

NUCLEAR
LAW
Bulletin
number 40

Contents

<i>Legislative and Regulatory Activities</i>	7
<hr/>	
<i>Case Law and Administrative Decisions</i>	23
<hr/>	
<i>International Organisations and Agreements</i>	28
<hr/>	
<i>Texts</i>	50
<hr/>	
<i>Studies and Articles</i>	79
<hr/>	
<i>Bibliography</i>	110
<hr/>	

December 1987

Nuclear Energy Agency
Organisation for Economic Co-operation and Development

Pursuant to article I 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 objective of NEA is to promote co-operation between the governments of its participating countries in furthering the development of nuclear power as a safe, environmentally acceptable and economic energy source

This is achieved by

- *encouraging harmonisation of national regulatory policies and practices 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*
- *assessing the contribution of nuclear power to the overall energy supply by keeping under review the technical and economic aspects of nuclear power growth and forecasting demand and supply for the different phases of the nuclear fuel cycle*
- *developing exchanges of scientific and technical information particularly through participation in common services*
- *setting up international research and development programmes and joint undertakings*

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

LEGAL NOTICE

The Organisation for Economic Co-operation and Development assumes no liability concerning information published in this Bulletin

© OECD, 1988

Application for permission to reproduce or translate
all or part of this publication should be made to
Head of Publications Service, OECD

2 rue André-Pascal 75775 PARIS CEDEX 16 France

FOREWORD

Almost twenty years have gone by since the Nuclear Law Bulletin was first published. Its aim then as now was to disseminate information from authorised sources on acts, regulations, case-law and international agreements, all making up the legislation on nuclear energy. Along the years, the contents of the Bulletin have expanded, and today it also covers the work of the competent international organisations and books on nuclear law, in addition to publishing articles by specialists. Its readership is constantly expanding and includes subscribers from more than fifty countries.

The difficulties experienced at present with the use of nuclear energy, in a climate overcast by the Chernobyl accident, further enhances the importance of regulatory questions. Therefore, the Bulletin will continue to provide, as completely as possible, information on the latest developments, reflecting at the same time with particular attention the concerns of law-makers in this field. In this connection, the three articles in this issue clearly demonstrate that there are still novel aspects of the problematics of nuclear law to be explored.

A new Analytical Index comes with Bulletin No. 40, covering the forty issues already published, and supersedes the previous Index.

The NEA Secretariat wishes to take this opportunity to thank all those whose kind assistance has made it possible to continue publishing the Bulletin.

LIST OF CORRESPONDENTS TO THE NUCLEAR LAW BULLETIN

- ARGENTINA - Mr. J 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 P STALLAERT, Social Security Administration, Ministry of Employment and Labour
- Mrs H CONRUYI, Counsellor, Head of Section, Insurance Services, Ministry of Economic Affairs
- Mr F RIVALET, Legal Services, Ministry of Economic Affairs
- BRAZIL - Mrs C LINHARES LEITE, Attorney General, Comissao Nacional de Energia Nuclear
- CANADA - Mr P J BARKER, Director, Legal Services, Atomic Energy Control Board
- DENMARK - Mr M REKLING, Legal Department, Ministry of Justice
- FINLAND - Mr Y SAHRAKORPI, Senior Ministerial Secretary, Ministry of Trade and Industry
- FRANCE - Mr J C 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 J. O SWEETMAN, Barrister-at-Law, Dublin
- Department of Industry and Energy
- ISRAEL - Mr G NATIV, Legal Adviser to the Israeli Atomic Energy Commission
- ITALY - Dr F 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 A J VAN GALEN LAST, Deputy Director for Council of Europe and Scientific Co-operation, Ministry of Foreign Affairs
- Mr J 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** - Mr Jorgen BRUNSVIG, Legal Adviser, Department of Legislation, Royal Norwegian Ministry of Justice and Police
- PORTUGAL** - Mrs A SETTE PIMENTA, Head, International Relations of the Nuclear Energy Department, General Directorate for Energy
- SPAIN** - Ms L CORREIJER, 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** - Mr E BARUTCUGIL, Director, Department of Research, Development and Co-ordination, Turkish Atomic Energy Authority
- UNITED KINGDOM** - Mr D GRAZEBROOK, Legal Adviser of the Atomic Energy Authority of the United Kingdom
- Mr B ECCELSTONE, Assistant Treasury Solicitor, Department of Energy
- UNITED STATES** - Ms J BECKER, Special Assistant for International Affairs 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 B BRANDS, Legal Division, International Atomic Energy Agency
- EURATOM - Legal Service, Commission of the European Communities
- WHO - Mr S FLUSS, Chief, Health Legislation, World Health Organisation
- IIEL - Dr P CAMERON, Director, International Institute of Energy Law, Leiden University

LEGISLATIVE AND REGULATORY ACTIVITIES

• *Australia*

NUCLEAR LEGISLATION

Nuclear Activities (Prohibitions) Act 1983 (Victoria)

The Nuclear Activities (Prohibitions) Act 1983, No 9923 was assented to and came into force on 23rd June 1983. The objective of the Act is to protect the health, welfare and safety of the people of Victoria and to limit deterioration of their environment. To this effect, it prohibits the establishment of nuclear activities and regulates the possession of certain nuclear materials, consistent with the nuclear non-proliferation objectives of the Commonwealth.

The Act prohibits any person from exploring, mining or quarrying for uranium or thorium, notwithstanding the terms of any mining title. However, the holder of a mining title who mines or quarries uranium or thorium in the course of mining for some other mineral is not guilty of an offense under the Act, provided that the amount of uranium or thorium recovered does not exceed the limits set down by the Act.

As regards nuclear facilities, the Act lists those facilities which may not be constructed or operated. These include a conversion or enrichment facility, a nuclear reactor or nuclear power reactor, a spent fuel reprocessing facility or facility for storage or disposal of nuclear material or waste.

As far as nuclear material is concerned, a person shall not possess, use, sell, transport, store or dispose of any nuclear material as defined in the Act. The Act provides for exemptions under certain circumstances which relate primarily to licences granted in accordance with the Irradiating Apparatus and Radioactive Substances Regulation 1959 made under the Health Act 1958.

Uranium Mining and Nuclear Facilities (Prohibitions) Act 1986 (New South Wales)

The Uranium Mining and Nuclear Facilities (Prohibitions) Act No. 194, 1986 was assented to on 18th December 1986. It prohibits the prospecting for or mining of uranium and the construction or operation of nuclear reactors and

other nuclear fuel facilities in New South Wales. The stated purpose of the Act is the protection of the health, safety and welfare of the people of New South Wales and the environment in which they live.

The Act provides in particular that no person shall prospect or mine for uranium. Furthermore, an authority, licence or claim which may be granted under the Mining Act 1973 does not authorise the holder of such authority, licence or claim to act in contravention of this prohibition.

The construction or operation of a nuclear facility is also prohibited. However, the Act does not prevent the construction or operation, under an Act of the Commonwealth, of a nuclear facility by a Commonwealth agency. It also does not prohibit the construction or operation of a facility for the storage or disposal of any radioactive waste material resulting from the use of nuclear materials for research or medical purposes or for any other purpose authorised under the Radioactive Substances Act 1957.

The Act provides penalties for violation of either of the two prohibitions in the order of 100 000 Australian dollars.

ORGANISATION AND STRUCTURE

Australian Nuclear Science and Technology Organisation Act 1987

The text of the Australian Nuclear Science and Technology Organisation Act 1987 (Act No. 3) - ANSTO, which provides for the succession of the Australian Atomic Energy Commission by ANSTO (see Nuclear Law Bulletin Nos 38 and 39), is reproduced in the Texts chapter of this issue of the Bulletin.

REGIME OF RADIOACTIVE MATERIALS

Nuclear Non-Proliferation (Safeguards) Act 1987 and Nuclear Non-Proliferation (Safeguards) Regulations 1987

The Nuclear Non-Proliferation (Safeguards) Act, 1987 (No 8 of 1987) was assented to on 17th March 1987. The Nuclear Non-Proliferation (Safeguards) Regulations were adopted on 7th May 1987 and published in the Commonwealth of Australia Gazette on 13th May 1987.

It is recalled that the Bill of the Act and the draft Regulations were analysed in Nuclear Law Bulletin No. 38.

ENVIRONMENTAL PROTECTION

1987 Act to amend the Environment Protection (Alligator Rivers Region) Act 1978

An Act to amend the Environment Protection (Alligator Rivers Region) Act 1978 (see Nuclear Law Bulletin No 23) was assented to on 18th May 1987.

The amendments relate primarily to three sections of the Act: those concerning definitions, those concerning the functions of the Supervising Scientist, and those concerning the functions of the Alligator Rivers Region Research Institute

As to the definitions, the amendments provide precision as to the geographical identification of the region in question, modify slightly the definition of uranium mining operations, and provide additional definitions which include "conservation zone", "general mining operations", and "mining operations"

With regard to the functions of the Supervising Scientist, who is responsible for advising the competent Minister on the effects on the environment of uranium mining operations, the amendment Act defines new responsibilities pertaining to general mining operations in a conservation zone. These include the development of research programmes and programmes to collect information relating to the assessment of environmental effects of general mining operations, the co-ordination and supervision of these programmes and the development of standards, practices and procedures for protection of the environment in the zone, as well as measures for the protection and restoration of the environment

The functions of the Institute have also been amended to include a section in relation to general mining in a conservation zone. These functions involve the promotion and assistance in research into the effects on the environment in the zone of the general mining operations, the collection and assessment of related information

• *Belgium*

RADIATION PROTECTION

1987 Ministerial Order concerning radioactive contamination of agricultural products

A Ministerial Order regulating the import of agricultural products was made on 3rd November 1987 and published in the *Moniteur belge* of 6th November 1987

The purpose of this Order is to implement at national level Articles 1 and 3 of the Council of the European Communities' Regulation No 1707/86 of 30th May 1986, as amended by Commission Regulation No 1762/86 of 5th June 1986 (*Official Journal of the European Communities* 1986 Nos L 146 and No L 152), on conditions for the import of agricultural products from non-European Community States after the Chernobyl accident

The European Community Regulation expired on 31st October 1987 but will continue to apply in Belgium. The Order provides that its provisions and the maximum permissible radioactivity limits will also apply to trade in foodstuffs with Community Member States.

The Order was effective from 1st November 1987 and will expire on the date a European Community Regulation extends or replaces Regulation No 1707/86.

• *People's Republic of China*

NUCLEAR LEGISLATION

Review of nuclear legislation (1987)*

In accordance with the State Council of China's guiding principle for nuclear activities, namely "giving first priority to safety and quality", the different competent departments in the country have been researching and compiling nuclear safety regulations since 1982.

A regulatory system has been elaborated which is divided into two main categories, administrative regulations on the one hand, and standards and criteria on the other. These regulations and standards are subordinate to framework draft legislation at present being considered, the Atomic Energy Act. This Act provides for the organisation of nuclear activities and covers, inter alia, research and development, uranium mining, control of nuclear materials and installations, radiation protection, radioisotopes, transport and compensation for nuclear damage.

Regulations under the Act will be issued as and where necessary. In effect, Regulations on the Safety Supervision and Control of Civilian Nuclear Installations were promulgated by the State Council on 29th October 1986 (see Nuclear Law Bulletin No 39). Other draft regulations are under review, dealing in particular with control of nuclear materials, radiation protection, compensation and emergencies.

The National Nuclear Safety Administration, set up by the above-mentioned Regulations of 29th October 1986, is responsible for supervising safety and control in nuclear installations. In 1986 the Administration issued a number of technical safety codes following approval by the State Council; the codes concern nuclear power plant siting, design, operation and quality assurance. In addition, safety codes for research reactors, accelerators and radioactive waste management as well as for handling radioactive substances are in preparation.

* This note has been prepared on the basis of information kindly provided by Mr Zhang Shiguan, Senior engineer, China Nuclear Information Centre and member of the China Nuclear Safety Advisory Committee.

• *France*

RADIATION PROTECTION

1987 Order to amend the 1980 Order on radiation protection in units and establishments under the Ministry of Defence

This Order of 25th August 1987 was published in the Official Gazette of 3rd September 1987. Its purpose is to amend the Order of 9th July 1980 on protection against ionizing radiation in units and establishments under the Ministry of Defence (see Nuclear Law Bulletin No. 26), following the repeal of the Decree of 15th March 1967 on protection of workers against the hazards of ionizing radiation and its replacement by the Decree of 2nd October 1986 (see Nuclear Law Bulletin No. 38).

The amendments made by the 1987 Order concern the conditions for controlling radiation sources and their shielding, the environment and workers' exposure to radiation.

1987 Order confirming several 1968 Orders on the protection of workers against the hazards of ionizing radiation

This Order of 30th September 1987 was published in the Official Gazette on 9th October 1987. Its purpose is to confirm the application of five Orders made in implementation of the Decree of 15th March 1967 on the protection of workers against the hazards of ionizing radiation, which was recently repealed by the Decree of 2nd October 1986, adopted to bring into force Community Law requirements in this field (see Nuclear Law Bulletin Nos. 2 and 38).

The Orders thus confirmed are dated 18th April 1968 (SCPRI control methods), 19th April 1968 (conditions for using personal dosimeters), 20th April 1968 (control of sealed sources), 22nd April 1968 (approval of bodies responsible for controlling radiation protection), 23rd April 1968 (recommendations for physicians in charge of monitoring workers exposed to radiation).

