limits and derived limits. It should be noted that as compared to Annex III of the 1980 Directive, as amended in 1984, the Tables in the Annexes to the Order contain an additional column: "Limits of annual intake by ingestion" for exposed workers; the values in this column are ten times higher than the limits of annual intake for adult members of the public.

The Order of 11th February 1987 refers simply to the 1980 Directive (as amended in 1984) and concerns standards for liquid or gaseous radioactive effluent releases to the environment.

### THIRD PARTY LIABILITY

#### 1987 Ministerial Order on the register concerning nuclear installations

This Ministerial Order of 9th March 1987 was published in the Official Gazette of 13th March 1987. Its purpose is to implement the Act of 22nd July 1985 on Third Party Liability in the Field of Nuclear Energy regarding the obligation to make available to the public the register containing the texts granting recognition to the operators of nuclear installations.

The Order states that a register comprising a certified true copy of the royal decrees granting recognition and a map showing the location and boundaries of the site of each installation must be made available to the public by the Ministry of Economic Affairs in Brussels. The administrations of the Communes must also comply with this obligation as concerns the installations located on their territory.

## • *People's Republic of China*

### REGIME OF NUCLEAR INSTALLATIONS

#### 1986 Regulations on safety supervision and control of civilian nuclear installations

The above Regulations were promulgated on 29th October 1986 by the State Council and entered into force immediately. The Regulations lay down a regime of licensing and control of civilian nuclear installations and set up a National Nuclear Safety Administration (NNSA) which is responsible in particular for the centralised supervision of the safety of such installations throughout the country.

The Regulations state from the start that a "safety first" principle is to be applied to the siting, design, construction, operation and decommissioning of civilian nuclear installations and that measures shall be taken to prevent nuclear incidents and minimise their effects. In addition, workers on site and the public will be protected against undue exposure to radiation by limits to be set by the State, the latter will also take steps to protect the environment; the Regulations in effect provide that radiation and contamination shall be kept as low as reasonably achievable.

The Regulations define civilian nuclear installations as nuclear power plants, research and experimental reactors, including critical assemblies, installations for nuclear fuel production, processing, reprocessing and storage as well as installations for radioactive waste treatment and disposal - and all other nuclear installations which require strict supervision and control.

As the body responsible for supervising the safety of civilian nuclear installations, the National Nuclear Safety Administration's tasks include the licensing of such installations, the preparation and enactment of safety regulations, as well as reviews and assessments of safety performance. The NNSA shall also provide guidance in the establishment of emergency plans in co-operation with other relevant departments or local administrations and shall investigate and deal with nuclear incidents.

In addition, the NNSA is responsible for setting up departments for the development of scientific research, public information and training, it will also set up a department which will establish links at international level in the field of safety and operation of nuclear installations.

The NNSA may establish regional offices responsible for safety supervision in regions where nuclear installations are sited; it may also set up a Nuclear Safety Advisory Committee to assist it in preparing nuclear safety regulations and plans for developing safety techniques.

The Regulations detail the responsibilities of the competent departments for nuclear installations, these are, inter alia, the safe management and inspection of nuclear installations under its supervision, participation in the drafting of nuclear safety regulations and formulation of technical standards for nuclear safety, organisation and implementation of off-site emergency plans, training of technical personnel and finally, organisation of scientific research work on nuclear safety for nuclear energy development. It should be noted that the relevant administrative organs of the State Council and the provincial, autonomous or directly subordinate municipal people's governments are responsible for guiding and directing the organisations operating nuclear installations.

Organisations operating nuclear installations (operating organisations) are directly responsible for the safety of the installations they operate and the nuclear materials held, as well as for the safety of on-site personnel, the public and the environment. They are subject to supervision by the NNSA and must report to it on the safety conditions of the installations.

The licensing system includes a construction permit, an operating permit, licences for (technical) operators and other approval certificates, as the case may be. All applications are submitted to the NNSA.

Applications for a construction permit are submitted by operating organisations, accompanied by a preliminary safety analysis report (PSAR) and other relevant information. Following approval of the application, the construction permit is granted and construction may begin, in accordance with the conditions of the permit

The same procedure is repeated for the operating permit (the application is submitted with a final safety analysis report - FSAR) Nuclear fuel loading and commissioning of the reactor may only begin after the permit has been granted

When reviewing applications for construction and operating permits, the NNSA consults the relevant departments of the State Council and the provincial, autonomous or directly subordinate municipal people's governments in whose area the nuclear installations will be located. Opinions must be given within three months.

Construction and operating permits are granted subject, in particular, to the following conditions

- approval of the project by the competent department and the State Planning Department or the provincial, autonomous or directly subordinate municipal people's government concerned, in accordance with the relevant regulations,
- approval of the site selected by the State Council or the urban and countryside environmental protection departments, the planning department of the provincial, autonomous or directly subordinate municipal people's government concerned and the NNSA;
- conformity of the planned installation with the State safety regulations, and
- competence of the applicant as regards the safe operation of the installation concerned and his acceptance of sole responsibility for safety

The Regulations provide for two categories of operator permit: operator and senior operator permits; both require technical training and qualifications, the difference being that a senior operator permit requires two years' experience and proof of excellence before it is granted. An operator may operate the control system of a nuclear installation while a senior operator may operate or direct others to operate such control system

The transfer or decommissioning of a nuclear installation is subject to approval by the NNSA

The NNSA or its regional office may send a regional supervising group or a supervisor to inspect nuclear installations and their sites at any time to ascertain that the conditions of the permits are being met and that work is carried out in compliance with the safety regulations in force. The supervisors shall have a right of access to all parts of the site and installation to investigate and collect any information they require relating to safety. The NNSA may put a stop to any activities endangering safety

The NNSA or the competent departments for nuclear safety may grant proper awards to persons or units having attained prominent achievements in connection with the safety of nuclear installations or having contributed to such safety.

Persons having violated the provisions of the Regulations may be punished by the NNSA. Such sanctions may take the form of warnings, enforcement of corrective measures, suspension of operation or revocation of licences. If the sanction inflicted is considered unacceptable, the party concerned may bring an action to the people's court within fifteen days of being notified of the sanction. However, the revocation of a licence is effective forthwith.

In the event of a serious nuclear incident due to disregarding management rules or violating regulations, the competent court shall investigate and determine the criminal responsibility according to the legislation in force.

## • *Denmark*

### RADIATION PROTECTION

#### 1985 Order on the use of unsealed radioactive sources in hospitals, laboratories, etc.

Order No. 485 of 18th November 1985 (published in Lovtidende for Kongeriget Danmark, Part A, 30th November 1985) was issued by the National Board of Health. It was made in furtherance of Order No. 574 of 20th November 1975 concerning safety precautions in the use, etc. of radioactive substances (see Nuclear Law Bulletin No. 17). More particularly, the Order implements in Denmark the Council of the European Community's Directive No. 80/836/Euratom of 15th July 1980 laying down revised basic safety standards for health protection of the general public and workers against the dangers of ionizing radiation (see Nuclear Law Bulletin No. 26).

The Order lays down a licensing system for the purchase and use of unsealed radioactive sources and also provides for their storage and disposal. The National Board of Health is the licensing authority. The Order also prescribes radiation protection measures for laboratory personnel.

For further details, see an analysis of this Order in the WHO International Digest of Health Legislation, 1986, Vol. 37, No. 4.

### 1986 Order on the use of X-ray equipment, etc

Order No 657 of 17th September 1986, published in Lovtidende for Kongeriget Danmark, Part A, 4th October 1986, repeals a similar Order (No 94) of 16th March 1982 (see Nuclear Law Bulletin No 37)

The Order in particular implements the radiation protection provisions contained in Council Directives No 84/466/Euratom and No 84/467/Euratom of 3rd September 1984. Directive No 84/466 lays down measures for radiation protection of persons undergoing medical examination or treatment, Directive No 84/467 amends Directive No 80/836 laying down revised basic safety standards for radiation protection (see above). This revision results from the evolution of scientific knowledge and concerns in particular activity values for radionuclides and limits of annual intake (see Nuclear Law Bulletin No 34)

### 1986 Order on dose-limits for ionizing radiation

Order No 838 of 10th December 1986 was issued by the National Board of Health and also implements Directive No 80/836/Euratom and Directive No 84/467/Euratom

The Order prescribes general principles for the limitation of radiation doses and lays down dose-limits for workers and the population. In addition, it deals with planned special exposures and accidental and emergency exposures of workers as well as with dose assessments and monitoring.

## • *France*

### ORGANISATION AND STRUCTURE

#### 1987 Decree on the High Council for Nuclear Safety and Information

Decree No 87-137 of 2nd March 1987 (published in the Official Gazette of 3rd March 1987) amends the Decree of 13th March 1973 setting up a High Council for Nuclear Safety (see Nuclear Law Bulletin Nos 11 and 28).

The purpose of this Decree is to widen the terms of reference of the High Council for Nuclear Safety. In addition to its responsibilities as regards the safety of nuclear installations, it is now competent in the field of information, which explains the change of name.

The Council is now charged with informing the media as well as the public not only on questions of safety proper but also on incidents and accidents occurring in nuclear installations.

The new Council remains under the authority of the Minister of Industry. Its duties are of an advisory nature and are restricted to matters under the responsibility of the Minister.

The composition of the Council is modified in order to include specialists in information and communication.

Given the wider scope of the Council's tasks, if necessary, working groups will be set up, specialised in information and communications in addition to scientific or technical matters.

## TRANSPORT OF RADIOACTIVE MATERIALS

### 1986 Order on the transport of dangerous goods

The Order of 5th November 1986 (published in the Official Gazette of 21st December 1986) concerns the transport of dangerous goods including radioactive materials. The Annex to the Order amends and supplements the Regulations of 15th April 1945 on the transport of dangerous goods.

In particular, it is provided that specific measures to implement the Regulations on transport can now be adopted by Ministerial Instruction concerning:

- defence-related hazardous materials, and
- nuclear materials in Categories I and II (with the exception of spent fuel) as defined in the Table annexed to the Decree of 12th May 1981 on protection and control of nuclear materials (see Nuclear Law Bulletin No 28).

## ENVIRONMENTAL PROTECTION

### 1986 Decree concerning implementation of the 1976 Act on installations classified for purposes of environmental protection

Decree No. 86-1289 of 19th December 1986 (published in the Official Gazette of 23rd December 1986) amends Decree No 77-1133 of 21st September 1977 made in implementation of the Act of 19th July 1976 on installations classified for purposes of environmental protection (see Nuclear Law Bulletin Nos. 18 and 36).

It is recalled that the 1977 Decree applies to all installations covered by the 1976 Act and does not concern State-owned installations.

The 1977 Decree implementing the 1976 Act contains provisions applying specifically to installations subject to licensing and others which apply solely to installations subject to declaration, also, certain provisions apply to all classified installations.

As regards installations subject to licensing, the 1977 Decree details the licensing procedure: information to be contained in the application, accompanying documents, conditions of the hearing for issuance of the licensing decree, etc. In addition, the Decree specifies for installations subject to declaration, the particulars to be contained in the declaration, the accompanying documents, the conditions for publicising it as well as the conditions for modifying the general specifications applicable to the installation declared.

The provisions of the 1977 Decree common to both types of installation mainly concern inspections, conditions to be observed if there is a change in the operator or cessation of activities, and fines in case of non-compliance with the Decree.

The 1986 Decree amends certain provisions of the 1977 Decree which concern installations subject to licensing to further refine the licensing procedure. The Decree, on the other hand, does not amend the provisions on the procedure for installations subject to declaration.

Finally, the 1986 Decree increases the fines for operating installations contrary to the regulations.

## • *Federal Republic of Germany*

### ORGANISATION AND STRUCTURE

#### Third Ordinance to assign ministerial competences (1986)

The setting up of a new Ministry of Environmental Affairs, Nature Conservation and Reactor Safety (see Nuclear Law Bulletin No. 38) entailed changes in the responsibilities in the Federal Ministries. The third Ordinance to adapt ministerial competences of 26th November 1986 (Bundesgesetzblatt 1986, I, p. 2089) provides for the necessary amendments of the Acts concerned.

Special emphasis is to be given to an amendment of the Federal Foodstuffs Act of 1974, as amended. This new amendment of the Act empowers the Federal Minister of Environmental Affairs to issue an ordinance concerning restrictions in the trade in foodstuffs in order to prevent any hazards to health in case the foodstuffs are contaminated by radioactivity or other noxious material.

## RADIATION PROTECTION

### Preventive Radiation Protection Act 1986

In the aftermath of the accident at Chernobyl, an Act on preventive protection of the public against radiation (Preventive Radiation Protection Act) was adopted by Parliament on 19th December 1986 and entered into force on 31st December 1986 (Bundesgesetzblatt 1986, I, p. 2610).

The accident brought to light gaps in certain fields of legal protection against radioactive contamination caused by nuclear accidents and similar events. In particular, it was not clear where the competence lay to organise preventive measures. The new Act therefore aims at a clear distribution of administrative powers between the "Bund" (Federal State) and the "Länder" (the states).

The Act provides that the Bund is responsible for the wide-ranging measurement and investigation of radioactivity in the air and in rainfall in Federal waterways, and in the North and the Baltic Seas, it is also responsible for compilation, documentation and assessment of the entire information on environmental radioactivity collected by the Bund and the Länder, the latter are competent, inter alia, for measuring radioactivity in foodstuffs, drugs, tobacco products, feedstuffs, drinking water, waste waters, sewage sludge, residue, soil, plants, and fertilizers.

The Bund Centre for the Control of Environmental Radioactivity (Zentralstelle des Bundes für die Überwachung der Umweltradioaktivität) creates a new Bund information system. Radioactivity in the Environment. The data collected in the Centre are at the direct disposal of the competent authorities of the Bund and Länder.

In order to achieve the purposes of the Act, namely controlling environmental radioactivity and keeping radioactive exposure of man as low as possible, the Federal Minister of Environmental Affairs, Nature Conservation and Reactor Safety has been granted power to regulate certain questions. He may by ordinance fix dose equivalents. Implementation of the dose and contamination equivalents fixed can be assured by further ordinances jointly issued by the Federal Ministers of Health, Agriculture, Environmental Affairs, and Economy. These ordinances can prescribe restrictions concerning trade in, and use of foodstuffs, tobacco products, drugs, and feedstuffs, including importation and exportation of the products mentioned. Special powers are granted to border police and custom offices for the purpose of controlling transborder traffic and trade in regard to radioactive contamination.

In addition, the Federal Minister of Environmental Affairs has exclusive power to issue recommendations aiming at a certain conduct of the public in order to meet the object of the Act. This "recommendation monopoly" of a Federal Minister is a novum in the German legal system. It shall be exercised in close contact with the other competent authorities of the Bund or the Länder. In case of events having only local effects, the Government of the Land concerned is empowered to issue recommendations.



Furthermore, the Act provides for the necessary organisational structure, including determination of the competent administrative bodies of the Bund, and also provides for penal provisions.

A translation of the Act is reproduced in the "Texts" Chapter of this issue of the Bulletin.

### 1987 X-Ray Ordinance

A new version of the X-Ray Ordinance was published in Bundesgesetzblatt 1987, I, p. 114. The Ordinance of 8th January 1987 on protection against damage caused by X-Rays (X-Ray Ordinance) repeals the 1973 version of that Ordinance (see Supplement to Nuclear Law Bulletin No. 12).

While the repealed version was based on the 1959 Euratom basic safety standards for protection of the public and of workers against the dangers of ionizing radiation, the new version takes into account the Euratom Directives revising the safety standards in 1980 and 1984 (No. 80/836/Euratom; No. 84/466 and 84/467/Euratom, Official Journal of the European Communities 1980 No. L 246, 1984 No. L 265 - see also Nuclear Law Bulletin Nos. 26 and 34). The changes involve adoption of new dose limits and the new dose concept as provided by the Directives. In addition, it was necessary to adapt some important definitions.

Another reason for replacing the previous Ordinance is to take into account the experience gained in its application. This concerns in particular the concept of the expert knowledge of physicians and dentists. Until now, physicians and dentists were considered experts in the use of X-rays because they had passed a medical examination. The new version prescribes that additional special proof must be given of expert knowledge obtained. These personal qualification measures for ensuring greater safety are supplemented by provisions which require a higher standard of technical safety for the X-ray equipment.