TRANSPORT OF RADIOACTIVE MATERIALS

1987 Order on protection and control of nuclear materials carried by air

This Order of 31st July 1987 was published in the Official Gazette of 27th August 1987; it applies to protection and control of nuclear materials carried by air.

This Order is part of a series of texts on protection and control of nuclear materials which include the Act of 25th July 1980 and the Decree of 12th May 1981 made in its implementation (see Nuclear Law Bulletin No 28) and, as regards the specific aspect of protection and control of materials during transport, the Order of 26th March 1982 amended in 1986 (see Nuclear Law Bulletin Nos. 29 and 38)

The 1987 Order lays down the conditions which must be complied with by approved carriers (the French or the foreign holders of a licence under the above-mentioned Act of 25th July 1980) in case of transport of such materials by air

Transport of Categories I and II nuclear materials within the meaning of the above Decree of 12th May 1981, is subject to the prior agreement of the Minister for Industry, following consideration of a transport plan describing the measures to protect the materials

This Order also governs the transit of nuclear materials to or from a foreign country in an airport under French jurisdiction. The Order also specifies the particulars to be included in the transport notification and in the special application for a licence required by the Decree of 12th May 1981, as well as the authorities to be notified

ENVIRONMENTAL PROTECTION

Circular of 11th March 1987 on inspection of installations classified for purposes of environmental protection

On 11th March 1987, the Minister of the Environment sent to the Prefets and Commissaires of the nation a Circular concerning the inspection of installations classified for purposes of environmental protection

Given the lack of sufficient means available to the Inspectorate for Classified Installations, the Minister considers that the role of the State should be redefined regarding prevention of pollution and risks, so that it should intervene only in connection with activities which represent greater hazards. The problems no longer covered by the legislation for classified installations could be dealt with by the mayors

Without awaiting the conclusions of current studies on this question, the Minister specifies the priorities he wishes to assign to the Inspectorate for Classified Installations

- prevention of major industrial risks, in particular those subject to the Seveso Directive;
- in-depth investigation of licensing applications for new installations and for existing ones,
- reduction of the main sources of pollution by updating the lists of establishments which have priority and by paying great attention to accidents and accidental pollutions,

- inspectors must only investigate claims concerning classified installations,
- inspectors (of classified installations) do not need to be consulted on installations subject to declaration only and will no longer need to visit such installations when they are set up

Implementation of these priorities may lead certain départements to re-organise the Inspectorate for Classified Installations in their area

1987 Act on the organisation of public safety measures, forestry protection and the prevention of major risks

Act No 87-565 of 22nd July 1987 was published in the Official Gazette on 23rd July 1987. As defined by this Act, the objective of the public safety measures is to prevent all types of major risks and to protect persons, property and the environment, including forests, against accidents, disasters and catastrophes

The first part of the Act deals with the conditions for preparing preventive measures and for implementing necessary measures in case of major risks or accidents. The preparation and organisation of assistance are determined within the framework of ORSEC (ORGANISATION des SECOURS) plans and emergency plans, the first assess the possibilities for facing up to disasters while the latter provide for measures and means to overcome a particular risk.

Plans limiting land use may be set up in the neighbourhood of installations classified for environmental protection purposes if they create a risk of explosion or release of noxious products. As regards major risks which comprise technological risks (including nuclear-related risks), the Act specifies the right of citizens to be informed on the risks they are exposed to as well as on the preventive measures concerning them. The operator must also make available information to the public concerning measures taken around units and installations which have an emergency plan.

Relating specifically to the prevention of technological risks, projects for the construction of a facility or a unit which has an emergency plan and requires a licence, must also include a risk analysis. The modalities implementing this provision are to be determined by decree of the Conseil d'Etat. In addition, wherever an installation carries risks whose consequences are manifestly disproportionate to the amount of capital involved, the operating licence may be made subject to the provision of financial security. Such security already exists for large nuclear installations.

• *Federal Republic of Germany*

RADIATION PROTECTION

1987 Ordinance on preventive radiation protection concerning agricultural products contaminated after the Chernobyl accident

An Ordinance on Preventive Radiation Protection concerning agricultural products contaminated after the Chernobyl nuclear power plant accident was issued on 30th October 1987 (Bundesanzeiger of 31st October 1987 No 205 p 14613) on the grounds of Sections 6 and 7 of the Preventive Radiation Protection Act (see Nuclear Law Bulletin No 39).

The Ordinance adopts on a national level Articles 1 to 3 of the Council of the European Communities' Regulation No. 1707/86 of 30th May 1986, as amended by Commission Regulation No 1762/86 of 5th June 1986 (Official Journal of the European Communities 1986 No. L 146 p 88, No. L 152 p 41) on the importation of agricultural products originating from non-European Community States after the Chernobyl accident.

The European Communities Regulation expired on 31st October 1987, but will now, in accordance with the new Ordinance, remain in force for the territory of the Federal Republic of Germany. Its scope of application has also been extended to importations from European Community Member States. The dose limits of the EC Regulation will govern all imports of agricultural products into the territory of the Federal Republic of Germany. This also applies to trade in foodstuffs, the radioactive contamination of which exceeds such dose limits. Deliberate violations of the Ordinance will be punishable by imprisonment not exceeding one year or by a fine.

The Ordinance came into force on 1st November 1987 and will expire on the date at which a new EC Regulation enters into force. It is therefore only transitional.

• *Netherlands*

TRANSPORT OF RADIOACTIVE MATERIALS

1987 Decree to amend the Fissionable Materials, Ores and Radioactive Substances Decree of 1969

In the Netherlands, international transport plays a considerable role in the carriage of radioactive materials. Accordingly, the so-called

Transport Decree of 4th September 1969 (Stb 1969, No 405) which deals with the carriage of such materials by all modes of transport refers to national regulations based on the international ones governing transport by rail, road, inland waterway and sea, and air. These are: the International Regulations for the Transport of Dangerous Goods by Rail - RID; the European Agreement concerning the International Carriage of Dangerous Goods by Road - ADR; the Draft European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterway - ADN - also applied to maritime transport, and the International Air Transport Association - IATA Regulations.

Since promulgation of the 1969 Decree, these international regulations have been revised extensively, in addition, recommendations on maritime transport of radioactive materials were issued by the International Maritime Organisation (IMO Dangerous Goods Code) and rules on air transport were made by the International Civil Aviation Organisation (IACO). It should be noted that, as regards radioactive materials, the revisions of all the above-mentioned international texts (with the exception of the ADN) are based on the 1973 Edition of the IAEA Regulations on the Safe Transport of Radioactive Materials.

The Decree of 4th June 1987 (Stb 1987 No 343) amends the 1969 Decree to take account of the above developments, already taken into account in the national regulations for all modes of transport of dangerous materials or goods. Further amendments concern physical protection requirements in compliance with the Convention on the Physical Protection of Nuclear Material which the Netherlands signed as a Member State of the European Communities (see Nuclear Law Bulletin Nos 35 and 39).

In essence, the modifications relate to licensing requirements, in particular packaging and transport conditions for the different levels of activity of the materials carried, certificates of approval etc., and surveillance during transport.

The Decree was published in the Staatsblad (Bulletin of Acts, Orders and Decrees) of 23rd July 1987 and entered into force one month following its publication.

THIRD PARTY LIABILITY

1987 General Administrative Order to increase the liability amount set pursuant to the 1979 Act on nuclear third party liability

Pursuant to Section 3, sub-section 2, of the Act of 17th March 1979 on third party liability for damage caused by nuclear incidents, the amount of 200 million guilders established by General Administrative Order of 21st June 1984 (see Nuclear Law Bulletin No. 34) as the maximum amount of liability of an operator of a nuclear installation situated in the Netherlands, has been increased by General Administrative Order of 27th April 1987 (Staatsblad 1987 No 190).

As from 1st June 1987, this maximum amount has been set at 400 million guilders (approximately US\$200 million); this is the highest amount for which,

at present, insurance cover can be obtained by operators of nuclear installations in the Netherlands. Above this sum, compensation out of public funds up to an aggregate amount of 1 billion guilders (approximately US\$500 million), remains unaffected.

• *Norway*

THIRD PARTY LIABILITY

Entry into force of 1985 amendment of 1972 Act concerning Nuclear Energy Activities (1987)

Act No 103 of 20th December 1985 amended the Act of 12th May 1972 on Nuclear Energy Activities (see Nuclear Law Bulletin No 38). The amendment of Section 30(1) first sentence concerning the nuclear operator's amount of liability entered into force on 13th March 1987.

Henceforth the maximum liability of a nuclear operator in respect of damage caused by a nuclear incident amounts to 60 million Special Drawing Rights.

• *Poland*

NUCLEAR LEGISLATION

1986 Atomic Energy Act*

The Atomic Energy Act of 10th April 1986 (published on 22nd April 1986 in Official Law Gazette No. 12, text No 70) entered into force on 1st July 1986.

This outline Act governs all nuclear activities in Poland and lays down the principle that the primary consideration in the use of nuclear energy should be protection of health, life and the environment.

* This note is based on an analysis of Polish nuclear legislation kindly supplied by Professor Lewaszkiwicz-Petrykowska, of Lodz University, Poland.

The Act determines the responsibilities of the competent authorities within its scope and the obligations of nuclear operators. It covers nuclear safety and radiation protection and also prescribes the principles of third party liability for nuclear damage

At institutional level, the Governmental Atomic Agency is the body competent for nuclear matters. The Agency is placed under the supervisory authority of the President of the Council of Ministers and has been assigned general responsibilities for nuclear safety and radiation protection, it is assisted in its tasks by an advisory body, the Council for Nuclear Affairs.

A prior licensing system has been established for nuclear installations (site selection, construction, operation, decommissioning), manufacture, transport, export, import and reprocessing of radioactive materials and use of radioactive sources. These licences are issued by the Chairman of the Atomic Agency. They may be withdrawn or amended at any time if nuclear safety and radiation protection requirements are not met

Operators must keep records of licensed nuclear materials and radioactive sources as well as waste and take measures for their control

Establishments using nuclear materials and equipment must prepare training programmes on nuclear safety and radiation protection for their personnel

The Act provides that control over the safety of nuclear activities and radiation protection shall be exercised by the Chairman of the Atomic Agency, and by inspectors in charge of nuclear supervision in all establishments using nuclear materials and equipment and radioactive sources. To this effect, the Chairman of the Agency and the inspectors are given wide powers of investigation including, in particular, a permanent right of access to all sites and of perusal of documents relating to nuclear safety and radiation protection. Non observance of safety and radiation protection requirements is sanctioned by imprisonment or a fine, depending on the seriousness of the offence

As regards third party liability for nuclear damage, the Act provides for the sole and exclusive liability of any establishment holding, manufacturing, using or carrying nuclear materials in quantities sufficient to enable the occurrence of a spontaneous fission reaction. When more than one operator is involved, liability is joint and several

The operator is exempted from liability where the damage results from an act of war or from the victim's exclusive and deliberate fault

Compensation covers personal injury and damage to property and the environment. To compensate victims, the establishments concerned must take out an insurance contract and are covered up to the amount fixed by the contract. If the personal injuries exceed that amount, victims may claim compensation for the difference from the "State Treasury" (the conditions of compensation are determined by the Council of Ministers). When the cost of damage to property or the environment is higher than the amount fixed by the insurance contract, the Act empowers the Council of Ministers to decide the type of compensation for that damage

Claims for personal injury are indefeasible. As regards compensation for damage to property or the environment, the time-limit for bringing claims is ten years after the accident.

Liability matters which are not regulated by the Act are governed by the provisions of the Polish Civil Code

• *Switzerland*

RADIATION PROTECTION

1987 Ordinance organising the measures to be taken in case of increased radioactivity

On 15th April 1987, the Federal Council (the Government) adopted an Ordinance providing for co-ordinated measures to be taken by different bodies in case of increased radioactivity; the Ordinance entered into force on 1st May 1987

This Ordinance, based on atomic energy legislation, public safety, military organisation and the defence council, replaced a previous Ordinance of 1966 on alert in case of increased radioactivity. It sets up the organisation for this work and describes the tasks to be performed in case of an occurrence which could create hazards for the population due to increased radioactivity. If a Swiss nuclear installation creates such a hazard, the 1983 Ordinance on emergency measures in the neighbourhood of nuclear installations also applies (see Nuclear Law Bulletin No. 33)

The situation in Europe resulting from the Chernobyl accident highlighted the need to set up an organisation in Switzerland to co-ordinate the measures to be taken by the different public services concerned, so as to achieve optimum results. Accordingly, the Ordinance lays down the structure of this organisation and lists the different services concerned, it sets the conditions for their recruitment and provides for a co-ordinated network to enable an adequate response to be made to an increase in radioactivity

Particular attention has been paid to provision of information, both in the framework of the different units called upon to intervene, and at large. Therefore, the Press and Information Unit of the Federal Chancellery is henceforth responsible in principle for informing the Cantons and the population, this Unit is also charged with taking action in case a catastrophe occurs or hostages are taken

THIRD PARTY LIABILITY

Indemnification in Switzerland following the Chernobyl disaster (1987)

Following the Chernobyl disaster, certain sectors in agriculture and fisheries sustained fairly severe damage. On 15th June 1987, the Swiss Government submitted a message to Parliament concerning a Federal Order on indemnification by the Confederation of persons affected by the Chernobyl disaster; the Government considers it reasonable to ask market gardeners and milk producers, as well as cattle exporters to bear the cost of damage they have incurred. On the other hand, it considers it justified to indemnify through voluntary Federal contributions, from which an appropriate franchise should be deducted, the owners of smaller livestock, medicinal and aromatic plant producers, as well as fishermen prohibited from fishing in Lake Lugano, as they come from economically vulnerable circles

The Government thus proposed a Federal Order providing it with a legal basis for allocating the above-mentioned indemnifications. Those entitled to compensation and the system for calculating the losses sustained are clearly defined. It is estimated that 1.5 to 2 million Swiss francs will be required to finance these indemnifications. Parliamentary debate is proceeding on this question

• *United States*

REGIME OF NUCLEAR INSTALLATIONS

Amendments to NRC Regulations (1987)

Emergency Plan Rule

On 29th October 1987, the Nuclear Regulatory Commission (NRC) amended its regulation 10 CFR Part 50, Domestic Licensing of Production and Utilization Facilities. The amendment provides criteria for the evaluation at the operating licence review stage of the utility, namely, prepared emergency plans for nuclear power reactors in situations in which state and/or local governments decline to participate in emergency planning. The amendment provides that an operating licence may be issued where the licence applicant has made a good faith effort to secure and retain the participation of state and/or local governmental authorities and has demonstrated that adequate protective measures can and will be taken in the event of an emergency. In evaluating the utility plan, due allowance will be made for 1) those elements for which state and/or local non-participation makes compliance with the Commission's standards infeasible, and 2) the utility's measures designed to compensate for any deficiencies resulting from state and/or local non-participation

Increased on-site property insurance requirement

On 5th August 1987, the NRC amended its regulations to require facility licensees to maintain increased amounts of on-site property insurance to provide financial security for stabilising and decontaminating their licenced reactors in the event of an accident. The amount of insurance required is increased to \$1 06 billion; a decontamination priority on any proceeds from such insurance is imposed and a requirement that proceeds subject to the decontamination priority be paid to an independent trustee is added.

Amendment of regulations on reporting of unauthorised occurrences

On 9th June 1987, the NRC amended its regulations for the reporting of "safeguards" events. Such events are for example, those involving actual or attempted theft of special nuclear material, actual or attempted acts which interrupt normal operation of power reactors, due to unauthorised use of or tampering with machinery, components or controls, and certain threats made against facilities possessing special nuclear material as well as systems failures.

REGIME OF RADIOACTIVE MATERIALS

Amendment of Department of Treasury Regulations regarding imports of uranium ores and oxides (1987)

On 7th July 1987, the United States Department of the Treasury published an interpretation of its regulations. The interpretation affirms that import into the United States of uranium ore or uranium oxide that is produced or manufactured in South Africa for any purpose is prohibited by the Anti-Apartheid Act of 1986.

• *Yugoslavia*

NUCLEAR LEGISLATION

1987 draft amendments to the Constitution of the Socialist Federative Republic of Yugoslavia

A formal procedure for amendment of the Constitution of the Socialist Federative Republic of Yugoslavia was initiated early in 1987. The amendments, among other issues, also refer to nuclear energy. Draft Amendment XXXII for example proposes the establishment of a federal legislative authorisation for the use of nuclear energy (and radiation protection) when this is of importance for the whole country and the international community. Thus, the draft

proposal also formally empowers the Federal Assembly to adopt substantial legislation in this field, a competence which until now, from the constitutional point of view, was not so clearly defined. It remains, however, to the individual Republics and Provinces respectively to adopt further legislation, necessary for execution of the federal law

It is expected that the amendments of the Constitution, providing ex post a clearer constitutional authorisation for the Federation, will not interfere with the existing federal Act of 1984 on Radiation Protection and the Safe Use of Nuclear Energy, in force since 1st December 1984 (see Nuclear Law Bulletin No 36)

ORGANISATION AND STRUCTURE

1987 Act setting up the Republic of Slovenia's Nuclear Safety Administration

Early in 1987, an important re-organisation of the regulatory body in the Socialist Republic of Slovenia was initiated. Until now, no specialised, exclusively competent and responsible regulatory body for nuclear safety existed in this Republic. Responsibilities in this field were divided between different Republic Administrative Committees and Secretariats, the Inspectorate for Nuclear Safety (in the framework of the Republic Energy Inspectorate under the authority of the Republic Committee of Energy) and the Advisory Commission on Nuclear Safety. Although this situation did not cause serious problems, it was found unsatisfactory for various organisational, procedural and functional reasons. Above all, the task of promoting energy production and the task of its surveillance had to be separated and assigned to different bodies, it was therefore decided to create a Nuclear Safety Administration to this effect.

Accordingly, in September 1987, the Assembly of the Socialist Republic of Slovenia approved the Act to amend the 1980 Act on the organisation and sphere of activity of the Republic Administrative Organs etc (Official Gazette of the SRS Nos 50/80, 12/82, 9/85, 14/86, 37/87)

Under to the Act, the new Nuclear Safety Administration is an independent, autonomous body, dealing with all matters concerning nuclear safety and not responsible for the promotion of nuclear power. The Administration is competent for Republic regulations, certain licensing procedures, enforcement of Federal and Republic legislation, inspections etc. It will be directly responsible to the Government and to the Assembly of the Socialist Republic of Slovenia.

REGIME OF NUCLEAR INSTALLATIONS

1987 Bill on postponement of the construction of nuclear power plants until the year 2000 in the Socialist Republic of Slovenia

On 24th September 1987, the Assembly of the Socialist Republic of Slovenia approved the above-mentioned Bill, under which all constructions in

Slovenia and investments in other parts of Yugoslavia for the construction of nuclear power plants are postponed until the year 2000. Research activities in the nuclear field, in particular on nuclear safety, as well as further study and development of new technologies and staff training in this context are not concerned by this Bill.

The proposed Bill, which is expected to be enacted at the end of 1987, is a consequence of the increasing public opposition to nuclear energy in the last two years. It will be valid only for the Socialist Republic of Slovenia (where the only existing Yugoslav nuclear power plant is located), although a similar initiative has been brought up also at the Federal level. In the meantime, an amendment was also proposed of the short and long-term Social Plans, rejecting new nuclear power plants both at the Slovene and Federal level.

THIRD PARTY LIABILITY

1987 Decree raising the amount of liability for nuclear damage

The above-mentioned Decree was adopted by the Government of the Socialist Federative Republic of Yugoslavia and was published in the Federal Official Gazette of the SFRY No 49/87. The 1987 Decree increases the liability of the operator of a nuclear facility for nuclear damage from 450 million to 9 000 million dinars for each nuclear accident. This new amount of liability corresponds to approximately 9.5 million US\$.

The 1987 Decree is based on Section 24 of the Act of 19th April 1978 on Liability for Nuclear Damage (Federal Official Gazette Nos 22/78, 34/79 - see Nuclear Law Bulletin No 23), which allows the determination of a new amount of liability in case of a change in parity of the dinar. Section 13 paragraph 1 of the 1978 Act laying down the previous amount of liability has therefore been amended to take account of this new amount prescribed by the 1987 Decree.

• *Federal Republic of Germany*

RIGHT OF RESIDENTS OF THE EUROPEAN ECONOMIC COMMUNITY TO BRING AN ACTION AGAINST A NUCLEAR LICENCE - DECISION OF THE FEDERAL ADMINISTRATIVE COURT (1986)

The plaintiff, a resident of the Netherlands, brought an action against the first partial licence for the erection of the nuclear power plant Emsland (Lingen), which is situated in the territory of the Federal Republic of Germany at a distance of 25 km from the domicile of the plaintiff in the Netherlands. The Administrative Court of Oldenburg as court of the first instance dismissed the claim on the grounds of the so-called principle of territoriality. The Court ruled that being an act of the German public authorities the nuclear licence is limited to the territory of the Federal Republic of Germany, ergo, the licence cannot affect the rights of the plaintiff beyond the German border. On the contrary, extending the effects of the licence to legal positions in the territories of foreign States would be an infringement of public international law rules. (The judgment of the Administrative Court of Oldenburg of 6th February 1985 - 3 OS VG A 259/82 is published in Deutsches Verwaltungsblatt Vol 100 (1985) pp 802 et seq.)

The Federal Administrative Court (Bundesverwaltungsgericht) cancelled the Oldenburg decision by judgment of 17th December 1986 (7 C 29 85) and remitted the case to the Oldenburg Court ruling that a new procedure should be initiated taking into account this judgment. [This decision of the Federal Administrative Court has not yet been officially published, there are, however, publications in some legal journals, e.g. in Archiv des Völkerrechts Vol 25 (1987) No 3, Deutsches Verwaltungsblatt Vol 102 (1987) p 375, Umweltund Planungsrecht Vol. 7 (1987) p. 114, Juristenzeitung Vol. 42 (1987) p. 354.]

Unlike the Oldenburg Administrative Court, the Federal Administrative Court (FAC) does not base its decision upon the principle of territoriality as defined above. The FAC is of the opinion that the legal position of foreign citizens residing near the border is not substantially defined by public international law rules, which leave open the question whether a foreign citizen has a right of action before administrative courts in the Federal Republic of Germany. This question must be responded to by interpreting the German law applicable, namely the Atomic Energy Act and its implementing ordinances.

The purposes of the Atomic Energy Act as enumerated in Section 1 thereof do not warrant the interpretation that only domestic rights are the object of legal protection. This clearly follows from the comprehensive wording of Section 1 no 2 which, in a very general way, makes the protection of life, health and property against the risks of nuclear energy and ionizing radiation one of the main objectives of the Act. Moreover, the objective of the Act as

described in Section 1 no. 4 aims at an interpretation of the Act which assures the implementation of international obligations in the field of the peaceful uses of nuclear energy. Both objectives in Section 1 nos 2 and 4 of the Atomic Energy Act, give reasons for extending those provisions of the Act which are expressly meant to protect individual rights, to all individuals who might be affected irrespective of whether they are living on the German or on the other side of the border. The provisions on the licence prerequisites for nuclear installations (Section 7 paragraph 2) include conditions which are directly meant to protect third parties against the detrimental effects of a nuclear licence. Thus, on the grounds of the Act's objectives in Section 1 nos 2 and 4, they should also be applied in favour of foreign neighbours. Such an interpretation does not infringe upon the principle of territoriality. On the contrary, this extensive interpretation makes the erection and the operation of nuclear installations near a border permissible under public international law.

As a corollary, foreign citizens might be legally affected by domestic nuclear licences, which is a prerequisite for granting the right of action according to Section 42 paragraph 2 of the Administrative Court Procedure Act. The Federal Administrative Court leaves open whether this interpretation applies to the citizens of all other States.

The Court ruled, however, that such a right of action must be granted to neighbouring citizens of European Community Member States. Legislative history shows that the German membership in the European Atomic Energy Community forms a substantial element of the Atomic Energy Act, there is a special relationship among the Member States. Since the plaintiff is a resident of the Netherlands - a European Community Member State, he must be granted a right of action.

The decision of the FAC, which broke new ground in the Federal Republic of Germany, found support from various authors in recent legal literature. See Albrecht Weber, in *Deutsches Verwaltungsblatt* Vol 102 (1987) pp 377-380, Michael Bothe, in *Umwelt und Planungsrecht* Vol 7 (1987) pp 170-171, Peter Preu, in *Juristenzeitung* Vol 42 (1987) p 354-355, Andreas Weitbrecht, in *Neue Juristische Wochenschrift* Vol 40 (1987) pp 2132-2134. Momentous arguments against the judgment and the reasons given by the Court were put forward by Dietrich Rauschnig, in *Archiv des Völkerrechts* Vol 25 (1987) no 3, 20 pp (see the "Bibliography" Chapter in this issue of the Bulletin).

• *Italy*

CONSTITUTIONALITY OF THE 1962 ACT ON THE PEACEFUL USES OF NUCLEAR ENERGY (1987)

Decree No 1704 issued by the President of the Republic on 30th December 1965 amends certain provisions of Act No 1860 of 31st December 1962 on the Peaceful Uses of Nuclear Energy. Section 4 (penalties relating to transport of

radioactive substances) of Decree No 1704 and Section 29 of Act No 1860, amended by that Section, have been declared in conformity with the Constitution in a Decision rendered by the Constitutional Court on 8th June 1987. This Decision was the outcome of an action brought against users of radioactive materials who had not complied with the licensing provisions governing the transport of such materials.

The Italian authorities, in order to align the provisions of Act No 1860 with those of Article 30 et seq of the EURATOM Treaty, amended that Act by Decree No 1704, this latter Decree was made under Act No 871 of 13th July 1965 on delegation of powers. On appeal, the users of radioactive materials contended that the irregularity of the amendment results from the Italian Constitution (Article 76 and 77) which authorises such a delegation of power provided the limits set by the Delegating Act are complied with. In effect, Act No 871 lays down penalties which cannot exceed 2 million lire or one year's imprisonment whereas Act No 1860 provides for fines amounting to 10 million lire and two-year prison sentences. Therefore, these penalties should also have been amended when Act No 1860 was amended by Decree No 1704.