Finally, the new Ordinance has been harmonized with the general radiation protection regulations, in particular, the 1976 Radiation Protection Ordinance.

### 1987 Ordinance on Radioactive Drugs

Based on the power granted by the Federal Drugs Act 1976, a new Ordinance of 28th January 1987 on radioactive drugs and drugs treated with ionizing radiation was issued, repealing the 1962 Ordinance as amended (Bundesgesetzblatt 1987, I, p. 502).

The new Ordinance aims at three main objects:

- to regulate the use of ionizing radiation in the process of producing drugs and to provide for adequate safety prerequisites,

- to establish a general duty to apply for a licence to the competent Federal authority before bringing radioactive drugs or drugs treated with ionizing radiation into use or trade;
- to put an end to the differing treatment in hospitals and by practitioners in regard to access to radioactive drugs

## RADIOACTIVE WASTE MANAGEMENT

### Extension of 1982 Ordinance on advance payment of contributions for Federal waste storage installations

The Ordinance of 28th April 1982 on advance financial contributions towards construction of federal installations for safe containment and disposal of radioactive waste was due to expire by 31st December 1986 (see Nuclear Law Bulletin No. 30). A first amendment to the Ordinance, dated 27th November 1986 (Bundesgesetzblatt 1986, I, p 2094), deletes this limitation in time and the Ordinance remains valid

## • *Italy*

## ENVIRONMENTAL PROTECTION

### 1987 Ministry of Health Circular concerning controls over environmental radioactivity

Circular No 2 of 3rd February 1987 issued by the Ministry of Health gives the Regions general directives for carrying out environmental radioactivity controls. Under Act No 833 of 23rd December 1978 on the consolidated National Health Service, responsibility for such controls was delegated to the Regions by the State (see Nuclear Law Bulletin No 23)

It should be noted that under Decree No 185 of 13th February 1964 of the President of the Republic on the safety of nuclear installations and radiation protection of workers and the population, the Minister of Health is competent for radiation protection matters. The National Commission for the Development of Nuclear and Alternative Energy Sources - ENEA (formerly the CNEN) is responsible, under the Minister's supervisory authority, for co-ordinating radioactivity measurements carried out around nuclear installations as well as those carried out in the general environment by various administrations and institutions. ENEA is also responsible for establishing radioactivity measurement stations with a view to providing an overall national network

The Circular is therefore intended to organise and co-ordinate the actions taken by the regional administrations under the supervision of the national agency - ENEA

## •Libya

### RADIATION PROTECTION

#### 1982 Act on the Regulation of the Use of and Protection Against Ionizing Radiation

Act No 2 of 15th February 1982 regulates the use of and protection against ionizing radiation. It amends the Health Act promulgated on 13th December 1973

The main purpose of the 1982 Act is to define the licensing regime for the use of ionizing radiation. It provides for the setting up of a Committee on Protection Against the Hazards of Ionizing Radiation under the supervision of the Atomic Energy Secretariat. This Committee includes specialists in the fields of medicine, physics, chemistry and other disciplines connected with ionizing radiation and is chaired by a representative of the Atomic Energy Secretariat. The Committee is responsible for formulating general radiation protection programmes and methods for using ionizing radiation, in accordance with international regulations in force. It decides in particular on the issuance of licences for the use of ionizing radiation. There are two types of licence: a licence for persons dealing with ionizing radiation and a licence for the workplace where ionizing radiation is used.

The conditions to be met by the categories of persons using ionizing radiation, including the procedures for obtaining licences and the system for subjecting such persons to periodical medical examinations, are to be specified by the implementing Regulations.

Before granting licences for the use of ionizing radiation, radiation-emitting equipment and radioactive substances, the Committee is to ensure that their use will be of positive benefit to the community and is to weigh the benefits and harm involved in such use.

The licensed equipment emitting ionizing radiation and places where such equipment and sources are found must at all times comply with the requirements for protection against radiation hazards as laid down in the implementing regulations, issued by the General People's Committee

## • *Spain*

### ENVIRONMENTAL PROTECTION

#### 1986 Decree-Law on environmental impact studies

This Royal Decree-Law (No. 1302/1986) of 26th June 1986 was published in the Official Gazette of 30th June 1986. Its purpose is to provide for assessments of the environmental impact of certain projected installations and activities. The installations and activities requiring environmental impact studies are listed in the Annex to the Decree-Law and include nuclear power plants and other nuclear reactors (excluding those whose thermal power does not exceed 1 kW) as well as installations for the disposal and final storage of radioactive waste.

The environmental impact study is to be submitted in the framework of the licensing procedure for the project concerned. The following information must be included in the study:

- a general description of the project and foreseeable requirements in relation to the use of the soil and other natural resources. An estimate of the type and quantities of residues and emissions produced by operations;
- an estimate of the foreseeable direct and indirect effects of the project on the population, fauna, flora, soil, air and water, as well as on the climate, etc;
- the planned measures for reducing or eliminating significant negative effects on the environment;
- the environmental monitoring programme

## • *Sweden*

### NUCLEAR LEGISLATION

#### Amendment of the 1984 Act on Nuclear Activities (1987)

On 8th January 1987, the Swedish Parliament amended the 1984 Act on Nuclear Activities (see Supplement to Nuclear Law Bulletin No. 33 for text of the Act). The amendments were published in the Swedish Code of Statutes (SFS 1987:3) on 21st January 1987 and entered into force on 1st February 1987.

The amendments include a prohibition against the granting of a licence to construct a nuclear power plant. Also, the provisions dealing with permits for the loading of nuclear power reactors with nuclear fuel have been deleted, they are replaced by an injunction on the elaboration of design drawings, the calculation of costs, the ordering of equipment, or the taking of any preparatory steps with the aim of constructing a nuclear power reactor.

Finally, it should be noted that an appeals procedure has been added to the Act by an amendment of 16th December 1986, published 29th December 1986 in SFS 1986 1260. This procedure allows for the filing of an appeal petition within three weeks of the complainant's noting of a decision by a local safety committee. The petition is dismissed if not within the prescribed period unless the delay is due to error on the part of this committee in informing a complainant on the process of appeal. This amendment entered into effect on 1st January 1987.

## ORGANISATION AND STRUCTURE

### Creation of the Ministry for Energy and the Environment (1987)

The Ministry for Energy and the Environment was set up on 1st January 1987. It has taken over tasks formerly entrusted to the Ministries of Industry and Agriculture. This Ministry was established to provide a strong, coordinated organisation in the field of energy and the environment.

The new Ministry is responsible, inter alia, for environmental conservation and research, radiation protection, energy supply and research as well as for nuclear safety and preparedness in the energy field.

## THIRD PARTY LIABILITY

### 1987 Ordinances on compensation for interventions following the Chernobyl accident

Two Ordinances, in force as of 1st April 1987, have been issued regarding compensation to persons engaged in various activities to earn their living (such as fishing, hunting, berry and mushroom picking, agriculture, vegetable-growing and reindeer-breeding), who have suffered losses as a result of interventions due to the Chernobyl accident. These Ordinances complement earlier appropriations of funds, giving the legal prerequisites for compensation (see Nuclear Law Bulletin No. 38). One major point in these Ordinances is that compensation is to be awarded for increased costs and losses resulting from the said accident and from actions taken to prevent health hazards from nutrients.

## • *Switzerland*

### NUCLEAR LEGISLATION

#### 1984 Ordinance on definitions and licences in the atomic energy field, 1987 amendment

The partial revision of the Federal Act of 23rd December 1959 on atomic energy concerning import and export of nuclear items and technology was adopted by Parliament in Autumn 1986, since no request for a referendum in its respect was submitted (see Nuclear Law Bulletin No 38). Therefore, the Federal Council (Government) put these new provisions into force on 1st April 1987.

On 2nd March 1987, the Ordinance of 18th January 1984 on definitions and licensing in the atomic energy field, the so-called Atomic Ordinance was also amended (see Nuclear Law Bulletin No 33) and the entry into force of this amendment was set as well for 1st April 1987 (RS 732 11). Advantage was taken of the possibility provided by the newly revised Federal Act to make this amendment, the mandatory licensing system now covers the export of technologies (unpublished technical data concerning installations for the enrichment and reprocessing of nuclear fuels as well as for heavy water production).

The Atomic Ordinance was also supplemented in two respects. First, the list of materials which are not considered as nuclear fuels within the meaning of the Act now includes source materials which are not used for energy production and special fissile materials whose radioactivity does not exceed 1 microcurie. Secondly, the conditions for filing of licensing applications as well as for their publication and hearings have been specified, these procedures are applicable when it is recognised that the licence will probably concern many people.

## • *United States*

### RADIATION PROTECTION

#### 1987 Federal radiation protection guidance for occupational exposure

On 20th January 1987, President Reagan approved the Environmental Protection Agency's (EPA) recommendations concerning Federal radiation protection guidance for occupational exposure (published 27th January 1987, 52 FR 2822). The recommendations update previous guidance, and are based in part on

consideration of current scientific understanding of the effects on health from ionizing radiation and recommendations of international and national organisations involved in radiation protection. They are intended as guidance for Federal agencies in their conduct of programmes for the protection of workers from ionizing radiation. The recommendations include additional explanations and notes to clarify their application.

Excerpts from the recommendations follow

1 There should not be any occupational exposure of workers to ionizing radiation without the expectation of an overall benefit from the activity causing the exposure.

2 It should be general practice to maintain doses from radiation below the limiting values specified in the recommendations; and a sustained effort should be made to ensure that collective doses, as well as annual, committed, and cumulative lifetime individual doses, are maintained as low as reasonably achievable, economic and social factors being taken into account (ALARA principle)

3 Radiation doses received as a result of occupational exposure should not exceed specified limiting values for assessed dose to individual workers. For cancer and genetic effects, the effective dose equivalent received in any year by an adult worker should not exceed 5 rems (0.05 sievert). For other health effects, the dose equivalent received in any year by an adult worker should not exceed 15 rems (0.15 sievert) to the lens of the eye, and 50 rems (0.5 sievert) to any other organ, tissue (including the skin), or extremity of the body.

4 As the primary means for controlling internal exposure to radionuclides, agencies should require that radioactive materials be contained, to the extent reasonably achievable, so as to minimise intake. In controlling internal exposure, consideration should also be given to concomitant external exposure and limiting values for control of the workplace should be satisfied.

5 Occupational dose equivalents to individuals under the age of eighteen should be limited to one-tenth of the values specified for adult workers.

6 The dose equivalent to an unborn child as a result of occupational exposure of a woman who has declared herself pregnant should be maintained as low as is reasonably achievable, and in any case should not exceed 0.5 rem (0.005 sievert) during the entire gestation period.

7 Individuals occupationally exposed and managers of activities involving radiation should be instructed on the basic risks to health from ionizing radiation and on basic radiation protection principles.

8 Appropriate monitoring of workers and the workplace should be performed and records kept to ensure conformance with these recommendations.

9 Radiation exposure control measures should be designed, selected, utilised, and maintained to ensure that anticipated and actual doses meet the objectives of this guidance.

10 The recommended numerical values should not be deliberately exceeded except during emergencies, or under unusual circumstances for which the Federal agency having jurisdiction has carefully considered the reasons for doing so in the light of these recommendations.

## REGIME OF RADIOACTIVE MATERIALS

### 1986 Rule on prohibition of imports of uranium ore and uranium oxide

The US Department of Treasury issued a rule implementing Section 309 of the Comprehensive Anti-Apartheid Act of 1986 (PL 99-440) which will be published in 31 CFR Part 545. Section 309 of that Act prohibits the import into the United States of uranium ore, uranium oxide, coal, or textiles produced or manufactured in South Africa.

In essence, the rule permits temporary import into the United States of uranium ore or oxide that is to be processed (e.g. enriched and fabricated) and immediately exported. This temporary import permission expires midnight of 1st July 1987 unless other action is taken. Moreover, uranium hexafluoride is not to be considered uranium ore or oxide and therefore is not to be barred from import (this interpretation does not expire 1st July 1987).

## RADIOACTIVE WASTE MANAGEMENT

### NRC Proposed definition of high-level radioactive waste (1987)

On 27th February 1987, the Nuclear Regulatory Commission (NRC) published a notice identifying relevant technical and legal considerations and requesting comments on alternative approaches for modifying its definition of high-level radioactive waste. The purpose of the proposed modification is to follow more closely the statutory definition in the Nuclear Waste Policy Act of 1982 (see Nuclear Law Bulletin No. 35). That Act defines high-level waste as "(A) The highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations, and (B) Other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation".

Options for clause (A) include: (1) numerically specifying the concentrations of fission products which the NRC would consider sufficient to distinguish high-level waste from non-high-level waste and (2) defining high-level waste so as to equate clause (A) wastes with those which have traditionally been regarded as high-level waste (i.e. irradiated reactor fuel and reprocessing wastes). With regard to clause (B), the NRC proposes to classify waste as high-level if it is highly radioactive and requires permanent isolation.



The NRC would consider a material highly radioactive if it contained concentrations of short-lived radionuclides in excess of the Class C limits of Table 2 of 10 Code of Federal Regulations, Part 61 (Licensing Requirements for Land Disposal of Radioactive Waste) Materials would require permanent isolation if they could not be safely disposed of in a facility less secure than a deep geologic repository The NRC would identify these materials by waste classification analyses The NRC is seeking public comment on this approach to aid in its development of a proposed rule

## • *Yugoslavia*

### RADIATION PROTECTION

#### 1986 Regulation on dose equivalent limits for members of the public and for occupational exposure, measurements of occupational exposure, and monitoring of the working environment

This Regulation was issued by the Federal Committee of Labour, Health and Social Welfare and published in the Federal Official Gazette No 40/86 of 18th July 1986 It is made pursuant to Sections 18 and 65 of the 1984 Act on Radiation Protection and Safe Use of Nuclear Energy (see Nuclear Law Bulletin Nos 35 and 36)

In this Regulation the principles for dealing with occupational exposure and exposure of members of the public are set out and annual dose equivalent limits are defined Based on the provisions of the Basic Safety Standards for Radiation Protection (IAEA Safety Series No 9, 1982 Edition), it represents the basic regulation in the field of radiation protection in Yugoslavia

A system of dose limitation is established in the Regulation, including justification of the practice, the ALARA principle (exposure to be kept as low as reasonably achievable) and annual dose equivalent limits for individuals Limits and reference levels are described according to the definitions in the Basic Standards

For the prevention of non-stochastic effects the limit for the annual dose equivalent for all tissues of workers is 500 mSv, except in the case of the lens of the eye and bloodforming organs, where the limit is 150 mSv. For the control of stochastic effects the limit for workers is 50 mSv.

Annual limits of intake (ALI) are referenced in the 1986 Regulation, but the values of the respective radionuclides are published in a special regulation

The limit for the annual effective dose equivalent for members of the public (critical group) is 5 mSv. The annual dose equivalent limit for

individual organs and tissues of members of the public is 15 mSv. In cases where the same individual members of the public are likely to be exposed at levels close to the annual effective dose equivalent limit for many years, an annual average of 1 mSv is prescribed for their lifetime effective dose equivalent.

For planning purposes, the effective dose equivalent for members of the public from all sources is limited to 0.2 mSv.

The 1986 Regulation also covers measurements of occupational exposure and a methodology for the evaluation of exposures to ionizing radiation.

A comparison of the 1986 Regulation with the Basic Standards reveals that there are a few additional requirements introduced that go beyond the Basic Standards, such as for example, the above-mentioned limits of 0.2 mSv for all sources.

# CASE LAW AND ADMINISTRATIVE DECISIONS

## CASE LAW

### • *Italy*

#### REPEAL OF AN ORDINANCE OF THE REGIONAL COURT OF PIEDMONT CONCERNING THE NUCLEAR POWER PLANT AT TRINO VERCELLESE (1986)

By Decision of 19th December 1986, the Italian High Court (Consiglio di Stato) repealed an Ordinance of the Regional Court of Piedmont of 26th November 1986 suspending the validity of the Decree concerning the siting of the second unit of the nuclear power plant at Trino Vercellese. This Ordinance was rendered following an appeal submitted by local irrigation associations in the Region's Communes.