In dismissing the appeal, the Court declared that the penalties laid down in Section 4 of Decree No 1704 were perfectly adequate. The grounds for the Decision were essentially based on the two following principles. In the first place, the constitutional "parameters" involved in the case had been complied with since the penalty under Section 29 belonged to a previous Act (No 1860 of 1962) and therefore, was not a consequence of a "delegated" regulation such as Decree No 1704 of 1965. Secondly, the Court pointed out that the "omission" by the "delegated regulation" (that is, the penalty in Section 29 not having been modified when Act No 1860 was amended by Decree No 1704) cannot be considered as having infringed the principles of delegation unless the delegated provisions are contrary to the principles and object of the Act on delegation of power. This not being so in the case in question, upholding of the penalties in Section 29 covers appropriately, from the viewpoint of safety and protection, cases of infringement of the licensing provisions governing licensing of the transport of radioactive materials.

The Decision rendered on 8th June 1987 while being important in itself, is particularly significant because it represents an evolution in the jurisprudence of the Constitutional Court as compared to similar antecedents concerning Section 28 of Act No. 1860 which, in November 1974, the Court had declared unconstitutional (see Nuclear Law Bulletin No 15).

• *United States*

LITIGATION ON IMPORT AND ENRICHMENT OF FOREIGN URANIUM (1987)

Enrichment

On 20th July 1987, the United States Court of Appeals for the Tenth Circuit rendered its decision in Western Nuclear, Inc v Huffman (DOE). The Court held, among other things, that the Department of Energy (DOE), in its uranium enrichment services contract, violated 42 USC Section 2201(v) in that it refused to restrict the enrichment of foreign uranium in DOE facilities, despite a determination that the domestic uranium industry was not viable. A petition for a writ of certiorari has been filed with the Supreme Court.

Import

On 9th October 1987, the United States Court of Appeals for the District of Columbia Circuit denied a request for a stay of Nuclear Regulatory Commission (NRC) orders allowing the importation of UF₆ made from South African uranium ore and uranium oxide. (The petitioners contend that importation of such UF₆ is in violation of the Anti-Apartheid Act of 1986.)

ANNULMENT OF NRC BACKFITTING RULE (1987)

On 4th August 1987, the United States Court of Appeals for the District of Columbia Circuit, in Union of Concerned Scientists v NRC annulled an NRC rule, in 10 CFR Part 50 (the backfitting rule), because it did not speak unambiguously in terms that constrained the NRC from considering economic costs in establishing standards to ensure adequate protection of the public health and safety, as required by Section 182 of the Atomic Energy Act of 1954, as amended. The Court read the amended backfitting rule to require that backfits be imposed only upon a finding that they provided a substantial increase in the overall protection of the public health or the common defence and security, and that the direct and indirect costs of implementation were justified in view of this increased protection.

ACTION CONTENDING VIOLATION OF THE NATIONAL ENVIRONMENTAL PROTECTION ACT (1987)

On 20th October 1987, a complaint was served on the United States attorney for the District of Alaska in a case entitled Cowper v Herrington. The action was brought by the Governor of Alaska against the Departments of Energy, Defence, Transportation and State, the Nuclear Regulatory Commission and President Reagan. The claim was for declaratory and injunctive relief for violations of the National Environmental Policy Act arising from the decision

to negotiate, authorise, promulgate and implement agreements between the United States, Japan and EURATOM, the agreements approve in advance long-term shipments of plutonium by air through the United States, and Alaska in particular, without discussing, considering or analysing the environmental impacts of their decisions (see under "Agreements" in the following Chapter)

INTERNATIONAL ORGANISATIONS AND AGREEMENTS

INTERNATIONAL ORGANISATIONS

• *The OECD Nuclear Energy Agency*

JOINT PROTOCOL RELATING TO THE APPLICATION OF THE VIENNA CONVENTION AND THE PARIS CONVENTION

At the invitation of the International Atomic Energy Agency (IAEA) and the OECD Nuclear Energy Agency (NEA), a Group of Governmental Experts met at IAEA Headquarters in Vienna from 27th to 30th October 1987 to consider the relationship between the Paris and Vienna Conventions on nuclear third party liability. This Group was more particularly required to negotiate a draft Joint Protocol relating to the application of both Conventions.

The concept of a Protocol providing for a better co-ordination of the application of the Paris and Vienna Conventions in the event of a nuclear incident involving both instruments is not new, however, the real need to find a solution to this question became apparent to interested countries following the Chernobyl accident.

Among other consequences, the catastrophe which occurred on 26th April 1986 in the Chernobyl nuclear power plant, revealed a number of gaps in international regulations governing the rights and obligations of States in case of a nuclear incident.

It should be noted in particular that the Chernobyl accident - the first to have caused radioactive contamination on an international scale was not covered by the international Conventions adopted in the sixties to regulate compensation for nuclear damage: the Paris Convention which brings together most of the OECD's European Member countries and the IAEA sponsored Vienna Convention which has a world-wide vocation. This is because the USSR is a Party to neither Convention and has no national legislation on this subject.

This situation will at least have had the merit of drawing the attention of competent political circles to the insufficient number of countries having adhered to the Conventions, despite the efforts of the Agencies responsible for their administration (in effect, this affects the Vienna Convention principally, as shown by the following figures: there are approximately 400 power reactors in the world - of these, over 120 are covered by the Paris Convention and only 3 by the Vienna Convention)

It was in this context, therefore, that it was decided to resume consideration of a question already studied by NEA ten or so years ago with no results at the time, due to lack of sufficient interest from Vienna Convention countries namely, the elaboration of a Protocol to co-ordinate nuclear third party liability

In essence, such a Protocol would have a twofold object.

- to do away with conflicts of law resulting from the simultaneous application of the two Conventions to the same nuclear incident (plurality of liability and competent courts, duplication of insurance policies etc) This may occur when a nuclear incident occurs in a fixed installation if its effects extend beyond the national borders, and also during an international transport operation,
- to provide for a geographical extension of the scope of the nuclear third party liability regime by the Contracting Parties of the Paris and Vienna Conventions granting each other mutually, a right of compensation under each of those instruments

Implementation of such a Protocol might also encourage new countries to adhere to the Vienna Convention and promote the development of a coherent system for indemnifying nuclear damage at international level, thus avoiding a re-occurrence of the situation encountered following the Chernobyl accident

The draft Protocol, which had been the subject of preparatory discussions within the competent committees of each Agency, was adopted by consensus on 30th October 1987 at the end of the meeting of the Group of Governmental Experts

The Group also recommended that the Protocol be submitted for advice to the OECD Steering Committee for Nuclear Energy and the IAEA Board of Governors to ensure, in particular, that sufficient political support exists for the next step to be taken, namely, formal adoption of this instrument

If both bodies react favourably, the organisation of a diplomatic conference in 1988 is envisaged to complete preparation of the Protocol and to open it for signature by the countries Parties to both Conventions

At this stage, it is advisable no doubt to be cautious regarding the chances of a "coupling" of the Paris and Vienna Conventions, due, in particular, to the prevailing uncertainty in respect of the position of certain Parties to the Conventions. An achievement in this field, coming after the adoption in 1986 of the Conventions on Early Notification and Assistance, would demonstrate the will to learn from the Chernobyl accident and to promote at international level the principles of nuclear third party liability

The text of the Joint Protocol, as adopted by the Group of Governmental Experts, is reproduced in the "Texts" Chapter of this issue of the Bulletin

REPORT ON THE RADIOLOGICAL IMPACT OF THE CHERNOBYL ACCIDENT IN OECD COUNTRIES

The release of radioactive material resulting from the accident which occurred in April 1986 at the Chernobyl nuclear power plant in the USSR caused widespread environmental contamination, particularly in Europe, raising considerable concern in OECD Member countries. The reactions of national authorities were extremely varied depending on circumstances, ranging from a simple intensification of normal environmental monitoring programmes to the application of a number of countermeasures, including restrictions on the marketing and consumption of foodstuffs (see Nuclear Law Bulletin Nos 38 and 39)

Several lessons have been learned from this experience, and an effort made towards better international harmonisation of the scientific bases and the concepts and measures for the protection of the public in the event of a nuclear emergency.

As a first step toward identifying areas deserving attention, the NEA undertook an independent assessment of the radiological impact of the Chernobyl accident and a critical review of the emergency response in Member countries. This assessment was prepared under the aegis of the NEA Committee on Radiological Protection and Public Health (CRPPH) on the basis of information officially provided by OECD Member countries. The report concludes that, although the radiological consequences of the accident were serious in the area surrounding the Chernobyl site, they were minor for the public in the OECD countries and did not raise any major concern for the health of the population in this area. This report is soon to be published.

● *International Atomic Energy Agency*

IAEA GENERAL CONFERENCE (1987)

The IAEA General Conference concluded its 31st regular session, and adopted a set of resolutions which include in particular Israeli nuclear capabilities and threat, South Africa's nuclear capabilities, measures to strengthen international co-operation in nuclear safety and radiological protection, and the sharing of nuclear-safety-related information. The session was held from 21st to 25th September 1987 at the Austria Centre, Vienna, and was attended by nearly 700 delegates from 100 of its 113 Member States.

The resolution on Israel inter alia "demands that Israel place all its nuclear facilities under IAEA safeguards" and requests the Director General to report to the IAEA Board of Governors and at the next regular session of the General Conference on this subject and the implementation of the resolution. In the resolution on South Africa, which refers to a previous demand for that country to place all of its nuclear installations under IAEA safeguards, the General Conference resolved to "consider and take a decision at its next regular session on the recommendation of the IAEA Board of Governors to "suspend South Africa from the exercise of the privileges and rights of membership" in the Agency

Regarding nuclear safety and radiological protection, one resolution was adopted that, in particular, requests the IAEA Board of Governors and the Secretariat to "continue with the activities already initiated and to report on progress at the Conference's 32nd regular session" in 1988. Another resolution, adopted with reservations, is entitled "Protection of nuclear installations against armed attacks", it "authorises the Director General to assist the work of the Conference on Disarmament and other competent international organs, at their request, by undertaking studies within the technical competence and statutory responsibilities of the Agency". A third resolution adopted on the Convention of Physical Protection of Nuclear Material, expresses the hope that it will obtain the widest possible adherence.

The resolution on the sharing of nuclear-safety-related information, requests the Director General "to intensify efforts to promote co-operation between States, particularly between supplier and recipient States, in the exchange of such information"

• *European Communities*

RESOLUTIONS ADOPTED BY THE EUROPEAN PARLIAMENT IN 1987

Following the accident at Chernobyl, the European Parliament adopted on 8th April 1987 a series of Resolutions for the European Communities concerning, in particular, the future of nuclear energy, the lessons to be learnt from this accident and the measures to be taken for ensuring a better protection of the population and the environment. Several Resolutions, published in the Official Journal of the European Communities of 11th May 1987 (C 125, Vol 30), are reproduced below.

RESOLUTION

on the future of nuclear energy

(Doc A2-1/87)

The European Parliament,

- A Whereas the long-term health and ecological effects of the Chernobyl catastrophe, both in the Soviet Union and in other European countries are still unpredictable,
- B Conscious that the operation of nuclear power stations, even with further improvements in safety measures, will always be attended by risks,
- C Whereas the acceptance even of "residual risks" is, ultimately, a political decision in which protection of the population and of the environment must take precedence over any economic benefit,
- D Whereas 30 per cent of all electricity in the EC is generated by nuclear power,
- E Whereas reserves of most fossil fuels will be exhausted during the 21st century,
- F Whereas it is the established energy strategy of the European Community, supported by the European Parliament, to diversify the sources of energy so as to avoid becoming over-dependent on any one source,
- G Whereas, notwithstanding the desirability of increasing the use of solid fuels in the Community as a means of reducing dependence on imported oil, an increase in the use of solid fuels on a massive enough scale to replace nuclear power in the generation of electricity would cause (a) an unacceptable increase in coal imports from outside the EC, and (b) unacceptable harm to the environment,
- H Whereas renewable energies, at their present state of development, could not wholly replace nuclear generation, for both economic and technical reasons, and therefore a great effort must be made to arrive at a new development model based on the conservation of energy and raw materials and on the use of renewable energy sources,
- I Whereas the share of nuclear energy in the Member States varies considerably,
- J Whereas average annual electricity consumption in Europe is 6000 Kwh per capita but only 400 Kwh per capita in the developing countries of Asia and Africa, an imbalance that must be diminished in coming years,

- 1 Considers that electricity generated by nuclear fission or fusion will for many years be a vital source of the intense energy needed for industry, for rail transport and for commercial and domestic consumption,
- 2 Supports the continued use and development of electricity generated by both nuclear energy and coal,
- 3 Insists, in addition to all national approval procedures, on the principle that no new nuclear reactors be constructed in the European Community until the safety of their design has been verified by competent, international experts, paying due attention to environmental factors,
- 4 Considers it essential, bearing in mind that several countries outside the EC will develop nuclear power whatever happens inside the Community, that the International Atomic Energy Agency be given authority by all countries with nuclear power to establish safety standards by use of Treaties or Conventions, and meanwhile notes with approval the IAEA's use of OSART missions (Operational Safety Assessment Review Teams);
- 5 Considers that the economics of the nuclear generation of electricity, which current OECD reports show to be substantially cheaper than coal-firing, justify the inclusion of nuclear power among the range of diversified energy sources on which the Community's energy strategy should rely,
- 6 Calls for an extension of Community competences in the field of nuclear safety, in particular the fixing of common safety standards based on the most up-to-date technological norms, therefore calls for a profound revision of the EURATOM Treaty. Calls upon the Commission and the Member States to insist within the IAEA that nuclear power stations outside the Community conform to the most stringent and verifiable safety standards,
- 7 Considers that nuclear power will provide the source of cheap energy needed to make coal gasification and liquefaction competitive for transport and industrial needs in the long term,
- 8 Requests the Commission to take the following steps
 - i) evaluate the feasibility of the wider use in the EC of reactor types with enhanced safety features (e.g. the ASEA-PIUS in Sweden, the HTGR in Germany, new Sizewell PWR type and the Fast Neutron Reactors working in France, the United Kingdom and the USSR);
 - ii) in connection with this, respond positively to the official proposal from the USSR to co-operate in the design of a next-generation safer, simpler reactor,
 - iii) evaluate the relative economic and environmental merits of reprocessing spent fuel, as against the 'once-through' method in the restricted land areas characteristic of the EC;

- iv) improve its provision of information to the public on all aspects of nuclear energy, its applications, and its impact on health and the environment - not merely by making such information available, but by enhancing its presentation and dissemination through the media,
 - v) bring forward renewed, tougher proposals for EC legislation on the siting of nuclear plants in frontier areas,
 - vi) promote the harmonisation of insurance against nuclear accidents and compensation for damage to life and property,
 - vii) promote the development of small, safe nuclear power-plants to meet the needs of developing countries willing to sign the Non-Proliferation Treaty,
 - viii) co-operate in enhancing the effectiveness of Nuclear Energy Agency Incident Reporting Systems (IRS) and the dissemination of the findings of these to a network of users by an on-line data-base,
 - ix) support initiatives to establish international standards, under the aegis of the IAEA, for the training and retraining of operators,
 - x) report progress on implementation of the thirteen-point recommendations of Professor Rometsch, Chairman of the Conference on the Chernobyl accident in Vienna in 1986,
 - xi) recognise that renewable energy sources (particularly solar) must provide the long-term solution to world energy supply and, therefore, ensure the deployment of adequate resources to their development,
 - xii) make full use of known technology relating to the 'clean burn' of coal and fully develop new technologies, e.g. 'combined cycle technology', CHP, district heating, liquefaction, gasification, heat exchangers, heat pumps etc ;
 - xiii) report to the European Parliament in one year's time on action taken on the above matters;
- 9 Considers also that to achieve these objectives there must be effective co-ordination of national research into safety in the sectors which are of common interest, in order to promote also the rationalisation of human and financial investment, and therefore calls on the Commission to assess this possibility, having regard to the experience acquired in co-operation on nuclear fusion,
- 10 Requests the Commission to propose to the Council a Draft Resolution embodying the following Code of Practice, being a series of principles for the protection of life which should guide the European Community institutions and the authorities of the Member States in the discharge of their responsibilities in the area of nuclear energy, including the following:

- i) emergency procedures, chains of command, rules for immediate incident notification and evacuation plans should be clearly laid down to meet the eventuality of an accident at any nuclear plant in the EC, and these should be made known as clearly and promptly as possible to the public,
 - ii) no nuclear plant should be allowed to operate unless regional, national and European authorities have been satisfied as to the availability at or near that plant of all the material and trained personnel needed for dealing with any accident that might occur, in terms of hospital, fire fighting and similar facilities and radiation-proof equipment, as well as supplies of uncontaminated food and water,
 - iii) procedures must have been laid down for limiting environmental damage which might be caused by any accident and, if necessary for decontamination of the environment,
 - iv) reactors must be continuously monitored and where necessary reconditioned or decommissioned,
 - v) the design of nuclear reactors must incorporate fail-safe characteristics,
 - vi) the design of nuclear reactors and the procedures for their operation and for the training and retraining of operators must eliminate the effect of human error,
- 11 Instructs its President to forward this resolution and the report of its Committee to the Council, the Commission, the Governments of the Member States, the International Atomic Energy Agency and the Nuclear Energy Agency

RESOLUTION

**on the problem of contamination of foodstuffs following
the Chernobyl disaster**

(Doc A2-5/87)

The European Parliament.

- A** Whereas all the countries of the Community have been contaminated by radioactivity from the fallout following the meltdown in the Chernobyl nuclear reactor, although the level of contamination varies,
- B** Whereas parts of the Federal Republic of Germany, Italy and Greece were worst hit,
- C.** Whereas radioactive substances enter the food chain through the soil,

- D** Whereas 50-90 per cent of the harm done to human beings following the Chernobyl disaster is due to the consumption of foodstuffs contaminated by radioactivity,
- E** Whereas the consequences of this harm will be most serious where the fallout was heaviest,
- F** Having regard to the report of the Committee on the Environment, Public Health and Consumer Protection,
- 1** Is of the opinion that measures can be taken to reduce this harm or keep it to a minimum,
- 2** Takes the view that these measures must be introduced for health reasons and for scientific reasons;
- 3** Calls for the necessary measures to be taken by each Member State to ensure that checks are carried out on animal feedingstuffs,
- 4** Demands that the Soviet authorities pay compensation to the producers and dealers affected,
- 5** Calls for a strict ban on the mixing of contaminated and uncontaminated components in the foodstuffs and feedingstuffs sector;
- 6** Demands that facilities be set up immediately for the storage or destruction of contaminated goods,
- 7** Calls for rigorous checking for radioactivity in the import and export of foodstuffs and feedingstuffs to be introduced on a permanent basis within the Community and in trade with third countries,
- 8** Strongly condemns the attempt by some Member States to export highly contaminated produce, in particular milk powder, to third countries,
- 9** Calls for a ban on the import and export of all feedingstuffs and foodstuffs which are above the limits laid down,
- 10** Calls on all Member States of the Community to introduce severe penalties for the marketing of highly contaminated foodstuffs and feedingstuffs, for giving false information regarding the degree of radioactive contamination or country of origin and for relabelling goods from highly contaminated regions,
- 11** Calls on the Commission to propose that the Council lay down standard limits for the exposure levels of foodstuffs and fodder for all countries of the Community, as a basis for the marketing of such foodstuffs and fodder within the EC;
- 12** Calls for all foodstuffs and fodder which do not comply with these limits to be destroyed with due regard to all precautionary measures,
- 13** Calls on the Commission and the Council to set the limits from 1st July 1987 at a scientifically justified level, on the basis of the Luxembourg Conference at the end of April 1987;

- 14 Considers that the effect of the Chernobyl fallout on the environment should also be documented,
- 15 Calls on the Commission to draw up a report on the quantities of contaminated food and fodder arising in the period May 1986 to February 1987, their whereabouts and any compensation paid by the Community,
- 16 Calls for the extent of contamination of the soil in all regions of the European Community to be charted and its transference to foodstuffs and their consequent radioactive contamination to be documented,
- 17 Calls for the constant monitoring of radioactivity in the soil, vegetation, fertilizers, feedingstuffs and foodstuffs,
- 18 Calls for thorough research to be undertaken in the agricultural sector into methods of eliminating or reducing radioactive contamination and preventing further contamination,
- 19 Points out that the national reports on radioactive contamination following Chernobyl differ greatly in quality,
- 20 Calls on the Commission and the Member States to improve and standardise their methods of supervision and documentation,
- 21 Calls for a yearly report to be submitted by the Member States to the Commission and the European Parliament on the contamination of the environment by radioactivity,
- 22 As regards reaction, believes that in the event of an accident there must be an effective, properly rehearsed and efficiently implemented set of procedures which the public authorities will follow, both in informing/advising and instructing the public as to precautions to take and also for containing and minimising damage, these procedures must include agreed levels of contamination acceptability,
- 23 Instructs its President to forward this resolution to the Council, the Commission and the Governments of the Member States and the Soviet Union

RESOLUTION

on the reaction of the Community to Chernobyl

(Doc A2-4/87)

The European Parliament,

- 1 Points out that scientists and politicians generally consider that accidents similar to the one that happened at Chernobyl are possible in other nuclear power stations of the same type,
- 2 Points out the need to organise the Community measures required to cope effectively with a nuclear disaster;
- 3 Notes that, in the emergency situation which arose at the time of the accident, there was a total lack of co-ordination between the Member States, which often acted independently and were more concerned about specific political and economic interests (for instance, in laying down acceptable maximum levels of radioactivity in agricultural products) than about consumer health,
- 4 Considers that the Council must look beyond the mere adoption of basic legislation and take greater care to ensure that the relevant directives are enforced in the Member States, thereby contributing to effective health protection of the population,
- 5 Condemns the fact that already, only a few months after Chernobyl, the Commission is no longer pushing strongly enough for the measures which it recognised itself as being necessary,
- 6 Points out that scientists and politicians are generally agreed that serious accidents in nuclear power stations are possible and that disasters such as Chernobyl could happen again,
- 7 Calls on the Commission to conduct an exhaustive study of the short and long-term repercussions of the Chernobyl accident on public health in the Community,
- 8 Calls on the Commission to introduce a proposal without further delay pursuant to Article 130 S of the Single European Act, to the effect that the Community should take environmental protection measures to avert danger after nuclear disasters;
- 9 Calls on the Council to take a decision on the above pursuant to Article 130 S and to provide for the decisions to be taken by a qualified majority,
- 10 Instructs its President to forward this resolution to the Commission and the Council

RESOLUTION

on the safety of nuclear power stations and the questions of mutual assistance and compensation

(Doc A2-11/87)

The European Parliament.

I Safety

- 1 Stresses that all possible steps must be taken to ensure the safety of nuclear power stations, without regard to cost;
- 2 Takes the view that the sole criterion to be considered when establishing safety standards is the health and safety of the general public and the integrity of the environment,
- 3 Deplores the fact that there are no binding international standards on the safety of nuclear power stations,
- 4 Considers that the non-binding standards set in the NUSS Programme (Nuclear Safety Standards) establish a basis on which mandatory international rules could be drawn up; stresses the importance also of bringing the East European countries within the ambit of these standards; considers that, at the very least, binding safety standards must be introduced within the EEC by means of an appropriate addition to the EURATOM Treaty and that such standards should not be based on compromise but on the strictest provisions currently in existence,
- 5 Calls for binding rules to ensure that no power plant may be constructed and operated in a 100 kilometre zone from the frontier of an adjacent Member State, unless the neighbouring state concerned has specifically given its consent,
- 6 Calls for provisions, in the case of nuclear power stations which are already in operation, to ensure that the neighbouring Member State within the 100 kilometre zone participates with equal rights in safety monitoring and controls at the nuclear power station,
7. Believes that the following principles must be observed in fixing binding safety standards
 - a) no nuclear installation should be operated without a safety containment system,
 - b) all possible technical measures should be taken to protect against intrinsic instability in the reactors;

- c) nuclear installations may not be operated in areas subject to earthquakes, unless special architectural measures, as applied in Japan, are incorporated into the design;
- 8 Calls for:
- a) nuclear power plants to be operated using only the most up-to-date and highest possible technological standards and to be provided with several independent and automatic safety systems in order to minimise the possibility of any human error,
 - b) existing nuclear plants to be brought up to current technological standards,
 - c) a ban on the commissioning of nuclear power plants and the decommissioning of all old plants which do not meet these safety requirements;
- 9 Points out that, independent of the drawing up of binding international agreements, or in the event of it being impossible to reach such agreements, all states should give an undertaking that their nuclear power plants may be examined by IAEA experts, if necessary without formal right of appeal; OSART's brief must be related more specifically to principles of reactor safety, the teams should also be able to put forward practical and realistic suggestions for improvements, this modified role for OSART presupposes that the teams will no longer be so large and will not be as international in composition, but will comprise only a few, very highly qualified experts with considerable professional experience; representatives of the operators and manufacturers of nuclear power plants can be involved in safety checks but not safety assessments,
- 10 Considers that the mutual provision of information on the structure of nuclear power plants is essential and that the design characteristics of all reactors operated in the world must be available for examination at all times (possibly in a central library), the IAEA documentation centre must be expanded to this end;
- 11 Stresses the importance of the constant exchange of experiences with regard to specific events, and the mutual notification of incidents (causes and elimination), considers that an effective transfrontier system for the notification of incidents is required and that incidents which occur must be analysed and the proposals for eliminating them assessed,
- 12 Points out that it must be possible to provide mutual assistance in the event of accidents and that, to this end, international rescue teams (rescue units) should be formed, emergency and evacuation plans notably in respect of transfrontier areas should be drawn up on the basis of uniform international criteria and notified in advance,
- 13 Stresses that countries or manufacturers exporting nuclear plants must be required to make provision for consistent and long-term operating advice, even after the period of construction,

- 14 Points out that the sale of safety components or safety systems should be facilitated, if necessary by amendments to the tax, customs or patent laws,
- 15 Points out that the general public should be given relevant, objective and clear information on matters relating to nuclear power and the safety and risks of nuclear power plants, considers that the dissemination of fear serves no useful purpose;
- 16 Calls for the general public also to be given appropriate information on the possibility of an energy industry without nuclear energy.
- 17 Calls for rules which are applicable throughout the Community and binding on all Member States on the disposal of spent fuel rods and radioactive waste and on the disposal and protection in relation to decommissioned nuclear power stations;

II. Liability

- 18 Regrets that existing international liability systems are inadequate and, furthermore, have been accepted by only a few states;
- 19 Recommends that all countries which operate nuclear plants should jointly subscribe to a single international liability system (on the basis of the highest possible level of liability) in which loss or injury should be defined clearly (criteria, limit values, etc);
- 20 Recommends that, as an initial step, the COMECON states should be persuaded to accede to the Vienna Convention,
- 21 Points out that those states which have not yet ratified the Supplementary Brussels Convention should do so without delay, to enable it to enter into force,
- 22 Considers that the European Convention should be drawn up in clearer and less complicated terms and that controversial questions should be clarified, in particular the question of the unlimited liability of the owner of a nuclear power plant,
- 23 Calls for the normal maximum liability of the operator to be in keeping with possible loss or injury,
- 24 Recommends that the prescription period should be extended from ten to thirty years,
- 25 Points out that the provisions for joint and several liability should be replaced by a fund, in order to facilitate the accession to the Brussels Convention of other states, in particular developing and newly industrialising countries;

- 26 Stresses, however, that the loss and injury caused by nuclear disasters exceed the amount which can be covered by insurance or paid out in cash.