The Decision of the High Court was based on the finding that the Decree in question made by the Region of Piedmont was simply restricted to indicating the area where the nuclear power plant might be sited, without prejudging in any way the issue of the licences to be granted for construction and operation of the plant. Therefore, the Decree in itself was not likely to bring about damage to the population or the environment, as could be the case if this involved the setting-up of the plant.

The point of this Decision is that it establishes in principle the type of interests which can form the subject of an appeal to a court. In this particular matter, it signifies that the preservation of certain assets such as health and the environment can only be taken into consideration in cases where measures for licensing and establishing definitely the construction and operation of a power plant are opposed - and not simply its siting.

## 1987 CONSTITUTIONAL COURT DECISION ON THE NATIONAL REFERENDA ON NUCLEAR ISSUES

By Decision No. 25 of 16th February 1987 the Italian Constitutional Court stated the grounds on which several national referenda on nuclear issues are to be held. These referenda originate from a request by a political party (Democrazia Proletaria) aiming at abrogating certain existing provisions concerning nuclear power plant siting and economic incentives for municipalities to accept such siting on their land. These provisions are respectively contained in Act No 393 of 1975, and Act No 8 of 10th January 1983 supplementing and amending that Act (see Nuclear Law Bulletin Nos 16 and 31)

Also based on the request, the referenda will cover the question of whether ENEL (national electricity producing company) should continue to be authorised to participate financially in foreign companies or organisations concerned with the construction and operation of nuclear installations as provided by Act No 1643 of 6th December 1962 creating ENEL, as amended by Act No 856 of 18th December 1973.

According to the Italian Constitution, the Court was called upon to state acceptability of the referenda (that is whether their object lies within the matters which can be submitted to referenda as provided by the Constitution) With respect to the nuclear issues above, the Court's considerations may be summarised as follows:

As regards the issues of siting and economic incentives, the Court ruled that they are in no way related to the EURATOM Treaty, therefore the bonds deriving from international conventions (lato sensu) could not be invoked in this case. It should be recalled that, on the contrary, a similar sentence of the Court in 1981 did consider such bonds as applicable to the case then examined, concerning abrogation of certain provisions of Act No 393/75 (see Nuclear Law Bulletin No 27). As to the issues now examined, it is the Court's opinion that they belong respectively to the allocation of competences among national authorities in the matter of siting of nuclear power plants, and to national policy in the matter of economic relationships among national bodies.

As to the third issue, the Court stated that participation by ENEL in foreign companies (such as EURODIF) is the expression of the "contractual" independence of that company, and therefore is outside the scope of the EURATOM Treaty. Consequently, a referendum, in this respect was found acceptable.

# ADMINISTRATIVE DECISIONS

## • *Sweden*

### 1986 DECISION BY MINISTRY OF INDUSTRY DENYING STUDSVIK ENERGITEKNIK AB THE RIGHT TO STORE NUCLEAR WASTE FROM FOREIGN COUNTRIES

On 14th July 1983 the Swedish Government granted Studsvik Energiteknik AB (STUDSVIK) a licence under the Atomic Energy Act (1956:306), the licence concerns the continued operation of an existing installation for the processing and storage of radioactive waste in Studsvik as well as the construction, possession and operation of an intermediate storage facility for low and medium active waste. In this connection, on 24th March 1986, STUDSVIK applied to the National Institute of Radiation Protection (SSI) for a licence to convey into Sweden, possess and, during a period of ten to fifteen years, to store low and medium active waste from foreign customers up to a volume of 1 000 m<sup>3</sup>. The SSI referred the application to the Swedish Nuclear Power Inspectorate (SKI) for its opinion.

The SKI responded on 16th September 1986 that, in its opinion, the licence for STUDSVIK to process and to store radioactive waste granted by the Government in July 1983 did not include the long term storage of foreign waste. The SKI could not therefore support the application. The SSI, noting that the SKI was the authority responsible for interpreting the 1984 Act on Nuclear Activities, concluded on 29th September 1986, that it was not competent to decide on the present licence application by the company as the activity in question was not comprised in the government licence. The SSI therefore returned the application to STUDSVIK, inviting the company to submit the application to the Government for decision.

In a petition on 8th October 1986, STUDSVIK applied to the Ministry of Industry for a clarification on whether the long term storage indicated in its application to SSI was comprised in the government licence it had received in July 1983. If the government's opinion was negative, STUDSVIK requested that the application documents be transferred to the SKI and be regarded as an application for a modification of its existing governmental licence.

The Government's decision on 4th December 1986 was as follows: the matter concerned the question of a licence to convey into Sweden and to store foreign nuclear waste. Section 19 of the Ordinance on Nuclear Activities (1984:14) (see Nuclear Law Bulletin No. 33) prescribes that the SSI reviews and decides on questions relating to licences to possess or to convey into the realm nuclear waste, other than highly active waste from reprocessing. It was therefore up to the SSI to review the application from STUDSVIK.

Given however, the importance of the matter, the Government decided to put aside the provision of Section 19 of the Ordinance and to review and

decide on the application from STUDEVIK. It acknowledged that the wording of the government decision of 14th July 1983 granting the original licence to STUDEVIK did not support the interpretation that there were any restrictions as to the storage of foreign nuclear waste. The Government, however, called attention to the fact that a basic principle, as far as Sweden is concerned, in questions of spent nuclear fuel and nuclear waste management, is that each country should itself take responsibility at every stage for the material originating in that country. This principle implies that no storage of foreign spent nuclear fuel or nuclear waste can take place in Sweden. The request by STUDEVIK for a licence to convey into the realm and to store foreign nuclear waste should not, in this light, be granted.

The Government therefore rejected the application by STUDEVIK and prescribed that a condition should be added to the licence granted in July 1983 whereby radioactive waste from foreign customers be stored in installations only as a direct part of a treatment process.

## • *United Kingdom*

### APPLICATION BY THE CENTRAL ELECTRICITY GENERATING BOARD TO CONSTRUCT A PRESSURISED WATER REACTOR AT SIZEWELL

Legislation in the United Kingdom requires the consent of the Secretary of State for Energy before an electricity board may construct a generating station. In 1981, the Central Electricity Generating Board applied for such consent (and the associated planning permission) in respect of a pressurised water reactor (PWR) at Sizewell in Suffolk. The Secretary of State arranged a wide-ranging public inquiry and appointed Sir Frank Layfield QC to hold it. The inquiry lasted from January 1983 to March 1985 occupying some 340 days hearing evidence and argument.

The report on the inquiry summarises the evidence given and contains Sir Frank's conclusions and recommendations. The main topics covered are the safety of the PWR proposed for Sizewell, the economic case for its construction and a number of local issues. The report was debated in the House of Commons on 23rd February 1987 and in the House of Lords on 2nd March 1987.

On 12th March 1987 the Secretary of State gave his consent to the construction of the PWR at Sizewell and directed that planning permission for its construction should be granted. Before construction can start a nuclear site licence issued by the Nuclear Installations Inspectorate of the Health and Safety Executive, a body independent of the Secretary of State, is required. The Inspectorate has indicated that it judges that there are now no safety obstacles of substance which would prevent the licensing of the station in the near future.

# INTERNATIONAL ORGANISATIONS AND AGREEMENTS

## INTERNATIONAL ORGANISATIONS

### • *International Atomic Energy Agency*

#### MEETING OF THE STANDING COMMITTEE ON CIVIL LIABILITY FOR NUCLEAR DAMAGE

The Standing Committee on Civil Liability for Nuclear Damage held its sixth meeting in Vienna, from 9th to 11th March 1987. The Committee was established in 1963 by the IAEA Board of Governors, at the request of the International Conference that adopted the Vienna Convention. The task of this Committee is to keep under review problems relating to the Convention and to advise the IAEA Director General on any such problems. The meeting, chaired by Dr. Norbert Pelzer (Federal Republic of Germany), was attended by more than 70 participants and observers from 45 States and five international organisations and professional associations: the OECD Nuclear Energy Agency, the European Insurance Committee, the British Insurance (Atomic Energy) Committee, and the Union Internationale des Producteurs et Distributeurs d'Énergie Electrique (UNIPÉDE)

The Committee focused attention on the need for, and increased efforts towards, enlarging the existing international nuclear liability regimes established by the Paris Convention of 1960 and the Vienna Convention of 1963. To this end, it discussed and unanimously endorsed the solution of a Joint Protocol to both Conventions, aimed at both preventing possible legal conflicts in the event of their simultaneous application to a nuclear accident and broadening protection for potential victims. The solution of a Joint Protocol had been envisaged in the early 1970s by the IAEA and NEA Secretariats and further study of the question was reactivated in 1986 within both organisations.

The development of a Joint Protocol received the Standing Committee's support as an immediate task for several reasons. It was regarded as the simplest and most practical way to overcome possible conflicts and, concurrently, to extend the special liability regime established under each Convention for wider protection of victims. The Committee discussed and endorsed in

principle a draft preamble and operative provisions of a draft Joint Protocol, it also agreed on the need to continue further work either at another meeting in the near future or by establishing a joint NEA/IAEA working group. A recommendation in this respect was to be made to the IAEA Board of Governors at its June meeting. The Committee stressed that while the immediate task was to strive for the achievement of a Joint Protocol that might provide an incentive for broader adherence to the existing Conventions, the long-term focus should be the development of a global convention to cover also the question of State responsibility for transboundary damage to the environment.

The Committee also briefly considered the question of revising the Vienna Convention to keep it in line with the Paris Convention, as amended by the 1982 Protocol. For such revision, representatives of States Parties to the Vienna Convention called for suggestions from other States that could contribute to securing broader acceptance of the latter Convention.

### ADVISORY SERVICES IN NUCLEAR LEGISLATION

At the request of the National Nuclear Safety Administration (NNSA) of the People's Republic of China, advisory services in nuclear legislation and regulatory matters were provided in January 1987, under the IAEA Technical Cooperation Programme, and carried out by a legal expert from the IAEA Secretariat. In addition to working sessions held with officials of the NNSA and the Ministry of Nuclear Industry in Beijing, lectures followed by discussions were given at the Beijing Institute of Nuclear Engineering that covered the main components of nuclear legislation and implementing regulations, in particular in relation to the execution of a nuclear power programme.

The NNSA was established in 1984 as an autonomous institution, it is directly responsible to the Government for the safety supervision and control of nuclear installations in the country. Safety regulations for civilian nuclear installations were promulgated by the Government in October 1986, on the proposal of NNSA, four safety codes for nuclear power plants siting, design, operation and quality assurance were also issued last year. These codes were patterned after the corresponding safety codes established under the IAEA Nuclear Safety Standards (NUSS) Programme, and about 47 safety guides supplementing them are at various stages of development.



## ● *European Communities*

### PROPOSED COUNCIL DECISION FOR A RAPID INFORMATION SYSTEM IN CASES OF ABNORMAL LEVELS OF RADIOACTIVITY OR OF A NUCLEAR ACCIDENT (1987)

The Chernobyl accident demonstrated that the existing Community arrangements for communicating data in the event of a nuclear accident were not adequate. The data did not allow a proper assessment of potential hazards from airborne and deposited radioactivity and so from contaminated foodstuffs.

The Commission of the European Communities, in the framework of its comprehensive programme for nuclear safety set up following the Chernobyl accident, presented to the Council in April 1987 a proposed Council Decision for a rapid information system in cases of abnormal levels of radioactivity or of a nuclear accident.

This system would provide a rapid exchange of information whenever a Member State decided that emergency measures were needed to protect the public because of high radioactivity levels or because of a nuclear accident. The government concerned would immediately inform the Commission and all other Member States of the details of the accident and other data such as meteorological conditions, radioactivity levels in foodstuffs, measures taken to protect the public and predicted behaviour of the release over time, etc.

This rapid information system would implement within the Community the policy set out in the IAEA Convention on early notification of nuclear accidents while supplementing and widening this Convention, in particular, as regards the following points:

- it would be binding on every Member State as it would be Community Law;
- the scope of application would be wider because the system would cover all types of nuclear installations and activities;
- it would be triggered on the basis of more precise criteria;
- all other Member States would be informed, and not only those are likely to be affected by the radioactive release;
- each Member State would be informed of actions taken by all other Member States.

The IAEA Convention has been signed by all twelve Member States of the Community, but they have not yet ratified it. Early adoption of Commission's proposal would allow an efficient system to come into effect within the Community independently of the IAEA Convention on early notification.

**EXTENSION OF 1986 COUNCIL REGULATION ON THE CONDITIONS GOVERNING IMPORTS OF AGRICULTURAL PRODUCTS ORIGINATING IN THIRD COUNTRIES FOLLOWING THE CHERNOBYL ACCIDENT (1987)**

Council Regulation No. 1707/86 on the conditions governing imports of agricultural products originating in third countries, following the accident at the Chernobyl power station, which lays down maximum radioactivity levels was first extended until 28th February 1987 (see Nuclear Law Bulletin No 38) It was once again extended, but for the last time until 31st October 1987, by Council Regulation No 624/87 of 27th February 1987

This new and last extension was decided by the Council in order to enable completion of the scientific research carried out for setting reference levels of radioactivity for products intended for consumption (see below)

**COMMISSION PROPOSAL FOR A COUNCIL DECISION ON RADIOACTIVITY LEVELS FOR PRODUCTS INTENDED FOR CONSUMPTION (1987)\***

On 20th May 1987, the Commission of the European Communities proposed to the council new radioactivity levels for foodstuffs, animal feed and drinking water. The following Table gives the proposed limits

(Bq/kg or litre)	Dairy products	Other foodstuffs	Drinking water	Animal feed
Isotopes of iodine and strontium Iodine 131, Strontium 90	500	3000	400	-
Plutonium alpha emitters and other transplutonium elements: Pu-239, Am-241	20	80	10	-
Other radionuclides with a half-life exceeding 10 days: Caesium 134, Caesium 137	1000	1250	800	2500

\* This proposal will be presented to the Council of Ministers on 30th June 1987.

# AGREEMENTS

## NORDIC AGREEMENTS ON THE EXCHANGE OF INFORMATION AND EARLY NOTIFICATION IN CASE OF NUCLEAR EMERGENCIES (1986-1987)

In the context of the adoption of the IAEA Convention on Early Notification of a Nuclear Accident, the Governments of Denmark, Finland, Norway and Sweden have entered into agreements supplementing the provisions of the Convention with regard to direct notification and advance communication of technical information

The agreements apply to facilities and activities as specified in Article 1 of the IAEA Convention and provide that information comprising design, safety systems, radiation protection and measures to limit release of radioactive materials in the event of an accident shall be continually exchanged

The Parties undertake to directly inform one another forthwith in the case of an abnormal safety-related event which gives rise to emergency measures inside or outside the facility. The Party providing information shall respond promptly to a request from the other State for further information or for consultation following such an event

The Parties also agree to notify and provide information to one another in the event that a Party registers abnormal radiation levels which lead to communication of information to the public or to emergency measures being taken, even though the radioactive release was not caused by a release from that Party's own facilities

Such agreements were concluded between Sweden and Norway (21st October 1986), Sweden and Denmark (21st October 1986), Sweden and Finland (25th February 1987), Finland and Denmark (25th February 1987) and Finland and Norway (25th February 1987).

Finland and the Soviet Union also concluded a similar agreement on 7th January 1987. The Agreement covers the exchange of technical information on facilities located within 300 km of their common border or of the territorial waters of either Party

This Agreement is reproduced in the "Texts" Chapter of this issue of the Bulletin

## • *Albania—International Atomic Energy Agency*

### SAFEGUARDS AGREEMENT (1986)

A Safeguards Agreement was concluded in Vienna on 1st July 1986 between the People's Socialist Republic of Albania and the IAEA to cover all nuclear activities in Albania

This was the first time that a State requested the conclusion with the IAEA of a safeguards agreement covering all its nuclear activities, outside obligations arising from either the Treaty on the Non-Proliferation of Nuclear Weapons or the Treaty for the Prohibition of Nuclear Weapons in Latin America. The IAEA negotiated the agreement in accordance with Article III A 5 of its Statute, this provision authorises the Agency to apply safeguards at the request of a State to any of that State's activities in the field of atomic energy. The Agreement was approved by the Board of Governors on 11th June 1986.

## • *Argentina—Brazil*

### 1987 AGREEMENT BETWEEN BRAZIL AND ARGENTINA ON EARLY NOTIFICATION AND MUTUAL ASSISTANCE IN CASE OF NUCLEAR ACCIDENTS OR RADIOLOGICAL EMERGENCIES

In the framework of the Economic Integration and Co-operation Programme between the Governments of Brazil and Argentina, the respective national commissions for nuclear energy for both countries have concluded a further agreement. This Agreement, in the form of Annexes to Protocol 11 of the framework Agreement, was signed on 10th December 1986 and published in the Official Journal of Brazil on 11th March 1987. It concerns early notification and mutual assistance in the case of a nuclear accident or radiological emergency (Annex I) as well as nuclear safety and radiation protection (Annex II)

Annex I contains general provisions regarding the designation of safety and radiation protection authorities responsible for the early notification system in case of an emergency and for the control, co-ordination and supervision of any eventual assistance. It sets out that the overall control, co-ordination and supervision of the emergency assistance shall lie with the party requesting such assistance. The requesting party shall also cover the costs of transportation and daily expenses incurred in the provision of such assistance.

Annex II relates more specifically to the exchange of information regarding emergency plans and data relating to safety control. In the area of radiation protection, it provides for the establishment of joint co-operative

programmes to facilitate the development of monitoring devices and studies on the environmental impact of reactor installations. Criteria for the licensing of nuclear installation personnel and norms for radiation protection and nuclear safety are other areas of co-operation between the two countries.

The Agreement also makes provision for the treatment of contaminated persons as well as mutual medical assistance in the case of a nuclear accident. Studies leading to the implementation of licensing procedures for installations and transportation of radioactive material and to the setting of joint criteria for the management of high-level radioactive waste are also envisaged.

## • *People's Republic of China-Switzerland*

### AGREEMENT FOR CO-OPERATION IN THE PEACEFUL USES OF NUCLEAR ENERGY (1986)

An Agreement on nuclear co-operation was concluded by the People's Republic of China and Switzerland in Beijing on 12th November 1986.

This framework Agreement between both Governments settles the non-proliferation requirements needed for developing their co-operation in the peaceful uses of nuclear energy. The Agreement, which contains no commitments regarding supplies or deliveries, covers all fields of peaceful nuclear co-operation, it includes the exchange of nuclear materials and equipment as well as technology between both countries.

The Agreement determines generally the non-proliferation conditions - which is an advantage compared to regulations on a case-by-case basis and thus facilitates co-operation.

Guarantees on the peaceful nature of the transferred items and technology are the main object of the Agreement. These include, in particular, the commitment by both Parties that such items and technology should be used for exclusively peaceful and non-explosive purposes; that they shall not be retransferred to a third party without specific conditions being fulfilled or the prior consent of the supplier Party; and finally, that their safety shall be ensured.

Furthermore, the Agreement contains provisions on the safeguards inspections carried out by the International Atomic Energy Agency (IAEA). Switzerland, as a Party to the Non-Proliferation Treaty, submits all its nuclear activities to IAEA safeguards. The People's Republic of China, which has not acceded to the Treaty, undertakes to submit to IAEA inspections all items considered "sensitive" which are supplied by Switzerland.

## • *Federal Republic of Germany-Switzerland*

### AGREEMENT ON MUTUAL EMERGENCY ASSISTANCE (1984)

By Act of 22nd January 1987, the German Parliament ratified the Agreement of 28th November 1984, between the Federal Republic of Germany and the Swiss Confederation on mutual assistance in the event of catastrophes and grave disasters (Bundesgesetzblatt 1987, II, p 74) The Agreement covers a wide range of different types of catastrophes and grave disasters, including nuclear damage. It provides for the necessary legal instruments to ensure quick mutual assistance, and regulates the questions of compensation for damage and cost distribution.

### 1986 AGREEMENT ON THIRD PARTY LIABILITY IN THE NUCLEAR FIELD

On 22nd October 1986, the Federal Republic of Germany and Switzerland signed an Agreement intended to facilitate the settlement of disputes, if they are due to an event (caused by the peaceful utilisation of nuclear energy) which occurs on the territory of one State and gives rise to damage on the territory of the other State.

Unlike the Federal Republic of Germany, Switzerland has neither ratified the Paris Convention of 29th July 1960 on Third Party Liability in the Field of Nuclear Energy nor the Brussels Supplementary Convention of 31st January 1963. This might result in diverging interpretations by the German and Swiss courts, in particular, regarding the competent courts and the laws applicable if a third party liability problem were to arise between both countries. The Agreement therefore aims to settle these matters directly by treaty between the States before the courts are confronted by an occurrence of damage and have to seek a solution which conforms to international private law

The Agreement first states the principle of equal treatment for the nationals of both States; it then provides that the competent courts shall be those of the State where the event causing the damage has occurred and that the law of that State shall be applicable. These provisions are based by analogy on the provisions of the Paris Convention. The Parliaments of both States must now approve ratification of the Agreement

A translation of this Agreement is reproduced in the "Texts" Chapter of this issue of the Bulletin.

## • *Federal Republic of Germany–United States*

### CO-OPERATION AGREEMENT IN THE FIELD OF REACTOR SAFETY (1986)

The Agreements of 1st October 1975 and of 6th July 1981, between the Federal Minister of the Interior of the Federal Republic of Germany and the United States Nuclear Regulatory Commission (NRC) concerning Co-operation in the Field of Reactor Safety (see Nuclear Law Bulletin No 28) were renewed for a further period of five years by an Agreement of 17th July 1986, between the German Federal Minister of Environmental Affairs, Nature Conservation, and Reactor Safety and the US-NRC (Bundesgesetzblatt 1987, II, p 197)

## MULTILATERAL AGREEMENTS

### CONVENTION ON THE PHYSICAL PROTECTION OF NUCLEAR MATERIAL

On 9th January 1987 Switzerland signed the Convention on the Physical Protection of Nuclear Material and deposited on the same day its instrument of ratification with the IAEA thus becoming the twenty-first country to ratify the Convention (Liechtenstein was the twentieth country to ratify the Convention on 25th November 1986) The Convention which was opened for signature on 3rd March 1980 (see Nuclear Law Bulletin Nos 35 and 37) entered into force on 8th February 1987, thirty days following this deposit, in accordance with its Article 19 1

The following table gives the status of signatures and ratifications of the Convention.

**CONVENTION ON THE PHYSICAL PROTECTION OF NUCLEAR MATERIAL**

**Status of Signatures and Ratifications**

<b>Name of State/ Organisation</b>	<b>Date</b>	<b>Place</b>	<b>Ratified</b>
1 USA	3rd March 1980	New York,Vienna	<u>13th December 1982</u>
2 Austria	3rd March 1980	Vienna	
3 Greece	3rd March 1980	Vienna	
4. Dominican Republic	3rd March 1980	New York	
5 Guatemala	12th March 1980	Vienna	<u>23rd April 1985</u>
6 Panama	18th March 1980	Vienna	
7 Haiti	9th April 1980	New York	
8 Philippines	19th May 1980	Vienna	<u>22nd September 1981</u>
9. German Dem Republic	21st May 1980	Vienna	<u>5th February 1981</u>
10 Paraguay	21st May 1980	New York	<u>6th February 1985</u>
11 USSR	22nd May 1980	Vienna	<u>25th May 1980</u>
12. Italy*	13th June 1980	Vienna	
13. Luxembourg*	13th June 1980	Vienna	
14 Netherlands*	13th June 1980	Vienna	
15 United Kingdom*	13th June 1980	Vienna	
16 Belgium*	13th June 1980	Vienna	
17 Denmark*	13th June 1980	Vienna	
18 Germany, Fed * Republic of	13th June 1980	Vienna	
19 France*	13th June 1980	Vienna	
20 Ireland*	13th June 1980	Vienna	
21 EURATOM	13th June 1980	Vienna	
22. Hungary	17th June 1980	Vienna	<u>4th May 1984</u>
23. Sweden	2nd July 1980	Vienna	<u>1st August 1980</u>
24. Yugoslavia	15th July 1980	Vienna	<u>14th May 1986</u>
25. Morocco	25th July 1980	New York	
26 Poland	6th August 1980	Vienna	<u>5th October 1983</u>
27 Canada	23rd September 1980	Vienna	<u>21st March 1986</u>
28 Romania	15th January 1981	Vienna	
29 Brazil	15th May 1981	Vienna	<u>17th October 1985</u>
30 South Africa	18th May 1981	Vienna	
31 Bulgaria	23rd June 1981	Vienna	<u>10th April 1984</u>
32 Finland	25th June 1981	Vienna	
33. Czechoslovakia	14th September 1981	Vienna	<u>23rd April 1982</u>
34. Korea, Republic of	29th December 1981	Vienna	<u>7th April 1982</u>
35. Norway	26th January 1983	Vienna	<u>15th August 1985</u>
36 Israel	17th June 1983	Vienna	
37 Turkey	23rd August 1983	Vienna	<u>27th February 1985</u>
38 Australia	22nd February 1984	Vienna	

\* Signed as EURATOM Member State.



Name of State/ Organisation	Date	Place	Ratified
39 Portugal	19th September 1984	Vienna	
40 Niger	7th January 1985	Vienna	
41 Liechtenstein	13th January 1986	Vienna	<u>25th November 1986</u>
42 Mongolia	23rd January 1986	New York	<u>28th May 1986</u>
43 Argentina	28th February 1986	Vienna	
44 Spain*	7th April 1986	Vienna	
45 Ecuador	26th June 1986	New York	
46 Indonesia	3rd July 1986	Vienna	<u>5th November 1986</u>
47 Switzerland	9th January 1987	Vienna	<u>9th January 1987</u>

\* Signed as EURATOM Member State

CONVENTIONS ON EARLY NOTIFICATION OF A NUCLEAR ACCIDENT AND ASSISTANCE IN CASE OF A NUCLEAR ACCIDENT OR RADIOLOGICAL EMERGENCY

The Convention on Early Notification of a Nuclear Accident which entered into force on 27th October 1986 (see Nuclear Law Bulletin No 38, text of Convention reproduced in Supplement thereto) has since been ratified by the governments of the following countries: Ukrainian Soviet Socialist Republic (26th January 1987); Byelorussian Soviet Socialist Republic (26th January 1987); Hungarian People's Republic (10th March 1987), New Zealand (accession) (11th March 1987), German Democratic Republic (29th April 1987).

In addition, Nigeria, Mongolia, Japan and Yugoslavia signed the Convention on 2nd January 1987, 8th January 1987, 6th March 1987 and 27th May 1987 respectively.

The Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (see Nuclear Law Bulletin No 38, text of Convention reproduced in Supplement thereto) has now also entered into force. Following Norway's signature without reservation to ratification on 26th September 1986, the USSR (23rd December 1986) deposited its instrument of ratification and the Ukrainian Soviet Socialist Republic and the Byelorussian Soviet Socialist Republic followed suit on 26th January 1987. As the Convention required only three ratifications, it entered into force after the prescribed period of thirty days (26th February 1987).

On 10th March 1987, the Hungarian People's Republic deposited its instrument of ratification; New Zealand acceded to the Convention the following day and the German Democratic Republic ratified it on 29th April 1987.

Nigeria, Mongolia and Japan have signed the Convention on 2nd January 1987, 8th January 1987 and 6th March 1987 respectively.

## SOUTH PACIFIC NUCLEAR FREE ZONE TREATY

The South Pacific Nuclear Free Zone Treaty (see Nuclear Law Bulletin No 36 for the text of the Treaty) entered into force on 11th December 1986

The Treaty's three Protocols are addressed to the nuclear weapons states (the United States of America, France, the United Kingdom, the People's Republic of China and the USSR) calling on them to refrain from using a nuclear weapon against any Party to the Treaty and from conducting nuclear explosive tests in the zone. The Protocols were adopted by the South Pacific Forum at its 17th Session on 8th August 1986. They have been modified to allow withdrawal by a Party to the Protocols if it decides that extraordinary events have jeopardised its supreme interests. In such a case, notice of withdrawal must be given three months in advance and shall include a statement of the extraordinary events it regards as having jeopardised its supreme interests.

## AGREEMENT ESTABLISHING THE ASIAN REGIONAL CO-OPERATIVE PROJECT ON MEDICAL AND BIOLOGICAL APPLICATIONS OF NUCLEAR TECHNIQUES (1986)

The Asian Regional Co-operative Project provides for co-operation in medical and biological applications of nuclear techniques and training for the transfer of developed techniques. It was established under an Agreement concluded in Vienna on 20th February 1986. The Agreement has been signed so far by the International Atomic Energy Agency (IAEA) and several States Parties to the Regional Co-operative Agreement for Research, Development and Training of 1972, extended on several occasions (see Nuclear Law Bulletin Nos 21 and 26)

As in the case of other Projects established under the Regional Co-operative Agreement, a Scientific Co-ordinating Committee of the Project, consisting of one representative from each Party and one representative from the IAEA will determine in particular the details of the Project in accordance with its objectives and will supervise implementation of the work

The Agreement came into force on 28th May 1986 for a period of five years, subject to the 1972 Regional Co-operative Agreement remaining in force. The Parties to date are Bangladesh, Indonesia, Japan, Pakistan, the Philippines and Sri Lanka

## • *Federal Republic of Germany*

### ACT OF 19TH DECEMBER 1986 TO PROVIDE FOR THE PREVENTIVE PROTECTION OF THE POPULATION AGAINST RADIATION\*

(Preventive Radiation Protection Act)

#### PART 1 - GENERAL

##### Section 1 - Purpose

For the purpose of protecting the population it is necessary to:

- 1 monitor radioactivity in the environment;
- 2 take appropriate steps in the light of the state of the art and all the circumstances to keep the exposure of persons to radiation and the radioactive contamination of the environment to the minimum, in the event of incidents that may have more than negligible radiological effects.

#### PART 2 - MONITORING OF ENVIRONMENTAL RADIOACTIVITY

##### Section 2 - Duties of the Federal Government (Bund)

- 1) The duties of the Federal Government shall be:
  - 1 the large-scale determination of:
    - a) radioactivity in the air and in precipitations;

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\* Unofficial translation by the Secretariat.

Note: Lower (Bundestag) and upper (Bundesrat) houses of German Parliament.

- b) radioactivity in Federal waterways and in the North Sea and the Baltic beyond Federal waterways, and
  - c) the local rate of gamma radiation;
2. the development and establishment of sampling, analysis, metering and calculation methods and the carrying out of comparative measurements and comparative analyses;
  - 3 the collection, processing and publication of the data obtained by the Federal Government and those communicated by the Länder (Federal States) and by centres falling outside the area of application of this Act,
  - 4 the evaluation of data on environmental radioactivity obtained either by the Federal Government or by the Länder on the latter's behalf,
  - 5 the communication of the data referred to under 1 and 3 above to the Länder and the instruction of the Länder in how to evaluate the data referred to under 4 above.
- 2) The right of the Länder to continue monitoring radioactivity in the areas referred to in paragraph (1) 1 above shall be unaffected
- 3) The monitoring stations required for paragraph (1) 1 above shall be determined by the Federal Government in agreement with the Länder authorities

### Section 3 - Duties of the States (Länder)

- 1) The Länder shall monitor radioactivity, in particular, in:
  1. food, tobacco products and essential commodities and also medicines and the substances from which they are made;
  - 2 animal feedstuffs;
  3. drinking water, groundwater and surface waters apart from Federal waterways;
  4. sewage, sludge, refuse and waste materials,
  - 5 soil and plants;
  6. fertilizers.
- 2) The Länder shall transmit the data obtained in accordance with paragraph (1) above to the Federal Government's centre for the monitoring of environmental radioactivity.