*

* * *

27. Instructs its President to forward this resolution to the Commission and the Council

RESOLUTION

- on the consequences of the Chernobyl accident and on
- the outline communication from the Commission of the European Communities to the Council on the consequences of the Chernobyl accident, and
 - the communication from the Commission of the European Communities to the Council on Community action to be taken in response to the Chernobyl accident

(Doc. A2-243/86)

The European Parliament,

- A. Whereas civil use of nuclear power in Europe makes a significant contribution to electricity and energy supplies and will continue to do so in the near future,
- B. Whereas the technology of the RBMK reactor involved in the Chernobyl accident, in particular the positive void coefficient, is not used in nuclear reactors in the West,
- C. Whereas nuclear reactors must be operated using optimal safety precautions,
- D. Regretting that even the existing but modest competences of EURATOM concerning nuclear safety had been largely neglected,
- E. Convinced that the Community itself must take responsibility for nuclear safety measures which cannot merely be dealt with in the wider intergovernmental framework of the IAEA,
- 1. Draws attention to and confirms its previous resolutions calling on the Commission to
 - a) establish international standards for the construction, protection and safety monitoring of nuclear reactors,

- b) set up a monitoring and alarm system for nuclear accidents,
 - c) set up an international and independent safety inspectorate which also has responsibility for checking operating licences and reporting regularly to the Commission and Parliament,
 - d) monitor the safety of all nuclear power stations in the Community,
- 2 Points out that, in the event of an accident such as Chernobyl, the Commission, which is the competent authority in the Community, does not have adequate powers despite the EURATOM Treaty,
- 3 Regrets, however, that in the months following the Chernobyl reactor accident the Commission has taken little or no action to remedy obvious shortcomings in the EURATOM Treaty and to improve the Community's level of preparedness,
- 4 Calls therefore for a revision of the EURATOM Treaty in order to include the following points:
- a) the establishment of common safety standards for nuclear installations according to the most up-to-date technical norms;
 - b) the establishment of common standards for radioactive emissions,
 - c) a common consultation procedure for the siting of nuclear power stations in frontier regions so as to guarantee the effective participation of all Member States involved,
 - d) the operation of nuclear installations must be linked to the guaranteed provision of equivalent capacity for management and storage of nuclear waste,
 - e) an improvement of the basic norms for radiation protection which must immediately be transformed into the law of the Member States,
 - f) the establishment of common information and control systems in the case of nuclear incidents and the harmonisation of emergency plans;
 - g) the establishment of a Community Inspectorate for monitoring the application of Community standards for reactor safety, radiation protection and waste management;

To this end requests the Council, within two months of the adoption of this resolution and in accordance with Article 204 of the EURATOM Treaty, to call a conference of representatives of the governments of the Member States to revise the EURATOM Treaty along these lines,

- 5 Calls, in this context, for a detailed report on current safety provisions at all the Community's nuclear power plants,
- 6 Demands that, if such a study provides evidence of safety defects, additional precautions must be taken, or the nuclear power plants concerned must be shut down,

7. Draws attention to the need for further tests on reactor safety,
8. Hopes that the European Community, acting in the framework of international bodies and in particular the IAEA, will play a more active part with regard to the establishment of procedures in general and the drawing up of safety standards and rules for the construction and operation of reactors in particular and with regard to inspection provisions,
9. Stresses that the nuclear society is international and that problems must therefore be dealt with at international level, including co-operation with the states of Eastern Europe;
10. Considers that the IAEA is the most suitable body at international level for these tasks, as Eastern European states are also members,
11. Stresses the great importance of the training and continuing education of operating staff in line with the most recent technological developments,
12. Instructs its President to forward this resolution to the Commission, the Council and the IAEA.

AGREEMENTS

● *Federal Republic of Germany - German Democratic Republic*

1987 RADIATION PROTECTION AGREEMENT

The Government of the Federal Republic of Germany and the Government of the German Democratic Republic signed an Agreement on Exchange of Information and Experience in the Field of Radiation Protection on 8th September 1987 (Bulletin des Presse und Informationsamtes der Bundesregierung No 83 of 10th September 1987, p. 718) Signature of the Agreement finalised negotiations which lasted more than four years. This Agreement is the first one in the nuclear field concluded between both States in Germany. The Agreement provides for the necessary instruments between both Parties to implement the IAEA Convention on Early Notification of a Nuclear Accident of 26th September 1986 (see Nuclear Law Bulletin No. 38). There are also additional provisions regarding mutual information on increased radioactivity.

According to Article 1, both Parties shall inform each other without delay about accidents as defined in Article 1 of the above Convention, using the direct channels provided for in Article 5 of that Convention. In addition to this obligation, which is already part of the Early Notification Convention, the Contracting Parties agree on mutually informing each other about unusually increased radioactivity in cases which are not covered by Article 1 (Article 2). Both Parties shall consult each other on the general development of the peaceful uses of nuclear energy, in particular concerning the legal framework and methods and results of radiation monitoring of personnel, the general public, and the environment (Article 3 paragraph 1). According to Article 3 paragraph 2, the Parties shall inform each other mutually on nuclear reactors and on installations for irradiated fuel and for the final disposal of radioactive wastes, details of the information to be provided are listed in an Annex to the Agreement. Information on planned installations will be exchanged after the construction licence has been granted and the commissioning of nuclear installations will be mutually notified (Article 3 paragraph 3).

The Contracting Parties agree to hold periodical consultations, at least once a year, and on special occasions. Information on the consultations and the documents exchanged may be used without restrictions, unless they are expressly declared to be restricted. Transmission of restricted material to third parties requires mutual consent (Article 4). There will be no claim for compensation between the Contracting Parties for costs incurred by execution of the Agreement (Article 5). The Agreement will be extended to West Berlin according to the procedures applicable to its special status (Article 6). The Agreement is for an unlimited duration and may be denounced at six months' notice (Article 7 paragraph 4).

• *Federal Republic of Germany - USSR*

1987 AGREEMENT ON CO-OPERATION IN THE FIELD OF THE PEACEFUL USES OF NUCLEAR ENERGY

The Federal Minister for Research and Technology of the Federal Republic of Germany and the State Committee for the Use of Atomic Energy of the Union of Soviet Socialist Republics signed an Agreement on Scientific Technical Co-operation in the Field of the Peaceful Uses of Nuclear Energy on 22nd April 1987 (not yet officially published). In accordance with Article 12 paragraph 1 of the Agreement it entered into force on 7th July 1987, it is limited to a period of five years and may be extended for an unlimited period provided it is not denounced at six months' notice before the end of the five-year period (Article 12 paragraph 2).

Co-operation will cover the following subjects (Article 1)

- problems concerning the development of nuclear concepts, the erection and operation of reactors cooled by water, gas, and liquid metal, including nuclear power plants;
- the safety of nuclear power plants and other nuclear installations, including radiation protection aspects,
- radioactive waste treatment, in particular its storage, transportation, and preparation for the final storage of spent nuclear fuel,
- controlled thermonuclear fusion and plasma physics,
- research concerning the basic properties of matter, in particular high energy physics, including accelerator techniques, nuclear physics, solid state physics,
- use of nuclear energy for other purposes than the generation of electricity, and
- other field of common interest

The Contracting Parties will agree upon special programmes which will detail their collaboration (Article 2), there will be joint working groups, seminars etc , including exchanges of scientists and experts (Article 3) A Joint Expert Group will be established for implementation of the Agreement (Article 4)

In accordance with Article 5, co-operation will be exclusively limited to the peaceful uses of nuclear energy and shall be in line with the restrictions and conditions laid down by the Treaty on the Non-Proliferation of Nuclear Weapons Results of co-operation will not be used for the production of nuclear weapons or for military purposes Transfers of nuclear articles to third parties requires mutual agreement and must be carried out according to the conditions of IAEA Document INFCIRC/254 regarding guidelines for the export of nuclear material, equipment and technology The results of the scientific technical co-operation shall insofar as possible be transferred to the economic industrial co-operation between both States (Article 6) The Agreement is also applicable to West Berlin (Article 11)

• *United States - Japan*

1987 AGREEMENT FOR CO-OPERATION IN THE PEACEFUL USES OF NUCLEAR ENERGY

On 10th November 1987, President Reagan forwarded to the Congress an Agreement between the United States and Japan concerning Co-operation in the Peaceful Uses of Nuclear Energy The Agreement, signed on 4th November 1987,

includes an Implementing Agreement, proposed subsequent arrangements under the 1954 Atomic Energy Act with Norway and EURATOM, a nuclear proliferation assessment statement, an environmental assessment required under the National Environmental Policy Act and other associated documents. The Agreement provides that the previous Co-operation Agreement of 26th February 1968, amended in 1972 and 1973, between the United States and Japan will be terminated on the date the present Agreement enters into force; its provisions will apply to nuclear material and equipment subject to the former Agreement.

The purpose of the 1987 Agreement is to update and expand the existing provisions for peaceful nuclear co-operation between the United States and Japan and to provide for strengthened controls reflecting shared non-proliferation policies. The Agreement has an initial term of thirty years, and will continue in force indefinitely thereafter until terminated in accordance with its provisions. It provides for the transfer of material, nuclear material, equipment (including reactors) and components for both nuclear research and nuclear power purposes. It does not provide for transfers of any sensitive nuclear technology or facilities. Some provisions of the Agreement are analysed below.

As a condition for the supply of material, nuclear material, equipment and components under the Agreement, full-scope IAEA safeguards are required with respect to all nuclear material in all United States civil nuclear activities. Implementation of the Parties' respective existing agreements with the IAEA will be considered as fulfilling this requirement (Article 2). Also, nuclear material transferred pursuant to the Agreement and nuclear material used in or produced through the use of material, nuclear material, equipment or components so transferred will be subject to the Parties' respective safeguards agreements with the IAEA. Such nuclear material in the United States will be subject to supplementary measures for substitution, to the extent practicable, or for tracking and accounting for such material (Article 9). In addition, Article 9 provides for fall-back safeguards in the event the IAEA cannot for some reason administer safeguards in accordance with the concept agreed between the Parties.

Plutonium and uranium 233 (except as contained in irradiated fuel elements) and highly enriched uranium, transferred pursuant to the Agreement or used in or produced through the use of nuclear material or equipment so transferred, shall only be stored in a facility to which the Parties agree (Article 3). Paragraph 3 of the Agreed Minutes confirms that when such storage is authorised in the export licence of the supplying Party, no further consent under the Agreement is required.

Material, nuclear material, equipment and components transferred pursuant to the Agreement and special fissionable material produced through the use of such material, nuclear material or equipment may be transferred only to persons authorised by a receiving Party or, if the Parties agree, beyond the territorial jurisdiction of the receiving Party (Article 4).

If the Parties agree, nuclear material transferred pursuant to the Agreement and special fissionable material used in or produced through the use of material, nuclear material or equipment so transferred may be reprocessed. Plutonium, uranium 233, highly enriched uranium and irradiated nuclear material transferred pursuant to the Agreement or used in or produced through the use of material, nuclear material or equipment so transferred may be altered

in form or content by irradiation (Article 5) Thus, non-United States origin nuclear material used in a United States supplied reactor requires United States prior consent over reprocessing or alteration, unlike the existing agreement. Such special fissionable material may be otherwise altered in form or content if the Parties agree. Paragraph 3 of the Agreed Minutes confirms that when such alteration in form or content is authorized in the export licence of the supplying Party, no further consent under the Agreement is required

In addition, it is stipulated that co-operation under the Agreement shall be carried out only for peaceful purposes, specified items transferred pursuant to the Agreement and nuclear material used in or produced through the use of such items shall not be used for any nuclear explosive device, for research on or development of any such device, or for any military purpose (Article 8)

In order to facilitate storage, retransfers, and reprocessing and alteration of materials in form or content other than by irradiation, the Parties shall make, consistent with the objective of preventing nuclear proliferation and with their respective national security interests, separate arrangements satisfying the requirements for mutual agreement on a long-term, predictable and reliable basis, and in a manner that will further facilitate peaceful uses of nuclear energy in their respective countries (Article 11) Separate arrangements in fulfilment of this Article are contained in the Implementing Agreement, the basic provisions of which are described below

Implementing Agreement

The Implementing Agreement (Article 1) contains, inter alia, the prior consent of the United States and Japan to

- reprocessing or alteration in form or content in the facilities within the territorial jurisdiction of either Party listed in Annex 1,
- storage in the facilities within the territorial jurisdiction of either Party listed in Annex 1 or 2,
- transfer beyond the territorial jurisdiction of either Party of irradiated nuclear material (except irradiated highly enriched uranium and uranium 233) from the Japanese facilities listed in Annexes 1, 2 and 3 to facilities listed in Annex 1 (Sellafield, United Kingdom and La Hague, France);
- transfer beyond the territorial jurisdiction of either Party of un-irradiated source material and low enriched uranium to third countries designated in writing by the Parties, but not for the production of highly enriched uranium A note verbale designates the third countries referred to.