#### Section 4 - Information system of the Federal Government

- 1) The data obtained in accordance with Sections 2 and 3 shall be centralised in a "Radioactivity in the environment" information system under the Ministry of Environmental Affairs, Nature Conservation and Reactor Safety. The Federal centre for the monitoring of environmental radioactivity shall be created therefor
- 2) The responsible Federal authorities shall transmit the data obtained by them to the Federal centre for the monitoring of radioactivity.
- 3) The data in the Federal information system shall be directly accessible to the competent Länder authorities

#### Section 5 - Evaluation of data, provision of information to the Bundestag and the Bundesrat

- 1) The Federal Minister for Environmental Affairs, Nature Conservation and Reactor Safety shall evaluate the data on radioactivity. The Federal centre for the monitoring of environmental radioactivity shall assist the Minister in this task, in particular by collecting and processing the data and recording it
- 2) The Federal Minister for Environmental Affairs, Nature Conservation and Reactor Safety shall submit a report on the evolution of radioactivity in the environment at least once a year to the Bundestag and the Bundesrat

### PART 3 - MEASURES

#### Section 6 - Establishment of dose rates and contamination levels

- 1) For the purpose set out in Section 1, the Federal Ministry for Environmental Affairs, Nature Conservation and Reactor Safety shall be empowered to lay down, by decree:
  1. dose rates;
  2. contamination levels; and
  3. methods of calculation and assumptions on which the establishment of dose rates and contamination levels shall be based. Decrees issued under the provisions of 1 and 2 above shall be so issued in agreement with the Federal Ministers for Youth, the Family, Women and Health, for Food, Agriculture and Forests and for Economic Affairs
- 2) Decrees issued under the provisions of paragraph (1) above shall require the approval of the Bundesrat. Where regulations do not exist or are not adequate for the purpose specified in Section 1(2), decrees in the event of an incident with more than negligible radiological effects may, when a matter of urgency, be issued without the approval of the Bundesrat and without the agreement of the Federal Ministers concerned. The validity of such

decrees shall cease two months at the latest after their entry into force. This period of validity may be extended only by decree with the consent of the Bundesrat and in agreement with the Ministers concerned. Decrees issued under the second sentence of this paragraph which amend existing regulations shall be repealed immediately if so requested by the Bundesrat.

**Section 7 - Prohibitions and restrictions in the case of food, animal feedstuffs, medicines and other substances**

1) The Federal Minister for Youth, the Family, Women and Health may, in order to keep within the contamination levels established under Section 6, by decree issued in agreement with the Federal Ministers for Environmental Affairs, Nature Conservation and Reactor Safety, for Food, Agriculture and Forests and for Economic Affairs, prohibit or restrict:

1. the distribution of food, tobacco products and essential commodities and also medicines and the substances from which they are made,
2. the movement of food, tobacco products and essential commodities and also medicines and the substances from which they are made into, through or out of the area of application of this Act.

2) The Federal Minister for Food, Agriculture and Forests may, in order to keep within the contamination levels established under Section 6, by decree issued in agreement with the Federal Ministers for Environmental Affairs, Nature Conservation and Reactor Safety, for Youth, the Family, Women and Health and for Economic Affairs, prohibit or restrict:

1. the provision or distribution of animal feedstuffs;
2. the movement of animal feedstuffs into, through or out of the area of application of this Act.

3) The Federal Minister for Environmental Affairs, Nature Conservation and Reactor Safety may, by decree issued in agreement with the Federal Ministers for Youth, the Family, Women and Health, for Food, Agriculture and Forests and for Economic Affairs and in order to keep within the dose rates and contamination levels established under Section 6

1. prohibit or restrict the processing or utilisation of objects, residues or other materials,
2. regulate the removal of waste.
- 4) For the issue of decrees under paragraphs (1) to (3) above, Section 6 paragraph (2) shall apply, *mutatis mutandis*.

5) For the fulfilment of obligations under international agreements or binding decisions of the European Communities, paragraphs (1) to (4) above shall apply *mutatis mutandis*.

## Section 8 - Powers in respect of transborder traffic

1) The authorities responsible for the policing of transborder traffic shall be empowered to take the necessary measures to keep within the contamination levels established under Section 6 and in particular:

- 1 to take measures for the decontamination of vehicles and other objects;
- 2 to turn back contaminated vehicles and other contaminated objects or else to conduct them to the authorities responsible for carrying out the necessary measures.

They may also direct persons' attention to the requirements of preventive health protection

2) Customs offices shall be empowered, for purposes of the enforcement of the prohibitions and restrictions issued under Section 7(1) 2 and (2) 2:

- 1 to hold shipments of goods and their means of transport, containers and loading and offloading equipment on their movement into, through or out of the area of application of this Act;
- 2 to inform the responsible administrative authorities about shipments of goods,
- 3 to order, in the case of shipments of goods, that they be produced to the responsible administrative authority at the cost and risk of the person possessing the right of disposal

Shipments of goods covered by prohibitions and restrictions under Section 7 (1) 2 and (2) 2 may be turned back by customs offices

3) For the area of the Free Port of Hamburg, the Federal Minister for Financial Affairs may, by agreement with the Senate of the Free and Hanseatic City of Hamburg, delegate the duties referred to in paragraph (2) above to the freeport office. Section 14(2) of the Financial Administration Act shall apply, *mutatis mutandis*

## Section 9 - Recommendations of the Federal Minister for Environmental Affairs, Nature Conservation and Reactor Safety

1) For the achievement of the purpose referred to in Section 1, the Federal Minister for Environmental Affairs, Nature Conservation and Reactor Safety may recommend the population to adopt certain types of behaviour. These recommendations shall be issued by agreement with the competent Land authorities at the highest level. Where the recommendations relate to food, tobacco products, essential commodities, medicines and the substances they are made from, or animal feedstuffs, they shall be issued by agreement with the Federal Ministers for Food, Agriculture and Forests and for Economic Affairs

2) In the case of incidents with exclusively local effects on the territory of a Land, the competent Land authority at the highest level may issue recommendations to the population

**PART 4 - IMPLEMENTATION BY LÄNDER ON BEHALF OF FEDERAL  
GOVERNMENT - FEDERAL ADMINISTRATION - RIGHT  
OF ENTRY AND SAMPLING**

**Section 10 - Implementation by Länder**

1) Where provision is not made for implementation by the Federal Government itself this Act and the decrees issued thereunder shall be implemented by the Länder on behalf of the Federal Government. The duties specified under Section 2(2) shall be carried out by the Länder as their own responsibility. In the sector of the Federal armed forces the implementation of this Act and of the decrees issued for such implementation shall be the responsibility of the relevant armed forces headquarters.

2) The Federal Minister for Environmental Affairs, Nature Conservation and Reactor Safety shall, with the approval of the Bundesrat, issue general administrative provisions for the implementation of this Act. This shall apply in particular to the collection, transmission, compilation and processing of data on radioactivity and their recording. In cases where the Federal Government is directly responsible for implementation such general administrative provisions do not need approval by the Bundesrat.

3) General administrative provisions may be issued by the Federal Minister for Youth, the Family, Women and Health for the implementation of decrees issued under Section 7(1), by the Federal Minister for Food, Agriculture and Forests for the implementation of decrees issued under Section 7(2) and by the Federal Minister for Environmental Affairs, Nature Conservation and Reactor Safety for the implementation of decrees issued under Section 7(3), by agreement in each case with the Federal Ministers mentioned therein and with the consent of the Bundesrat. Section 7(5) shall apply, mutatis mutandis.

**Section 11 - Federal administration**

1) With respect to the fulfilment of the duties of the Federal Government as set out in Section 2(1) 1 and 2, responsibilities in the air and precipitation sector shall be as follows:

- 1 for measurement and forecasting the spread of contamination: the German weather service with its various departments,
- 2 for trace analysis: the Federal Office for Civil Protection with its Institute for Atmospheric Radioactivity,
- 3 for local gamma radiation dose rates: the Federal Office for Civil Protection and its Early Warning Offices.

2) With respect to the fulfilment of the duties of the Federal Government under Section 2(1) 3 in the air and precipitation sector, responsibility for the compilation and processing of the data obtained by the Federal Government shall lie with the Federal Office for Civil Protection and its Institute for Atmospheric Radioactivity.



3) With respect to the fulfilment of the duties of the Federal Government under Section 2(1) 1 to 3, responsibilities shall be as follows:

- 1 Federal waterways not including coastal waters (water, matter in suspension, sediment) the Federal Institute for Hydrology;
- 2 the North Sea and the Baltic including coastal waters (sea water, matter in suspension, sediment) the German Hydrographic Institute.

4) With respect to the fulfilment of the duties of the Federal Government under Section 2(1) 2 and 3, responsibilities shall be as follows:

1. food: the Federal Food Research Institute;
2. milk, milk products, feedstuffs, soil, plantlife and fertilizers: the Federal Milk Research Institute,
- 3 fish, fish products, crustacea and shellfish, aquatic plantlife and plankton the Federal Fisheries Research Institute with its hydrological radioecology laboratory,
- 4 tobacco products, essential commodities, medicines and the products they are made from the Federal Health Office, Institute for Radiation Hygiene;
- 5 surface water the Federal Institute for Hydrology,
- 6 drinking water, groundwater, sewage, sludge, residues and waste the Federal Health Office, Institute for Water, Soil and Air Hygiene.

5) With respect to the fulfilment of the duties of the Federal Government under Section 2(1) 2, responsibility shall lie with the Federal Physico-Technical Institute for the formulation of radioactivity standards

6) With respect to the fulfilment of the duties of the Federal Government under Section 2(1) 3 and 5 and Section 5(1) second sentence, the Federal Central Office for the monitoring of environmental radioactivity shall, until otherwise ruled under paragraph (7), be the Federal Health Office, Institute for Radiation Hygiene

7) The Federal Government may, by decree, assign the duties under Section 2(1) 1 to 3 and 5 and Section 5(1) 2 to other independent Federal high authorities or to corporations and entities under public law directly responsible to the Federal authorities.

8) In Land Berlin, the German weather service with its local office shall perform the duties under paragraph (1) 2 and 3.

#### Section 12 - Right of entry and sampling

Representatives of the competent authorities shall be empowered to enter land as well as business and trading premises during business and working hours in order to measure radioactivity and take samples

## **PART 5 - PROVISIONS RESPECTING PENALTIES, CONCLUDING PROVISIONS**

### **Section 13 - Penal offences**

Whoever is found guilty of contravening a decree issued in accordance with Section 7(1) 2 or 3 or in connection with (5) of the same Section shall be liable for each offence to a period of imprisonment not exceeding one year or a fine where the decree calls for such a penalty for a specific offence

### **Section 14 - Breaches of the Act**

- 1) Whoever commits one of the offences referred to in Section 13 through negligence shall be guilty of a breach of the Act.
- 2) Whoever wilfully or through negligence contravenes an order given under Section 8(1), first sentence, 1 or 2 that it is possible to carry out shall also be guilty of a breach of the Act.
- 3) Breaches of the Act may be punishable by a fine not exceeding fifty thousand Deutschmarks.

### **Section 15 - Confiscation**

Objects to which a punishable offence under Section 13 or a breach of the Act under Section 14 relates may be confiscated Article 74a of the Penal Code and Section 23 of the Act on Administrative Sanctions shall apply

### **Section 16 - Amendments to legislation**

1) The following words in Section 9(4) of the Food and Essential Commodities Act of 15th August 1974 (BGBl. I pages 1945, 1946, BGBl. 1975 I page 2652) as most recently amended by Section 27 of the Act of 16th December 1986 (BGBl. I page 2441) shall be deleted:

"by radioactive materials or".

2) The following shall be inserted after Section 13 j) of the Federal Frontier Protection Act of 18th August 1972 (BGBl. I page 1834), most recently amended by Section 2(2) of the Act of 14th July 1976 (BGBl. I page 1801)

"k) Section 8 (1) of the Preventive Radiation Protection Act of 19th December 1986 (BGBl. I page 2610) "

3) Paragraph (2) shall not apply in Land Berlin.

Section 17 - Berlin clause

This Act shall also apply in Land Berlin as provided in Section 13 (1) of the Third Transition Act. Decrees issued in accordance with this Act shall apply in Land Berlin as provided in Section 14 of the Third Transition Act.

Section 18 - Entry into force

This Act shall enter into force on the day following its publication

Bonn, 19th December 1986

• *Federal Republic of Germany-Switzerland*

**AGREEMENT BETWEEN THE FEDERAL REPUBLIC OF GERMANY AND THE SWISS  
CONFEDERATION ON THIRD PARTY LIABILITY IN THE NUCLEAR FIELD\*  
(22nd October 1986)**

The Federal Republic of Germany  
and  
The Swiss Confederation

**CONSIDERING** that the protection of the population of both Contracting Parties from damage arising from the peaceful use of nuclear energy is a major objective in co-operation between neighbours and that this protection must include appropriate liability rules,

**HAVING REGARD** to the fact that both Contracting Parties have adopted comparable national liability rules which are based on equal treatment for victims of both Contracting States where damage is confined to the national territory of either Party,

**DESIRING**, in the event of transborder damage occurring, to ensure the most uniform possible compensation of damage on both sides of the frontier between the Contracting Parties,

**HAVE** agreed as follows:

Article 1 - Scope

1. This Agreement shall govern the consequences under the law of liability of an incident that, originating from the peaceful use of nuclear energy,

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\* Unofficial translation by the Secretariat

occurs within the national territory of a Contracting Party, hereinafter referred to as the State of occurrence, and causes damage within the territory of the other Contracting Party, hereinafter referred to as the neighbouring State.

2 It shall apply to incidents whose harmful effects are attributable to the radioactive, poisonous, explosive or other dangerous properties of radioactive material.

#### Article 2 - Principle of equal treatment

Unless otherwise stipulated in this Agreement, the nationals of the neighbouring State, as well as persons who have their headquarters, domicile or usual place of residence there, shall be treated in the same way for the purposes of the law governing substance and procedure as nationals of the State of occurrence

#### Article 3 - Jurisdiction

1 Where damage is caused by the peaceful use of nuclear energy, jurisdiction shall lie exclusively with the courts of the State of occurrence

2 Where, in the case of damage caused during a transport operation, the place of occurrence cannot be ascertained, the courts of that Contracting State which first approved the transport operation shall have exclusive jurisdiction.

#### Article 4 - Applicable law

Unless otherwise stipulated in this Agreement, the national law of the courts having jurisdiction in accordance with Article 3 shall be applicable to claims for compensation arising from an incident.

#### Article 5 - Preventive measures

If the law of the State of occurrence provides for liability for damage resulting from officially ordered or approved measures designed to prevent an impending incident, victims from the neighbouring State may only claim in respect of such damage where they would also be entitled to do so under the law of the neighbouring State.

#### Article 6 - Large scale damage

Should the sum available in the State of occurrence be insufficient to meet all claims, the Contracting Parties shall immediately consult one another on ways of reaching an appropriate settlement.

#### Article 7 - Transferability

Compensation awarded, and any interest and costs payable under this Agreement shall be transferable free of any exchange controls between the Contracting Parties

#### Article 8 - Liability at international law

This Agreement shall not be interpreted so as to prejudice any rights of a Contracting Party arising under the general rules of international law in relation to nuclear damage

#### Article 9 - Berlin clause

This Agreement shall also apply to the Land of Berlin provided the Government of the Federal Republic of Germany does not inform the Swiss Government to the contrary within three months of the entry into force of the Agreement

#### Article 10 - Termination

Either Contracting Party may terminate this Agreement at any time by giving twelve months' notice in writing. The Agreement shall continue to apply to incidents which occur while it is in force and which cause damage after its termination.

#### Article 11 - Ratification and entry into force

1. This Agreement shall be subject to ratification; instruments of ratification shall be exchanged in Bonn as soon as possible.

2. This Agreement shall come into force one day after exchange of instruments of ratification

DONE at Bern on 22nd October, 1986 in two copies in the German language.

## • *Finland-USSR*

### AGREEMENT BETWEEN THE GOVERNMENT OF THE REPUBLIC OF FINLAND AND THE GOVERNMENT OF THE UNION OF SOVIET SOCIALIST REPUBLICS ON EARLY NOTIFICATION OF A NUCLEAR ACCIDENT AND EXCHANGE OF INFORMATION ON NUCLEAR FACILITIES\*

(7th January 1987)

The Government of the Republic of Finland and the Government of the Union of Soviet Socialist Republics,

CONSIDERING the friendly and good-neighbourly relations between the two countries, which were confirmed in the Treaty of Friendship, Co-operation and Mutual Assistance between the Republic of Finland and the Union of Soviet Socialist Republics of 6th April 1948,

TAKING INTO ACCOUNT the Agreement between the Government of the Republic of Finland and the Government of the USSR on Co-operation in the Peaceful Uses of Atomic Energy of 14th May 1969,

AMARE of the need to establish an international regime ensuring the safe utilization of nuclear energy on the basis of co-operation among all States and international organisations,

NOTING that both countries are Parties to the Convention on Early Notification of a Nuclear Accident of 26th September 1986 (hereinafter referred to as "the IAEA Convention"),

CONVINCED that it is important for both countries to co-operate closely in order to limit the transboundary consequences of possible releases of radioactive material, and

DESIRING to ensure that for this purpose both States receive the necessary information as promptly as possible,

HAVE agreed as follows:

#### SCOPE OF APPLICATION

##### Article 1

1 This Agreement, where it concerns notification of a nuclear accident, shall apply to the facilities and activities referred to in Articles 1 and 3 of the IAEA Convention and also to the cases referred to in Articles 5 and 6 of this Agreement

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\* Translation communicated by the IAEA.

2 This Agreement, where it concerns the exchange of information, shall apply to such facilities for the peaceful use of atomic energy as nuclear power plants and storage facilities for the fresh and spent fuel thereof. This list may be supplemented by agreement between the authorities specified in Article 3 as new nuclear facilities for the peaceful use of atomic energy are constructed

## EXCHANGE OF INFORMATION

### Article 2

1 The Contracting Parties shall transmit to each other information characterising the operating conditions of the nuclear facilities referred to in Article 1 2, as well as other technical information relating to these facilities which may be used for evaluating the consequences in the country receiving the information in the event of an accident at these facilities, and for devising the measures necessary for protection of the population.

2 The exchange of information referred to in paragraph 1 above shall cover nuclear facilities situated on the territory of a Contracting Party at a distance of up to 300 km from their inter-State boundary or from the boundary of the territorial waters in the Gulf of Finland of the other Contracting Party.

3 The information transmitted under this Article may be used only for the purposes of Article 2 of this Agreement unless the authorities specified in Article 3 of this Agreement agree otherwise

### Article 3

1 The provisions of Article 2 of this Agreement shall be implemented

- in Finland, by the Finnish Centre for Radiation and Nuclear Safety;
- in the Soviet Union, by the Ministry of Nuclear Power of the USSR.

The Contracting Parties shall notify each other of any change in the authorities responsible for implementation of the said provisions.

2 These authorities shall reach agreement with each other on the practical measures needed to carry out the obligations envisaged in Article 2

## NOTIFICATION OF A NUCLEAR ACCIDENT

### Article 4

In the event of any accident in the territory of a Contracting Party involving the nuclear facilities or activities referred to in Article 1 of the

IAEA Convention that results or may result in a release of radioactive material into the territory of the other Contracting Party and which might be of significance for the latter in terms of radiological safety, the first Contracting Party shall immediately notify the other Contracting Party thereof and promptly provide it with the available information in accordance with Article 5 of the IAEA Convention.

#### Article 5

The Contracting Parties are prepared also to notify each other within the shortest possible time of all cases of nuclear accidents other than those specified in Article 4 which, in the judgement of the Contracting Party in whose territory the accident has occurred, may result in a transboundary release of radioactive material that could be of significance for the other Party in terms of radiological safety

#### Article 6

The Contracting Parties shall notify each other without delay if in their territories at a distance of up to 300 km from their inter-State boundary or from the boundary of the territorial waters of the other Contracting Party in the Gulf of Finland exceptionally high levels of radiation are recorded when this radiation is not caused by facilities or activities in the territory of a Contracting Party and could be of significance for the other Contracting Party in terms of radiological safety.

#### Article 7

- 1 The provisions of Article 4, 5 and 6 shall be implemented:
  - in Finland, by the Finnish Centre for Radiation and Nuclear Safety,
  - in the Soviet Union, by the USSR State Committee on the Utilization of Atomic Energy.

The Contracting Parties shall notify each other of any change in the authorities responsible for implementation of the said provisions

- 2 These authorities shall reach an agreement with each other on the practical measures needed to carry out the obligations referred to in Article 4, 5 and 6

### MISCELLANEOUS PROVISIONS

#### Article 8

This Agreement shall not affect the rights and obligations of the Contracting Parties under agreements concluded by them earlier



#### Article 9

The obligation to provide information under the present Agreement shall be valid subject to those restrictions ensuing from the laws of the Contracting Parties.

#### Article 10

Any disputes concerning the interpretation or application of this Agreement shall be settled by negotiation between the Contracting Parties

#### Article 11

At the request of either of the Contracting Parties bilateral negotiations shall be held on amendments to the present Agreement. All amendments shall require the agreement of the Contracting Parties.

#### Article 12

This Agreement or the amendments thereto shall enter into force thirty days after the Contracting Parties have notified each other that their respective legal requirements for the entry into force of the Agreement or the amendments thereto have been met.

#### Article 13

This Agreement shall be of an indefinite duration. Either Contracting Party may denounce the Agreement by written notification to the other Contracting Party. The denunciation shall take effect one year following the date on which the written notification is received unless a later date is specified in the notification

Done at Helsinki on the seventh day of January 1987, in duplicate, in the Finnish and Russian languages, both texts being equally valid.

# STUDIES AND ARTICLES

## STUDIES

### THE ACCIDENT AT CHERNOBYL - ECONOMIC DAMAGE AND ITS COMPENSATION IN WESTERN EUROPE\*

#### I. INTRODUCTION

The accident at Chernobyl on 26th April 1986 was followed by a prolonged release in the atmosphere of large quantities of radioactive products. The specific features of the release, particularly its relatively long duration (more than ten days) and the altitude reached by the radioactive plume, favoured a widespread distribution of activity, mainly across Europe, although activity was measured as far away as Canada, the United States and Japan.

Fortunately, this accident had no significant radiological impact from the viewpoint of personal injury outside the Soviet Union. However, in view of the large-scale release of contaminants, most of the governments of the OECD Member countries concerned took a number of actions or decided on countermeasures to protect their nationals against the risks of radioactive contamination.

The radionuclides released from the Chernobyl reactor contained many different fission products and actinides but in most OECD Member countries only a few nuclides were found in quantities which were radiologically significant. The three most important were iodine-131 and the two caesium isotopes, caesium-134 and caesium-137. Once deposited on the ground, these nuclides are quickly incorporated into foodchains. Iodine-131 has a short half-life (8.5 days) and the dose from all pathways was almost completely delivered within weeks of the accident. The caesium dose on the other hand will be delivered - at a rapidly decreasing rate over a period of many years (caesium-134 has a half-life of 2.06 years and caesium-137 30 years). Therefore, the levels of deposition of these three nuclides gave a good indication of the radiological impact of the release on the Member countries.

The countermeasures taken were extremely varied, ranging from reinforcement of normal environmental monitoring programmes to compulsory

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\* This study is based on data provided by national authorities and information given in the press, the Secretariat assumes no liability therefor

restrictions and bans concerning the commerce and use of foodstuffs. The variety of responses can be explained primarily by the difference of local situations both in terms of uneven levels of contamination and in terms of different national criteria for intervention levels.

These countermeasures included restrictions on the sale and use of milk and dairy products, fresh leafy vegetables and some types of meat, other restrictions concerned limitations on travelling to the region most affected by the accident and bans on imports of some foodstuffs from the Soviet Union, Eastern European countries and even from other OECD countries.

In the countries where such bans or restrictions were imposed, those affected, mainly agricultural producers, suffered a loss of income or so-called economic damage to a degree commensurate with the measures decided by the national authorities concerned.

## II ECONOMIC DAMAGE AND COMPENSATION IN OECD MEMBER COUNTRIES

The Governments of those countries where significant economic damage was caused because of the restrictions imposed awarded compensation for the losses incurred. With the exception of the Federal Republic of Germany, no sums were paid under national nuclear third party liability legislation, the legal basis varied according to the countries, ranging from payments from national contingency funds to compensation in accordance with orders or administrative decisions. (See Nuclear Law Bulletin No. 38 and also this issue of the Bulletin for further details on national rules and on measures taken at European Community level)

On the basis of information available to date, an attempt is made to give a picture of the situation in the different countries. The following paragraphs describe the restrictions decided and the measures taken by the national authorities to compensate the economic damage suffered by certain sectors of their population.

In Austria, grasslands were the most affected, with significant contamination of early hay and grass silage. Other less affected or unaffected fodder was substituted for the contaminated hay to avoid a rise in radioactive substances in cattle. Also, the spreading of sewage sludge produced on agricultural land between May and July 1986 was prohibited. The damage has been assessed at Sch. 2 billion and the Government decided to make available Sch. 1.5 billion from the Federal Disaster Fund to pay compensation to farmers.

In the Federal Republic of Germany, radioactive contamination affected fresh leafy vegetables and grass; milk-producing cattle was kept from grazing, consumption of milk and other foodstuffs was supervised and the intervention levels set by the states led to a change in consumers' diets. Also, certain imports were restricted and travel agencies and transport enterprises specialised in Eastern European business lost their clientele, while seasonal agricultural workers went without work.

The German Atomic Energy Act (Section 38 paragraph 2) provides for compensation from German public funds for such cases. Provided damage caused by a foreign nuclear installation and suffered in the territory of the Federal

Republic of Germany, and provided the victim - according to the foreign law applicable can only obtain compensation which falls considerably short of the compensation available under German law, the Bund (Federal State) pays compensation up to the maximum amount of 1 billion DM. Such a claim is to be brought before the Bundesverwaltungsamt (Federal Agency for Administration)

Therefore, in implementation of the Act, the Federal Government issued a Guideline of 21st May 1986 concerning the settlement of claims for compensation after the reactor accident at Chernobyl (Bundesanzeiger of 27th May 1986, no 95, p 6417). The Guideline describes the extent of damage to be compensated: damage to property and prejudice to similar rights caused directly by the accident, i.e. destruction of products; seizure of products, restrictions concerning the use of milk; direct damage to enterprises within the meaning of Section 823 paragraph 1 of the Civil Code. The Guideline provides for a standardised procedure and for a lump sum compensation to enable the Federal Agency for Administration to make quick payments without heavy administrative procedures.

In addition to these claims for public compensation, further State compensation was granted "ex aequo et bono" (adherence to equity) in cases of damage outside the scope of application of Section 38 of the Atomic Energy Act. This compensation is an ex gratia compensation which does not give right to any claim. Two so-called Equity Guidelines were issued.

Under the Equity Guidelines for "Vegetables" of 2nd June 1986 (Bundesanzeiger of 12th June 1986, No 105, p 7237) the Bund compensates damage due to official intervention levels concerning certain types of fresh leafy vegetables, provided the damage was suffered by 31st May 1986.

Based on an administrative agreement between the Bund and Länder (federal states), a General Equity Guideline was issued on 24th July 1986 (Bundesanzeiger of 2nd August 1986, No 140, p. 10388). According to these provisions the Bund and Länder pay compensation jointly (Bund two-thirds, Länder one-third) in cases of insolvency or impending insolvency due to Chernobyl, limited to a certain period of time and to certain fields of business (production of, and trade in vegetables, importers and exporters of fresh vegetables; transport enterprises; travel agencies specialised in Eastern European business, enterprises having suffered similar losses, dairies, seasonal workers in agriculture and in food industries). This total amount of compensation to be paid in accordance with the Atomic Energy Act (Section 38) and the Equity Guidelines is estimated at more than DM 500 million.

It is interesting to note that a further measure has been taken to protect the population against radioactive contamination in case of a nuclear accident. Since 31st December 1986, an Act on preventive protection of the public against radiation has been in force (see "Texts" Chapter of this issue of the Bulletin for a translation of the Act).

In Greece economic damage was suffered due to lost sheep and goat cheese production and the Government paid compensation for the loss of income sustained.

In Italy, between 2nd and 23rd May 1986 several Orders were passed by the Ministry of Health prohibiting temporarily the sale of fresh leafy

vegetables and provision of fresh milk to children under ten and pregnant women, and advising on disposal and destruction methods for contaminated products

In addition, the Ministry of Justice issued a Decree-Law (No 319) on 2nd July 1986 on emergency measures to cope with the crisis on the agricultural market resulting from the Chernobyl nuclear accident. This Decree-Law was converted to an Act (No 445) on 1st August 1986 (published in Gazzetta Ufficiale No 182 of 7th August 1986) and provided for compensation of losses incurred due to the restrictions and prohibitions laid down by the May Orders

The Act prescribed that an extra appropriation of 500 billion lira should be entered in the budget of the National Agency for regulating the agricultural market (Azienda Interventi Mercato Agricolo - AIMA) set up to deal with reimbursements of surplus milk or vegetables to farmers in the context of European Economic Community arrangements. This sum is intended to compensate loss of income in the milk and dairy produce sector and in the fruit and vegetable sector.

In the Netherlands, precautionary measures included temporary prohibition of outdoor grazing of dairy cattle, advice to refrain from consuming fresh spinach; a ban on sheep's milk consumption and manufacture of sheep's cheese for five weeks following the accident; and a requirement that thyroid glands be destroyed after animal slaughter. A Decision of the Ministry of Agriculture and Fisheries of 7th May 1986 banned the sale of the above produce, following which, the Ministry decided to grant 220,000 Gld for economic damage due to losses in the context of sheep's milk and 550,000 Gld for losses due to non-consumption of spinach

In Norway, only a small area of vegetable crops was affected. The most important impact was by caesium deposition on grazing meadows, subsequently affecting sheep and reindeer. It is estimated that about 10 per cent lamb and mutton production will be unfit for human consumption, with radioactivity levels in excess of the 600 Bq/kg limit set for human consumption will be unfit for such consumption. Some beef was affected and milk production to a lesser degree. Sale of reindeer meat was prohibited in southern and central Norway. The Government decided on 31st July 1986 that losses suffered by farmers and reindeer-owners as a result of restrictions laid down by the Government following the Chernobyl accident should be compensated.

Compensation will partly be paid through government grants and partly through the subsidies which are granted every year to the farmers' organisations as part of agreements between the State and the producers on prices and income guarantees. It is expected that NKr 160 million will be paid. However, concerning reindeer, the effects of the accident cannot yet be accurately estimated and the present estimated amount of compensation is NKr 19 to 20 million (within the total sum).

In Sweden, meat and milk production, as well as grasslands, were affected by air-borne contamination, notably caesium 137, which affected about 125,000 cows on 6,000 farms. In addition, 210,000 hectares of hay were contaminated. Moreover, the entire reindeer population and many game animals were affected. The Government estimates that the effects of the accident on agriculture should have worn off within a year or two, as new crops are

planted. It is feared that the reindeer herds, however, will suffer from contamination for years to come as they continue to consume slow-growing, contaminated lichens. As a matter of policy, the Government has decided that farmers and reindeer owners should be compensated for extra costs and loss of income.

A Government Bill, introduced before Parliament in October 1986, was adopted early in 1987. Apart from various measures regarding emergency systems, there were also proposals for compensation to victims suffering economic damage as a result of the radioactive fallout. The latter proposals concern the allocation of funds - SKr 250 million to cover economic losses on milk, meat, vegetables and other nutrients.

Preliminary rules for eligibility to receive compensation had earlier been decided by regional authorities. These rules will now be implemented by all authorities responsible for the processing of claims for compensation. Compensation will be accorded for delayed release to grazing, decreased milk yields, rejected milk, rejected animals for slaughter, losses for slaughter at inoptimal times, rejected feed, decontamination of hay meadows, products prohibited for sale and rejected game meat. In the case of reindeer, animals are brought to slaughter, and if radiation levels greater than 300 bequerels per kilogram are detected, the carcass is rejected and the Government pays the owner the market value.

Further economic losses suffered are anticipated (e.g. fisheries, restaurant owners, retail grocers and others). It is proposed that any claims for compensation be decided essentially along the lines referred to above. In addition, two Ordinances have been in force since 1st April 1987 to complement earlier appropriations (see this issue of the Bulletin).

In Turkey the government supplied dairy farmers with uncontaminated forage for their animals; also, the difficulties encountered in exports of foodstuffs, in particular dried fruits and nuts resulted in a consequent loss of income.

In the United Kingdom, the Minister of Agriculture, Fisheries and Food and the Secretaries of State for Scotland and for Wales, introduced non-statutory compensation schemes in 1986 to assist certain sheep producers who had suffered losses as a result of the need to impose restrictions on movement and slaughter of sheep in certain designated areas in North Wales, Scotland and Cumbria. The restrictions were introduced under the Food and Environment Protection Act 1985 in the wake of the impact of the Chernobyl accident and were necessary to prevent lamb and mutton reaching the food chain until radio-caesium levels had declined to agreed international safety levels. A series of amending orders have modified the designated areas since the initial restrictions were imposed on 20th June 1986.