Paragraph 1 of the Agreed Minutes confirms that each Government will provide the other with information regarding activities specified in Article 1, including notification of each international transfer prior to shipment or as soon as possible thereafter Paragraphs 2 and 3 of the Agreed Minutes confirm various arrangements relating to activities under Article 1 involving third

countries, including a requirement that nuclear material transferred to a third country be subject to an agreement for co-operation between the non-transferring Party and the third country, and that nuclear material returned by the third country to the transferring Party be subject to the United States-Japan Agreement for Co-operation

It should be noted that Annex 5 to the Implementing Agreement provides guidelines for the international transportation of recovered plutonium, specifying transportation by cargo aircraft from the United Kingdom or France via the polar route or another route selected to avoid areas of national disaster or civil disorder. Stringent requirements on shipment cask design and certification are imposed.

Either Party may suspend the agreement it has given in Article 1 of this Implementing Agreement in whole or in part to prevent a significant increase in the risk of nuclear proliferation or in the threat to its national security caused by exceptional cases such as a material breach by the other Party of the Treaty on the Non-Proliferation of Nuclear Weapons or withdrawal therefrom, or a material breach by the other Party of its safeguards agreement with the IAEA, of the Implementing Agreement or of the Agreement for Co-operation.

Associated documents

Among the associated documents are two proposed "subsequent arrangements" under the Atomic Energy Act required for giving effect to certain provisions of the Implementing Agreement: a proposed subsequent arrangement under the United States-Norway Agreement for Peaceful Nuclear Co-operation relating to the return of small quantities of irradiated nuclear material from Norway to Japan, and a proposed subsequent arrangement under the United States-EURATOM Additional Agreement for Co-operation concerning Peaceful Uses of Atomic Energy, which provides for the return of plutonium from EURATOM to Japan.

*

* *

After submission of the Agreement to the Congress, a thirty-day consultation period between Presidential representatives and cognisant Congressional committees concerning the consistency of the Agreement with the requirements of the Atomic Energy Act follows. After that, a period of sixty days of continuous session must elapse, during which Congressional hearings must be held. If the Congress takes no action to disapprove the Agreement by joint resolution during the period, the Agreement can then be brought into force.

• IAEA-NEA

JOINT PROTOCOL RELATING TO THE APPLICATION OF THE VIENNA CONVENTION AND THE PARIS CONVENTION*

THE CONTRACTING PARTIES

HAVING REGARD to the Vienna Convention on Civil Liability for Nuclear Damage of 21st May 1963;

HAVING REGARD to the Paris Convention on Third Party Liability in the Field of Nuclear Energy of 29th July 1960 as amended by the Additional Protocol of 28th January 1964 and by the Protocol of 16th November 1982,

CONSIDERING that the Vienna Convention and the Paris Convention are similar in substance and that no State is at present a Party to both Conventions;

CONVINCED that adherence to either Convention by Parties to the other Convention could lead to difficulties resulting from the simultaneous application of both Conventions to a nuclear incident, and

DESIROUS to establish a link between the Vienna Convention and the Paris Convention by mutually extending the benefit of the special regime of civil liability for nuclear damage set forth under each Convention and to eliminate conflicts arising from the simultaneous application of both Conventions to a nuclear incident,

HAVE AGREED as follows:

* See note on the Joint Protocol under "OECD Nuclear Energy Agency" in this issue of the Bulletin

Article I

In this Protocol

- (a) "Vienna Convention" means the Vienna Convention on Civil Liability for Nuclear Damage of 21st May 1963 and any amendment thereto which is in force for a Contracting Party to this Protocol,
- (b) "Paris Convention" means the Paris Convention on Third Party Liability in the Field of Nuclear Energy of 29th July 1960 and any amendment thereto which is in force for a Contracting Party to this Protocol

Article II

For the purposes of this Protocol

- (a) the operator of a nuclear installation situated in the territory of a Party to the Vienna Convention shall be liable in accordance with that Convention for nuclear damage suffered in the territory of a Party to both the Paris Convention and this Protocol,
- (b) the operator of a nuclear installation situated in the territory of a Party to the Paris Convention shall be liable in accordance with that Convention for nuclear damage suffered in the territory of a Party to both the Vienna Convention and this Protocol.

Article III

1 Either the Vienna Convention or the Paris Convention shall apply to a nuclear incident to the exclusion of the other.

2. In the case of a nuclear incident occurring in a nuclear installation, the applicable Convention shall be that to which the State is a Party within whose territory that installation is situated

3 In the case of a nuclear incident outside a nuclear installation and involving nuclear material in the course of carriage, the applicable Convention shall be that to which the State is a Party within whose territory the nuclear installation is situated whose operator is liable pursuant to either Article II 1(b) and (c) of the Vienna Convention or Article 4(a) and (b) of the Paris Convention

Article IV

1 Articles I to XV of the Vienna Convention shall be applied, with respect to the Contracting Parties to this Protocol which are Parties to the Paris Convention, in the same manner as between Parties to the Vienna Convention

2 Articles 1 to 14 of the Paris Convention shall be applied, with respect to the Contracting Parties to this Protocol which are Parties to the Vienna Convention, in the same manner as between Parties to the Paris Convention

Article V

This Protocol shall be open for signature, from . until the date of its entry into force, at the Headquarters of the International Atomic Energy Agency by all States which have signed, ratified or acceded to either the Vienna Convention or the Paris Convention

Article VI

1 This Protocol is subject to ratification, acceptance, approval or accession Instruments of ratification, acceptance or approval shall only be accepted from States Party to either the Vienna Convention or the Paris Convention Any such State which has not signed this Protocol may accede to it

2 The instruments of ratification, acceptance, approval or accession shall be deposited with the Director General of the International Atomic Energy Agency, who is hereby designated as the depositary of this Protocol

Article VII

1. This Protocol shall come into force three months after the date of deposit of instruments of ratification, acceptance, approval or accession by at least 5 States Party to the Vienna Convention and 5 States Party to the Paris Convention. For each State ratifying, accepting, approving or acceding to this Protocol after the deposit of the above-mentioned instruments, this Protocol shall enter into force three months after the date of deposit of the instrument of ratification, acceptance, approval or accession

2 This Protocol shall remain in force as long as both the Vienna Convention and the Paris Convention are in force

Article VIII

1. Any Contracting Party may denounce this Protocol by written notification to the depositary.
2. Denunciation shall take effect one year after the date on which the notification is received by the depositary

Article IX

1. Any Contracting Party which ceases to be a Party to either the Vienna Convention or the Paris Convention shall notify the depositary of the termination of the application of that Convention with respect to it and of the date such termination takes effect
- 2 This Protocol shall cease to apply to a Contracting Party which has terminated application of either the Vienna Convention or the Paris Convention on the date such termination takes effect

Article X

The depositary shall promptly notify Contracting Parties and [States invited to the Conference on] as well as the Secretary General of the Organisation for Economic Co-operation and Development of

- (a) each signature of this Protocol,
- (b) each deposit of an instrument of ratification, acceptance, approval or accession concerning this Protocol;
- (c) the entry into force of this Protocol;
- (d) any denunciation, and
- (e) any information received pursuant to Article XI

Article XI

The original of this Protocol, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the depositary, who shall send certified copies to Contracting Parties and [States invited to the Conference on] as well as the Secretary General of the Organisation for Economic Co-operation and Development

• *Australia*

**AUSTRALIAN NUCLEAR SCIENCE AND TECHNOLOGY
ORGANISATION ACT 1987**

No. 3 of 1987

Entered into force on 26th April 1987

PART I - PRELIMINARY

Short title

1 This Act may be cited as the Australian Nuclear Science and Technology Organisation Act 1987

Commencement

2. This Act shall come into operation on a day to be fixed by Proclamation

Interpretation

3. (1) In this Act, unless the contrary intention appears
"appoint" includes re-appoint,
"appointed member" means a member of the Board other than the Executive Director;
"Board" means the Board of Directors of the organisation,
"Chairperson" means Chairperson of the Board;
"commencing day" means the day of commencement of this Act,
"Deputy Chairperson" means Deputy Chairperson of the Board,
"employee" means an employee referred to in sub-section 24(1),
"Executive Director" means the Executive Director of the Organisation,
"member of the staff of the Organisation" means
 (a) the Executive Director, or
 (b) an officer or employee,
"non-staff member" means a member of the Board who is not a member of the staff of the Organisation;
"officer" means an officer referred to in sub-section 24(1),
"Organisation" means the Australian Nuclear Science and Technology Organisation constituted under this Act;
"securities" includes stocks, debentures, debenture stocks, notes, bonds, promissory notes, bills of exchange and similar instruments or documents,
"share", in relation to a company, means a share in the capital of the company and includes stock.

(2) The question whether a company is a subsidiary of the Organisation shall be determined in the same manner as the question whether a corporation is a subsidiary of another corporation is determined for the purposes of the Companies Act 1981

(3) A reference in this Act to dealing with securities includes a reference to

- (a) creating, executing, entering into, drawing, making, accepting, indorsing, issuing, discounting, selling, purchasing or reselling securities,
- (b) creating, selling, purchasing or reselling rights or options in respect of securities, and
- (c) entering into agreements or other arrangements relating to securities

PART II - AUSTRALIAN NUCLEAR SCIENCE AND TECHNOLOGY ORGANISATION

Establishment of Organisation

4 (1) The body corporate that was, immediately before the commencing day in existence by virtue of section 8 of the Atomic Energy Act 1953 under the name Australian Atomic Energy Commission continues in existence by force of this sub-section as a body corporate, under and subject to the provisions of this Act, under the name Australian Nuclear Science and Technology Organisation.

(2) The Organisation

- (a) shall have a seal, and
- (b) may sue and be sued

(3) All courts, judges and persons acting judicially shall take judicial notice of the imprint of the seal of the Organisation appearing on a document and shall presume that the document was duly sealed

Functions of Organisation

5. (1) The functions of the Organisation are

- (a) to undertake research and development in relation to
 - (i) nuclear science and nuclear technology,
 - (ii) the production and use of radioisotopes, and the use of isotopic techniques and nuclear radiation, for medicine, science, industry, commerce and agriculture, and

- (iii) such other matters as the Minister directs,
- (b) to encourage and facilitate the application and utilisation of the results of such research and development;
- (c) to provide and sell goods (whether produced by the Organisation or purchased or otherwise acquired by the Organisation) and services
 - (i) in connection with the production and use of radioisotopes, and the use of isotopic techniques and nuclear radiation, for medicine, science, industry, commerce and agriculture, or
 - (ii) otherwise in connection with matters related to its activities,
- (d) to act as a means of liaison between Australia and other countries in matters related to its activities;
- (e) to provide advice on aspects of nuclear science and nuclear technology and other matters related to its activities,
- (f) to co-operate with appropriate authorities of the Commonwealth, the States and the Territories, and with other organisations and institutions in Australia or elsewhere, in matters related to its activities;
- (g) to publish scientific and technical reports, periodicals and papers on matters related to its activities,
- (h) to collect and sell or distribute, as appropriate, information and advice on matters related to its activities,
- (j) to arrange for the training of scientific and research workers, and the establishment and award of scientific research studentships and fellowships, in matters related to its activities,
- (k) to make grants in aid of research into matters related to its activities, and
- (m) to make arrangements with universities and other educational research institutions, professional bodies and other persons for the conduct of research or of other activities in matters related to its activities

(2) The Organisation shall not undertake research or development into the design or production of nuclear weapons or other nuclear explosive devices

(3) In undertaking its functions the Organisation shall have regard to the national science and energy policy objectives of the Commonwealth Government

N B Sub-paragraphs (i) and (l) do not exist in the Act - Same for Article 6

(4) The Minister shall not give a direction under sub-paragraph (1)(a)(iii) to the Organisation to undertake research or development in relation to a matter unless the Minister is satisfied that research or development by the Organisation in relation to that matter would be an effective use of the staff of the Organisation, and would not duplicate unnecessarily any activity being carried on, or proposed to be carried on, by any other agency or authority of the Commonwealth

(5) The Organisation may perform its functions to the extent only that they are not in excess of the functions that may be conferred on it by virtue of any of the legislative powers of the Parliament, and, in particular, may perform its functions

- (a) in so far as it is appropriate for those functions to be performed by the Organisation on behalf of the Government of the Commonwealth as the national Government of Australia,
- (b) for purposes for which it is appropriate for the Parliament as the national Parliament of Australia to authorise the Organisation to perform functions,
- (c) by way of expenditure of money that is available for the purposes of the Organisation in accordance with an appropriation made by the Parliament,
- (d) in the course of, or in relation to, trade and commerce with other countries, among the States, between Territories or between a Territory and a State,
- (e) for purposes related to external affairs, and
- (f) for purposes in or in relation to a Territory

General powers of Organisation

6 (1) Subject to this Act, the Organisation has power to do all things necessary or convenient to be done for or in connection with the performance of its functions and, in particular, has power:

- (a) to enter into contracts;
- (b) to acquire, hold and dispose of real or personal property,
- (c) to occupy, use and control any land or building owned or held under lease by the Commonwealth and made available for the purposes of the Organisation,
- (d) to erect buildings and structures and carry out works,
- (e) to form, or participate in the formation of, a company or partnership,
- (f) to appoint agents and attorneys, and to act as an agent for other persons;

- (g) to engage persons to perform services for the Organisation,
- (h) to design, produce, construct and operate equipment and facilities, and
- (j) to do anything incidental to any of its powers

Australia (2) The powers of the Organisation may be exercised within or outside

Limitations on formation of companies, &c.