On compensation, there were three schemes. Under the first, compensation was paid in respect of the loss of European Economic Community variable premium payments to producers of lambs. Restrictions resulted in some lambs becoming overfat by the time that they were able to be marketed on derestriction of their areas. Overfat sheep did not meet the required certification standards of the subsidy scheme. In August 1986, a "mark and release scheme" was introduced to enable sheep from the remaining restricted areas to be sold and moved out of the areas so as to relieve the pressure on fodder and graz-

ing Sheep so released, under a consent procedure, were appropriately marked and identified so as to ensure that they would not be slaughtered for human consumption. Animals so marked generally commanded lower market prices. The second compensation scheme therefore paid for the "price blight" on sale of marked sheep as compared to equivalent breeds which were unmarked.

Finally, a third compensation scheme was introduced in October which was designed to contribute to the direct costs involved on certain sheep enterprises which had incurred extra expenditure, as a result of the restrictions, in terms of fodder, veterinary costs, shepherding labour, etc. This comprised a headage payment for lambs and ewes separately based upon the numbers of weeks between the introduction of restrictions and the date of sale.

The first and third schemes have now been terminated. The second scheme for "price blight" compensation continues.

No specific limits are fixed as regards the overall amount of compensation available which clearly depends upon the numbers involved and the results of the claim procedures. However, it is envisaged that total expenditure could exceed the £4.3 million already paid out.

As for 1987, intensive monitoring effort by the three Agriculture Departments is continuing such that the prospects for radiocaesium levels - which continue to decline can be established. Decisions on the need for any further compensation arrangements in 1987 will be taken, in due course, in the light of the Departments' continuing appraisal of the restrictions and their effects.

The following Table gives an indication of the sums involved to date and their legal basis.

TABLE

Estimated Compensation for Economic Damage in some  
OECD Countries\*

<u>COUNTRY</u>	<u>TYPE OF ACTION</u>	<u>AMOUNT</u>
AUSTRIA	Federal Disaster Fund	Sch 1.5 billion
GERMANY, Federal Republic of	Atomic Energy Act, 3 Guidelines of 21.5.86, 2.6.86 and 24.7.86 respectively	DM 500 million

<u>COUNTRY</u>	<u>TYPE OF ACTION</u>	<u>AMOUNT</u>
ITALY	Act of 1 8.86	L 500 billion (appropriation)
NETHERLANDS	Ministry of Agriculture Decision following Decision of 7.5.86 banning sale and use of produce	Gld 770,000
NORWAY	Government Decision of 31.7.86	NKr 165 million
SWEDEN	Special allocation from the national budget	SKr 250 million
UNITED KINGDOM	Civil Contingency Fund	£4 3 million to date

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\* These amounts are given as an indication, on the basis of information provided by the national authorities concerned and should by no means be considered as final.

### III COMPENSATION IN CERTAIN EASTERN EUROPEAN COUNTRIES

Press accounts of the consequences of the accident at Chernobyl have provided information on the economic damage in Eastern European countries and, in certain instances, on the compensation paid by some governments

In the USSR, by 19th September 1986, the accident had cost 2 billion rubles (approximately 3 billion dollars) This figure took into account all predictable construction costs to accommodate evacuees (source: USSR Finance Minister). In December 1986 it was stated that compensation amounting to 1.3 billion rubles (approximately 2 billion dollars) had been granted to the evacuated population (source: Pravda).

Due to loss of income from sales to Western Europe following the embargo of one month decided by the European Communities in May 1986 on sale of foodstuffs from Eastern European countries, certain countries suffered economic damage. The following is an estimate of their losses

- Bulgaria, £48 million;



- Hungary, £12 million    The government paid £6.2 million compensation to its farmers,
- Poland, £23 million

Source    Le Monde, 7th January 1987, New Scientist, 23rd April 1987

## CURRENT PROBLEMS OF NUCLEAR LIABILITY LAW IN THE POST-CHERNOBYL PERIOD\*

- A German Standpoint -

Dr Norbert Pelzer, Göttingen University

Experience of the consequences of the nuclear accident at Chernobyl has given valuable pointers for the further development of nuclear liability law so as to improve the protection of victims and bring about the necessary limitation of the concept of damage. Key issues are the treatment of preventive measures under liability law, the concept of damage, the amount of liability cover and the further improvement of the international liability system

When questions of nuclear liability law were discussed in the Federal Republic of Germany prior to the Chernobyl accident, those taking part formed three distinct groups with three different approaches

- first were the small number of nuclear liability lawyers, of whom I am one. For them nuclear liability law was a quite harmless exercise with scope for all kinds of experimentation;
- next were the nuclear professionals, in the first place the nuclear operators linked to suppliers and carriers on the one hand and insurers on the other. For the former, nuclear liability law had to be understandable and above all fair, while insurers wanted to make money out of the risk, which meant that in spite of the lamentation about inadequate insurance capacity, the increases we introduced in liability cover were not unwelcome;
- the third group is to be found in the political arena, and comes between the theoreticians of the first group and the practitioners of the second. The term adopted in the 1970s of "victim protection" (Opferschutz), which has now disappeared, was a key motivating expression. There is no doubt as to its basic positive value. However, recent talk of abandoning nuclear energy has shown that this term and nuclear liability law can also be used as a means to prevent the peaceful use of atomic energy

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\* This is a translation by the Secretariat of an article published in *Energiewirtschaftliche Tagesfragen*, January 1987. It is reproduced by kind permission of the author and the editor. Responsibility for the ideas expressed and the facts given rests solely with the author

The German liability setup has been watched from abroad with interest, although also with suspicion and some astonishment, particularly by the guardians of the international nuclear energy conventions, the OECD and the IAEA. Once again, the Germans were obviously striving for what could sometimes be an exaggerated degree of perfectionism.

What is the position after Chernobyl? I can today say with conviction that our nuclear liability law, as conceived in 1975 on ratification of the Paris Convention (PC) and the Brussels Supplementary Convention (BSC)<sup>1</sup> and as amended in 1985<sup>2</sup> - particularly through the introduction of the unlimited financial liability of the operator has basically come up to expectations. Even abroad the German model is now to some extent looked at in a less critical light. Chernobyl has nevertheless also revealed weak points, where consideration should be given to improvements. I should like to make some suggestions in this respect in this article. In so doing I shall not be able to confine myself to German national nuclear liability law, but shall also have to consider international law. This is necessary not only because the Paris Convention forms the basis of our national law, but also because Chernobyl has shown that national regulation alone is not enough.

### Basis of liability

For the operator of a nuclear installation situated in the Federal Republic of Germany, liability is founded on Sections 25 et seq. of the Atomic Energy Act (Atomgesetz - AtG)<sup>3</sup> in conjunction with the Paris Convention on Third Party Liability in the Field of Nuclear Energy (PC). Liability is without fault (Article 3 PC) and is "legally channelled" onto the operator (Article 6 PC). There is also liability in cases of force majeure, and also in derogation from Article 9 of the Paris Convention for those special cases of force majeure referred to in this Article (Section 25 3 AtG). The amount of liability is unlimited (Section 31 AtG). The limitation period is three years from knowledge or imputed knowledge of the damage and the person causing it, and in any event thirty years from the occurrence of the incident. The territorial limitation of the Convention to areas under the sovereignty of Contracting States by Article 2 of the Paris Convention was excluded by Section 25 4 of the Atomic Energy Act. Where private international law applies German law to an incident causing damage, the German operator will also be liable for nuclear incidents occurring or causing damage in non-Contracting States.

Briefly and in a simplified form this is the present position of the operator of a nuclear installation under currently applicable liability law<sup>4</sup>.

There are, in addition, the provisions of Section 38 of the Atomic Energy Act, which have become known as a result of Chernobyl, giving a right to claim compensation from the federal authorities, where foreign law is applicable to damage occurring within the Federal Republic of Germany and results in substantially less compensation being awarded than would have been the case under German law<sup>5</sup>. The circumstances in which Section 38 AtG becomes operative presuppose an answer to the question: what would be the liability of the operator of the nuclear installation liable to compensation if Sections 25 et seq. AtG were applicable in conjunction with Article 3 of the Paris Convention? This means that our experience with Section 38 AtG is at one and the same time experience with German nuclear liability law as a whole.

Problems have arisen here in some areas in a more acute form than ever before and need to be resolved

### Chain of causation

The first problem area relates to the adequate chain of causation from the harmful incident to the damage caused, which the victim is required to prove.

This question was discussed at a very early stage in the literature with reference to bodily injury<sup>6</sup>. Radiation cannot be perceived by the human senses; neither is there any typical radiation sickness. Cancer can have many causes. How then is it to be proved that damage has been caused by a specific incident in a specific installation? I shall not deal with this well-known problem in detail here. However, it is well established that no satisfactory general solution has yet been found and will not be found until scientific methods are developed capable of tracing back the chain of causation. Fortunately Chernobyl did not cause any bodily injury in the Federal Republic, so that this problem does not arise.

Chernobyl has, however, brought to light another problem of causation which had not previously been considered. This problem may be summarized by the term "preventive measures".

The Soviet Union is known to have opposed claims for damages put forward to protect their legal positions by Austria and the United Kingdom on two grounds: 1) The radioactivity came not from Chernobyl but from Western installations, 2) The damage was caused not by radioactive contamination but was the consequence of measures taken by the authorities of Western States to anticipate the alleged damage.

Both arguments are important. The first follows from the "traditional" problem of causation in regard to the effects of radiation. It ought to be relatively easy to refute in the case of Chernobyl. This is not so in the case of the second argument. This asserts that preventive measures by the authorities, e.g. ban on consumption of vegetables, trading restrictions, recommendations or prohibitions concerning cattle grazing etc., broke the causal link with the Chernobyl accident and initiated a new chain of causation which led to the losses for which compensation is claimed. The latter could therefore not be attributed to the Soviet Union.

What is the strength of this view of the law? Preventive measures of the type referred to are intended to prevent damage to human health that might arise through the consumption of contaminated foodstuffs. As a result it is accepted that producers and traders will suffer financial losses. Serious damage - to human health is thus to be avoided at the cost of less serious damage - i.e. to property. The measures are thus intended to limit the scale of possible damage, and can also benefit the party liable to the extent that he will have to pay less compensation. Such measures do not break the chain of causation with the incident causing the damage, but rather give perceptible form to damage which actually occurs. This should not basically be a matter for dispute.

It is of course a condition that the measures in question should on a rational ex post assessment be generally appropriate to bring about the desired result. Superfluous, inappropriate or excessive precautions do break the chain of causation and begin a new one.

In the Federal Republic of Germany, the need for and reasonableness of the preventive measures to be taken after Chernobyl have given rise not only to confusion as to competence, but also to considerable variations in the arrangements made. The Federal Government started from the assumption that only recommendations it has itself issued constituted reasonable measures to anticipate possible damage<sup>7</sup>. This question will probably be the subject of legal proceedings to challenge decisions of the Federal Office of Administration under Section 38 of the Atomic Energy Act.

The problems at issue demonstrate that the Preventive Radiation Protection Act<sup>8</sup>, currently being discussed in Parliament, is also of significance from the liability law standpoint. This enactment establishes the basis for the issue of uniform preventive measures and provides for power to fix reference values.

Caution is nevertheless advisable in fixing radiation limits and reference values at national level. The international implications must be taken into account. Talks are currently under way within the IAEA, WHO, EEC and OECD with the aim of fixing internationally agreed "intervention levels". The significance for liability law of these intervention levels has already been pointed out by the Contracting Parties to the Paris Convention within the framework of the NEA Group of the Governmental Experts on Third Party Liability in the Field of Nuclear Energy. This may now lead to the following experience shows that the Federal Republic of Germany is consistently more cautious in fixing limits than are other countries, as shown for example by the 30/90 mrem-concept. It is therefore to be expected that in this case also the Federal Republic of Germany will fix levels lower than those adopted at international level. However, this could mean that the Federal Republic of Germany, by its own action, excludes itself from the advantages that the Paris Convention and the Brussels Supplementary Convention give the German victims in the case of accidents in other Contracting States. For example, a nuclear incident with effects in Germany occurs in a French nuclear power station. The Federal Republic of Germany takes preventive measures by reference to the lower German intervention levels. Under Article 13 of the Paris Convention jurisdiction to hear claims for compensation will lie with the French court. The French court will certainly not accept the German radiation limits, but will find them to be excessive and only take account of such damage as would have arisen applying the international limits. Claims by German victims could therefore well be dismissed and the federal authorities would have to intervene under Section 38 of the Atomic Energy Act. It therefore has to be asked at an early stage whether we want to see such an outcome.

#### The concept of damage and what it covers

Chernobyl has also given us new understanding of the concept of damage and what it covers. Fortunately once again this only involves damage to property, since damage to health was only clearly apparent in the Soviet Union.

If we look more closely at claims made under Section 38 of the Atomic Energy Act or under the so-called Equity Guidelines<sup>9</sup> we find an amazingly wide range of cases.

Examples:

- farmers had to destroy contaminated early vegetables,
- to reduce damage dairies transformed contaminated milk into cheese, so as to get rid of the iodine, leaving whey containing caesium as a residue,
- cattle could not be put out to pasture and were given expensive fodder;
- dairies had to make expensive radiation measurements at regular intervals,
- certain agricultural products were unmarketable, although they were not contaminated;
- trips to Eastern European countries were cancelled, and transport undertakings lost custom;
- herbs and spices were purchased at higher prices in North Africa instead of Eastern Europe;
- seasonal farm workers lost their jobs;
- worried heads of households purchased expensive radiation measuring devices;
- sand in playgrounds was changed

Distinctions obviously have to be made here and limits drawn. The first consideration is the need for an adequate causal link - not every relation of cause and effect is legally relevant. The question immediately arises here as to the position if the court of another Contracting State has jurisdiction under the Paris Convention. Will the rule of an adequate connection between cause and effect (adequacy theory) also apply there? Or will that court look at causation in some different way?

Let us suppose that the relevant chain of causation has been proved. What damage will then qualify for compensation? Only material damage (Sachbeschädigung) or any - all? - financial loss (Vermögensschaden)?

If we look at the relevant provisions, we find in Article 3 of the Paris Convention that compensation is payable for damage to "Vermögenswerte", or in the other treaty languages to "property", "biens", or "bienes". No definition is given, but is left rather to the national legal systems (Article 11 PC). We are thus not much wiser, since there is in the Federal Republic of Germany no clear definition of the expression "Vermögenswerte". I once looked into this question from the comparative law standpoint and came to the conclusion that the terms "property" and "biens" are very wide and cover practically any property right<sup>10</sup>. Was it really the intention of those who

drafted the Paris Convention, on the one hand to take damage compensation to such lengths, while on the other keeping liability cover so low? I am inclined to doubt this

Meanwhile in the Federal Republic of Germany it has become generally accepted - as also by the Federal Government in the Compensation Guidelines<sup>11</sup> that the Paris Convention protects those assets protected under Article 823 I BGB (Civil Code), i.e. property and other rights in rem. Under this provision compensation is also payable for direct interference with the operations of established businesses<sup>12</sup>. Reference can here be made to an extensive body of case law. However the question immediately arises of the situation under the legal systems of the other Contracting States? The OECD/NEA Group of Experts on liability are, on the proposal of the Federal Republic of Germany, looking into this question in 1987. I very much hope that this will result in a recommendation concerning interpretation, which will meaningfully restrict the very broad concepts of "property" etc. This, it has only now been realised, is a critical problem of international nuclear liability law.

Restriction of the concept of damage would of course mean that certain types of financial loss would not qualify for compensation. Here consideration may have to be given in certain cases to the equitable settlement of cases causing particular hardship where there is no right to claim. The solution adopted by the Federal Government with the issue of its Equity Guidelines<sup>13</sup>, seems to me appropriate. It should of course be considered whether all nuclear operators should perhaps participate in some appropriate way in such payments on grounds of equity, possibly through a fund<sup>14</sup> for nuclear incidents originating in German nuclear installations.

In defining the concept of "damage to property" one last problem has to be resolved, and is at present very much the subject of discussions at international level. This is the question of whether general environmental damage is also covered by the liability Conventions. This includes compensation for radioactive pollution of water, air and soil etc. I take the view that the Conventions do not cover this type of damage, since the law of these agreements forms part of private law. Only damage suffered by individuals can give rise to claims for compensation under private law, while damage to public goods cannot do so. It looks as though this opinion could also be accepted internationally, although this will depend on the outcome of the discussions.

#### Amount of liability and liability cover

Unlimited financial liability of the nuclear operator was introduced in the Federal Republic of Germany in 1985, and the question of the amount of liability should therefore have ceased to be a subject of discussion in the Federal Republic of Germany. The same does not hold for the majority of Contracting States of the Paris Convention and the Brussels Supplementary Convention. Other Contracting States sometimes have frighteningly low liability ceilings<sup>15</sup>. Even the BSC only raises total compensation to a level (300 million SDR following ratification of the 1982 Protocol) which is inadequate in the light of Chernobyl.

In this connection the international liability system requires further improvement. I feel sure that in the long term the German system of unlimited liability will be imitated. Talks now under way within OECD on the compatibility of the German rules with the PC/BSC give some support for this view.

But liability is of no use without cover to back it up. The question of liability cover must therefore be raised anew following Chernobyl.

Some figures can make this clearer: the nuclear accident in Chernobyl, at a distance of 1 500 kilometres, nevertheless caused damage worth about DM 500 million in the Federal Republic of Germany alone. It is easy to imagine the cost of a comparable accident occurring at Mülheim-Kärlich. Naturally, extensive action by the State would be necessary in the event of such a catastrophe. But we should nevertheless ask whether present private financial security is adequate. For nuclear power stations this is at present DM 500 million<sup>16</sup> plus the other assets of the operator. [In passing it should be noted that such other assets may be very small in the case of an operator who is a private limited liability company (GmbH) and that legal recourse against the parent company, i.e. piercing the corporate veil, seems to me to be difficult to secure at law<sup>17</sup>].

However, private cover is higher in the Federal Republic of Germany than in the other European countries. But is this really all that can be done?

This depends on the one hand on the capacity of the insurance market, and on the other on the available assets of the insured party, i.e. the operator. In the latter case I suspect that more could be done, and I should like to provoke discussion on this point.

An article in the Handelsblatt of 23rd June 1986 gave me food for thought: nuclear liability insurance of DM 200 million was currently said to cost DM 1.2 million per year in premiums. A further DM 7 million is paid for property insurance and another 5-6 million to insure against breakdown of machinery. I assume that the additional DM 300 million to be provided within the framework of the Nuklear Haftpflicht Gesellschaft b R (Nuclear Third Party Liability Company) does not involve any regular premium. Total annual outlay on insurance is thus about DM 14 million, of which around 8 per cent goes to insure liability. Is this really acceptable? How can this state of affairs be relied on to refute the demand for DM 3 billion liability cover contained in a recent proposal for a "Nuclear Energy Liquidation Act"<sup>18</sup>? From the political standpoint at least the position of the operator seems here to be unconvincing. If conclusions for our nuclear liability system are to be drawn from Chernobyl one of them has to be consideration of a possible increase in the liability amounts; this also involves the State<sup>19</sup>.

### Jurisdiction

Under Article 13 of the Paris Convention international jurisdiction over claims for compensation lies with the courts of the Contracting Party in whose territory the nuclear incident occurred. The drawback of this provision is that in certain cases proceedings have to be brought in foreign courts. However, it also has the undeniable advantage of concentrating proceedings in the courts of one State. But is this sufficient? If the German courts are



competent under Article 13 of the Paris Convention, then jurisdiction will be determined in accordance with Section 32 of the German Code of Civil Procedure: competence will lie with the court in whose area the event occurred. However, the place of occurrence can be both the place of the incident (site of the nuclear installation in which the incident occurred) or the place of its consequences (residence of the victim). This would mean that in the case of a major nuclear incident in the Federal Republic of Germany a variety of jurisdictions would be available to German claimants.

This outcome seems to me unacceptable, since it involves the risk of conflicting decisions and thus total confusion. It is therefore a matter of urgency to provide for the concentration in a single court of jurisdiction for nuclear third party liability cases in the Federal Republic of Germany. Examples of such rules are already to be found in other countries<sup>20</sup>. Fortunately it may be noted that appeals against compensation awards of the Federal Administration Office under Section 38 of the Atomic Energy Act are all heard by a single court, namely the Administrative Court of Cologne.

### International aspects

Before closing, a few words on future international developments not already dealt with in connection with the main theme.

From the German standpoint two objectives are to be aimed at

1. So far as the Paris Convention and the Brussels Supplementary Convention are concerned, the existing system has to be improved in certain crucial respects. Reference has already been made to the definition of the concept of damage. A further point is the removal of the territorial scope of application under Article 2 of the Paris Convention, which has already been done at national level in the Federal Republic of Germany<sup>21</sup>. It is to be expected that the other Contracting Parties will do the same in the medium term.

The most important point is of course to increase the liability and compensation amounts under the Conventions. This could be a long and difficult process. In this connection the conception and structure of the Brussels Supplementary Convention as a whole will also have to be reconsidered. This treaty is not only complicated and difficult to understand, but is also highly debatable in terms of content. Three examples illustrate this: what has Gross National Product (GNP) to do with the nuclear risk and the fixing of contributions towards compensation payable (Article 12 BSC)? Why does Article 2 of the Paris Convention expressly allow for exceptions to the territorial scope of application of the treaty by national law, while Article 2 of the Brussels Supplementary Convention excludes the application of that treaty in such cases? And lastly, in the overwhelming opinion of the Contracting Parties the common duty of the Contracting Parties to intervene under Article 3 (b) (iii) of the Brussels Supplementary Convention does not come into play where damage is covered not by public funds but by private financial security. The Federal Republic of Germany would thus scarcely be affected by this provision, since private cover in Germany amounts to DM 500 million. The Brussels Supplementary Convention to some extent penalises private provision of cover and rewards those who make a claim on public funds at an early stage.

Lastly, it should be mentioned that discussions are currently under way among the Paris Convention States as to whether installations which are in the process of decommissioning should at a certain point in time be excluded from the Paris Convention and the Brussels Supplementary Convention system. German reaction has been cautious and reserved, pending the availability of a risk assessment. The latter is being undertaken nationally and will be tackled at international level in the coming year.

2. These are the main problems within the Paris Convention which need to be discussed. Over and above that, relations with non-Paris Convention States, especially Eastern Europe, also need to be improved. The aim is to get the Eastern European countries to accede either to the Paris Convention or to the Vienna Convention on Civil Liability for Nuclear Damage (VC)<sup>22</sup>, accession to the Vienna Convention being the most likely first step.

If this can be done, then the Federal Republic of Germany and the other Paris Convention countries will be faced with the question of acceding to the Vienna Convention. This would however raise problems of belonging to two practically identical treaties. The question was already dealt with in OECD and the IAEA in 1974. The conclusion was reached that the best solution would be a joint protocol to link the two treaty systems. A draft proposal was prepared at that time and provides that members of the Paris Convention would be treated by the members of the Vienna Convention as if they were members also of that treaty, and vice versa. Further consideration by an expert group within the IAEA and OECD in Autumn 1986 basically confirmed this view. In taking such a step the technical legal requirements for bringing the two treaties into line would be met.

From the German standpoint there would be no basic obstacle to adoption of such a joint protocol, provided two conditions were met: the Eastern European countries would have to accede to the Vienna Convention and negotiations would have to be started to raise the compensation amounts in that Convention; a European supplementary regional agreement might be appropriate here.

There is still of course a long way to go, and all kinds of small technical legal problems will have to be overcome, e.g. the position of the Brussels Supplementary Convention as part of the co-ordinated application of the Paris Convention and the Vienna Convention. Consideration also has to be given to the extremely complicated problems of liability for transport between Contracting Parties, recently examined in detail by von Busekist at the INLA Conference in Regensburg<sup>23</sup>. But these are really minor matters which need not concern us in detail here. What is urgent is the more important basic question: is it possible to bring the Eastern European countries into a nuclear liability system which gives victims a fair chance of obtaining compensation for damage in the event of a nuclear accident?

#### NOTES

- 1 BGBI 1975 II page 957; 1976 II page 308
- 2 BGBI 1985 II page 690, 963; BGBI 1985 I page 781, 1566
- 3 BGBI 1985 I page 1566.

- 4 Cf also the review by Pelzer, Deutsches Verwaltungsblatt 1986, page 875 et seq with further reference in Note 2.
- 5 Cf on claims for compensation e g Kühne, Neue Juristische Wochenschrift 1986 page 2139 et seq (2142 et seq.); Murswiek, Umwelt und Planungsrecht 1986 page 370 et seq ; Pelzer, Neue Juristische Wochenschrift 1986 page 1664 et seq
- 6 Cf e g Moser, Atomwirtschaft 1962 page 249 et seq , Pelzer, Atomwirtschaft 1964 page 202 et seq , 277 et seq , Schüllli, Atomwirtschaft 1961 page 557 et seq
- 7 Cf e g The Compensation Guidelines of 21st May 1986 (BAnz page 6417).
- 8 BT -Drucks 10/6082 The Act was adopted by the Bundestag on 19th December 1986 See translation of the Act in this issue of the Bulletin
- 9 Equity Guidelines on Vegetables of 2nd June 1986 (BAnz page 7237); General Equity Guidelines of 24th July 1986 (BAnz page 10 388).
- 10 Pelzer in Fischerhof, Deutsches Atomgesetz und Strahlenschutzrecht, 2nd edition 1978, Note 8 to Article 3 PC
- 11 Cf Note 7
- 12 For more detailed reasons cf Pelzer (Note 10).
13. Cf Note 9
- 14 In more detail cf Pelzer (Note 4) page 882.
- 15 Cf Pelzer, Begrenzte und unbegrenzte Haftung im deutschen Atomrecht, 1982, page 18 et seq The survey given is however out of date in regard to some States.
- 16 Section 13 3 AtG.
17. In civil law there is no general right of recourse Cf however the case law on Section 302 Company Law and on rights of recourse under Sections 826, 242 BGB (Civil Code).
- 18 Bundestag Drucksache 11/13 of 19th February 1987 (Bill presented to Parliament by the Social Democratic Party). The proposed private liability cover of DM 3 billion is to be backed up by a State guarantee of DM 10 billion (Nos 14 and 22 of the proposal).
- 19 Under Section 34 1 second sentence AtG the State guarantee is to be twice the maximum financial security State intervention has thus already been made more "dynamic".
- 20 Cf Pelzer (Note 4) page 883
- 21 Section 25 4 AtG

- 22 UNTS Vol 1063, page 265.
- 23 Von Busekist, Haftungsprobleme im Verhältnis zwischen Vertragsstaaten des Pariser und des Wiener Atomhaftungsübereinkommens, in Pelzer (ed ), Friedliche Kernenergienutzung und Staatsgrenzen in Mitteleuropa, 1987, page 271 et seq.

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L'accident nucléaire, prévention - mesures d'urgence - réparation Dossier constitué by Simone Courteix and Jean Hébert, in Problèmes Politiques et Sociaux, La Documentation Française, No 552-553, Paris, January-February 1987, 63 pages

This publication contains a series of articles by specialists as well as legal texts. It commences with the examination of the concept of risk associated with nuclear activities and provides a chronological table of incidents since 1945. The accidents at Three Mile Island and Chernobyl are focused on in particular. The preventive aspects encompassed by radiation protection standards and nuclear safety and the role of international organisations and international co-operation are examined by various authors. A section is devoted to post-accident situations and applicable international mechanisms such as the 1986 IAEA Conventions on early notification and emergency assistance, the Nordic agreements and other bilateral arrangements in this area. Finally, compensation for nuclear damage is looked at from both the perspective of international law principles and from the special third party liability regime.

## • *Federal Republic of Germany*

Die völkerrechtliche Zulässigkeit des Verbringens radioaktiver Stoffe in den Meeresuntergrund, by Hubertus Weisch, Studien zum Internationalen Wirtschaftsrecht und Atomenergie recht, Band 73, Carl Heymans Verlag KG, Köln, 1986, 206 pages (Admissibility under international law of disposing of radioactive material in the sub-seabed, Studies in international economic and nuclear energy law, Vol 73)

The Institute of Public International Law of the Göttingen University has initiated a series of studies in international and nuclear energy law. The present volume presents an in-depth examination of the question of whether the existing norms of public international law at all regulate the concept of disposing of radioactive material in the sub-seabed and if so, whether they appear sufficient to ensure adequate protection. After a short introduction dealing with the scientific aspects of sub-seabed disposal (SSD), the author

reviews the concept in the light of existing international law as laid down in the most relevant treaties (1958 Geneva Convention on the High Seas, the Antarctic Treaties of 1969, 1974 and 1980, the 1974 SOLAS Convention) and in particular, the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (1972 London Dumping Convention). He concludes that SSD is not permissible in the area covered by the 1959 Antarctic Treaty (south of 60° latitude), but that a prohibition of SSD cannot be deduced from those other treaties, in particular, SSD cannot be considered as "dumping" within the meaning of the London Dumping Convention. The author comes to the same conclusion after examination of the regional conventions on the protection of the marine environment (e.g. the Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft - Oslo Convention 1972, the Convention on the Protection of the Marine Environment of the Baltic Sea Area - Helsinki Convention 1974, the Convention for the Prevention of Marine Pollution from Land-Based Sources - Paris 1974, the Conventions and Protocols against pollution of the Mediterranean Sea - Barcelona 1976 and Athens 1980).

The study goes on to consider the admissibility of SSD in the light of public international law *in statu nascendi*, with particular emphasis on the seabed regime established by the Third United Nations Conference on the Law of the Sea and the resulting Convention of 1982. Here again, the conclusion is that SSD is in principle permissible beyond the limits of national jurisdiction.

The author's general conclusion is that international law has not yet produced any comprehensive framework for SSD, but that such a regime is urgently necessary in view of the potential hazards involved and the growing national and international concern. He advocates an international SSD regime starting with an experimental phase under the leadership of the NEA Seabed Working Group and leading to an operational phase with the technical and administrative support of IAEA and NEA. The OECD/NEA Multilateral Consultation and Surveillance Mechanism is cited as a useful precedent. From the institutional point of view, the SSD regime should be integrated in the London Dumping Convention, either by amending the definition of "dumping" in its Article III 1 or by completing its Annex I.

Norbert Pelzer (editor), Friedliche Kernenergienutzung und Staatsgrenzen in Mitteleuropa. Tagungsbericht der AIDN/INLA Regionaltagung am 22 und 23 September 1986 in Regensburg, Baden-Baden. Nomos Verlagsgesellschaft, 1987, 394 pages.

This publication contains the Proceedings of the regional meeting of the International Nuclear Law Association (INLA) organised by the German branch of the Association and held in Regensburg in 1986 (see Nuclear Law Bulletin No. 38).

The general theme of the Conference, "Peaceful uses of nuclear energy and State borders in Central Europe" gained special importance and attracted general interest after Chernobyl. The theme was dealt with in three Working Sessions and a Round Table Discussion: Nuclear installations near a State border; border crossing radiation protection; civil liability for border crossing incidents. The entire issue was summarised from different points of view.

at the Round Table. The publication contains all the papers presented with references and footnotes as well as summaries of the discussions

• *IAEA*

Desarrollo Nuclear Con Fines Pacificos Aspectos Legislativos y de Reclamación, IAEA-TECDOC-382, Vienna, 1986, 356 pages

This publication contains the collection of papers presented at a Conference held in Montevideo, Uruguay from 15th to 20th October 1984. The Conference provided a regional overview of nuclear safety legislation and regulations for Latin American countries. It was sponsored by the IAEA in co-operation with the Uruguay National Commission for Atomic Energy and the Department of Law and Social Sciences of the University of Montevideo.

The papers provide a description of institutional and regulatory aspects of nuclear activities in Argentina, Brazil, Mexico, Spain, Chile, and Uruguay. Safety standards and radiation protection, as well as issues relating to nuclear standardisation and the licensing of nuclear power plants are also presented. Safeguards activities of the IAEA and legal aspects of the international transport of radioactive materials as well as the physical protection of nuclear materials are the subjects of several presentations. The Conference also reviewed the development and current situation of the nuclear insurance market and discussed nuclear third party liability issues in the light of existing international conventions in that field.

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