7 (1) The Organisation shall not, without the written approval of the Minister

- (a) subscribe for, or purchase shares in, or debentures or other securities of, a company, or
- (b) form, or participate in the formation of, a company that would, upon its formation, be a subsidiary of the Organisation

(2) An approval under sub-section (1)-

- (a) may be of general application or may relate to a particular company or proposed company, and
- (b) may be given subject to conditions or restrictions set out in the instrument of approval

(3) Subject to sub-section (4), where the Organisation subscribes for or purchases shares in, or debentures or other securities of, a company, the Minister shall:

- (a) cause to be prepared a statement setting out particulars of, and the reasons for, the subscription or purchase, and
- (b) cause a copy of the statement to be laid before each House of the Parliament within fifteen sitting days of that House after
 - (i) subject to sub-paragraph (ii), the subscription or purchase took place; or
 - (ii) if the Minister is of the opinion that the disclosure of the subscription or purchase would affect adversely the commercial interests of the Organisation, the Minister ceases to be of that opinion

(4) Where the Organisation holds a controlling interest in a company, the Organisation shall ensure that the company does not do any act or thing that the Organisation is not itself empowered to do

PART III - THE BOARD

Establishment of Board

8. There is established by this section a Board of Directors of the Organisation, which shall be constituted as provided by section 9

Composition of Board

9. (1) the Board shall consist of the Executive Director and not fewer than two nor more than six other members

(2) The members other than the Executive Director shall be appointed by the Governor-General.

(3) The appointed members may be appointed either as full-time members or as part-time members

(4) A person who has attained the age of sixty-five years shall not be appointed as a full-time member and a member shall not be appointed as a full-time member for a period that extends beyond the day on which the person will attain the age of sixty-five years

(5) The Governor-General shall appoint one of the members to be the Chairperson of the Board and another of the members to be the Deputy Chairperson of the Board.

(6) The Chairperson may be referred to as the Chairman or the Chairwoman, and the Deputy Chairperson may be referred to as the Deputy Chairman or the Deputy Chairwoman, as the case requires

(7) A member of the staff of the Organisation other than the Executive Director shall not be appointed as a member of the Board if:

(a) the number of non-staff members does not constitute a majority of the members of the Board, or

(b) as a result of the appointment, the number of non-staff members would not constitute such a majority.

(8) An appointed member holds office for such period, not exceeding five years, as is specified in the instrument of appointment of the member but he or she is eligible for re-appointment

(9) The member who is the Chairperson or the Deputy Chairperson ceases to be the Chairperson or Deputy Chairperson, as the case may be, if he or she ceases to be a member

(10) The Minister may appoint a person to be a deputy of a specified member other than the Chairperson, the Deputy Chairperson or the Executive Director.

(11) If a member other than the Chairperson, the Deputy Chairperson or the Executive Director is absent from a meeting of the Board, the deputy of that member may attend the meeting in place of that member and, when so attending, shall be deemed to be a member.

(12) The performance of the functions, or the exercise of the powers, of the Board is not affected because of a vacancy in the office of Executive Director or because there is only one appointed member for a period of not more than three months

Functions of Board

10. (1) The functions of the Board are to ensure the proper and efficient performance of the functions of the Organisation and, subject to section 11, to determine the policy of the Organisation with respect to any matter

(2) In performing its functions, the Board shall have regard to the current policies of the Commonwealth Government in relation to matters within the functions of the Organisation.

Directions to Board

11. (1) Where the Minister is satisfied that it is desirable in the public interest to do so, the Minister may, by notice in writing to the Chairperson, give directions to the Board with respect to the performance of the functions, or the exercise of the powers, of the Organisation

(2) The Board shall ensure that any directions given to it by the Minister under sub-section (1) are complied with

Remuneration and allowances

12. (1) The non-staff members shall be paid

(a) such remuneration as is determined by the Remuneration Tribunal, and

(b) such allowances as are prescribed.

(2) The deputy of a member of the Board shall be paid, in respect of the deputy's attendance at a meeting of the Board

(a) such fee as is determined by the Remuneration Tribunal, and

(b) such allowance as is prescribed.

(3) This section has effect subject to the Remuneration Tribunals Act 1973.

Resignation

13 An appointed member may resign from office by writing signed by the member and delivered to the Governor-General

Termination of appointment

14. (1) The Governor-General may terminate the appointment of an appointed member for misbehaviour or physical or mental incapacity

(2) If an appointed member·

(a) becomes bankrupt, applies to take the benefit of any law for the relief of bankrupt or insolvent debtors, compounds with creditors or makes an assignment of remuneration for their benefit,

(b) is absent·

(i) in the case of the Chairperson, except on leave of absence granted by the Minister, or

(ii) in any other case, except on leave of absence granted by the Chairperson,

from three consecutive meetings of the Board, or

(c) fails, without reasonable excuse, to comply with his or her obligations under section 15,

the Governor-General shall terminate the appointment of the member

Disclosure of interests

15. (1) A member who has a direct or indirect pecuniary interest in a matter being considered or about to be considered by the Board shall, as soon as possible after the relevant facts have come to the member's knowledge, disclose the nature of the interest at a meeting of the Board.

(2) A disclosure under sub-section (1) shall be recorded in the minutes of the meeting of the Board and the member, unless the Minister or the Board otherwise determines, shall not

(a) be present during any deliberation of the Board with respect to that matter, or

(b) take part in any decision of the Board with respect to that matter

(3) For the purpose of the making of a determination by the Board under sub-section (2) in relation to a member who has made a disclosure under sub-section (1), a member who has a direct or indirect pecuniary interest in the matter to which the disclosure relates shall not:

- (a) be present during any deliberation of the Board for the purpose of making the determination, or
- (b) take part in the making by the Board of the determination

Meetings of Board

16. (1) The Chairperson

- (a) shall convene such meetings of the Board as the Chairperson considers necessary for the efficient performance of the functions of the Board; and
- (b) shall convene a meeting of the Board on receipt of a written request signed by not fewer than two other members

(2) The Minister may convene such meetings of the Board as the Minister considers necessary

(3) The Chairperson shall preside at all meetings of the Board at which he or she is present

(4) Where the Chairperson is not present at a meeting of the Board

- (a) the Deputy Chairperson shall preside at the meeting, or
- (b) if the Deputy Chairperson is not present at the meeting the members present shall appoint one of their number to preside at the meeting

(5) Subject to sub-section (6) and to sub-section 18(3), at a meeting of the Board, a quorum is constituted if

- (a) the number of members present constitute a majority of the members for the time being holding office, and
- (b) a majority of the members present are non-staff members

(6) Where, by reason of sub-section 15(2), a member is not present at a meeting of the Board during a deliberation of the Board with respect to a matter but

- (a) there would be a quorum if that member were present, and
- (b) a majority of the remaining members are non-staff members,

the remaining members present constitute a quorum for the purpose of any deliberation or decision of the Board at that meeting with respect to that matter

(7) Questions arising at a meeting of the Board shall be determined by a majority of the votes of the members present and voting

(8) The person presiding at a meeting of the Board has a deliberative vote and, in the event of an equality of votes, also has a casting vote

Acting appointments

17 (1) At any time when there is a vacancy in the office of Chairperson (whether or not an appointment has previously been made to the office) or the Chairperson is absent from duty or from Australia or is, for any other reason, unable to perform the functions of Chairperson, the Deputy Chairperson or a person acting as Deputy Chairperson under sub-section (2) shall act as Chairperson.

(2) The Minister may appoint a member to act as Deputy Chairperson

(a) during a vacancy in the office of Deputy Chairperson (whether or not an appointment has previously been made to the office), or

(b) during any period, or during all periods, when the Deputy Chairperson is absent from duty or from Australia or is, for any other reason (including the reason that the Deputy Chairperson is acting as Chairperson) unable to perform the duties of the office of Deputy Chairperson,

but a person appointed to act during a vacancy shall not continue so to act for more than twelve months

(3) While a person is acting in an office under this section, the person may exercise all the powers, and shall perform all the functions, of the holder of the office

(4) An appointment of a person under this section may be expressed to have effect only in such circumstances as are specified in the instrument of appointment.

(5) The Minister may

(a) determine the terms and conditions, including remuneration and allowances, if any, on which a person is to act under this section; and

(b) terminate an appointment under this section at any time.

(6) Where a person is acting in the office of Deputy Chairperson under paragraph (2)(b) and the office becomes vacant while the person is so acting, then, subject to sub-section (4), the person may continue so to act until the Minister otherwise directs, the vacancy is filled, or a period of twelve months from the date on which the vacancy occurred expires, whichever first occurs

(7) The appointment of a person under this section ceases to have effect if the person resigns the appointment by writing signed by the person and delivered to the Minister

(8) The validity of anything done by or in relation to a person purporting to act in an office under this section shall not be called in question on the ground that

- (a) in the case of a person purporting to act under sub-section (1) - the occasion for the person to act had not arisen or had ceased; or
- (b) in the case of a person purporting to act pursuant to an appointment under sub-section (2) - the occasion for the appointment had not arisen, there was a defect or irregularity in or in connection with the appointment, the appointment had ceased to have effect or the occasion for the person to act had not arisen or had ceased.

PART IV - EXECUTIVE DIRECTOR

Executive Director

18 (1) There shall be an Executive Director of the Organisation, who shall be appointed by the Board

(2) A person who has attained the age of sixty-five years shall not be appointed as Executive Director and a person shall not be appointed as Executive Director for a period that extends beyond the day on which the person will attain the age of sixty-five years.

(3) A member of the staff of the Organisation shall not

- (a) be present during a deliberation of the Board with respect to the appointment of the Executive Director, or
- (b) take part in the making of a decision with respect to such an appointment,

and a quorum for the purposes of such a deliberation or decision is a majority of the non-staff members for the time being holding office

Duties of Executive Director

19. (1) The Executive Director shall manage the affairs of the Organisation subject to the directions of, and in accordance with policies determined by, the Board

(2) All acts and things done in the name of, or on behalf of, the Organisation by the Executive Director shall be deemed to have been done by the Organisation

Tenure of Executive Director

20 (1) The Executive Director shall hold office for such period, not exceeding five years, as is specified in the instrument of his or her appointment, but is eligible for re-appointment

(2) The Executive Director holds office, subject to this Part, on such terms and conditions as are determined by the Board

Remuneration and allowances

21. (1) The Executive Director shall be paid such remuneration as is determined by the Remuneration Tribunal

(2) Subject to the Remuneration Tribunals Act 1973, the Executive Director shall be paid such allowances as are determined by the Board

Disclosure of interests

22 The Executive Director shall give written notice to the Minister of all direct or indirect pecuniary interests that the Executive Director has or acquires in any business.

Acting Executive Director

23. (1) The Board may appoint a person to act as Executive Director:

- (a) during a vacancy in the office of Executive Director, whether or not an appointment has previously been made to the office, or
- (b) during any period, or during all periods, when the Executive Director is absent from duty or from Australia or is, for any other reason, unable to perform the functions of the office.

but a person appointed to act during a vacancy shall not continue so to act for more than twelve months

(2) An appointment of a person under sub-section (1) may be expressed to have effect only in such circumstances as are specified in the instrument of appointment

(3) The Board may

- (a) determine the terms and conditions of appointment, excluding remuneration and allowances, of a person acting as Executive Director, and
- (b) terminate such an appointment at any time

(4) An officer who is acting as Executive Director shall continue to be paid the remuneration and allowances payable to the offer as such an officer but shall also be paid

- (a) so much of any remuneration payable to the Executive Director as exceeds the remuneration that so continues to be paid to the officer,
- (b) so much of any allowance payable to the Executive Director as exceeds the corresponding allowance that so continues to be paid to the officer, and
- (c) if an allowance is payable to the Executive Director in respect of which there is no corresponding allowance payable to the officer - that allowance

(5) Where a person is acting as Executive Director in accordance with paragraph (1)(b) and the office of Executive Director becomes vacant while that person is so acting, then, subject to sub-section (2), that person may continue so to act until the Board otherwise directs, the vacancy is filled or a period of twelve months from the date on which the vacancy occurred expires, whichever first happens

(6) The appointment of a person to act as Executive Director ceases to have effect if the person resigns the appointment by writing signed by the person and delivered to the Chairperson

(7) While a person is acting as Executive Director, the person may exercise all the powers, and shall perform all the functions and duties, of the Executive Director under this Act

(8) The validity of anything done by or in relation to a person purporting to act under sub-section (1) shall not be called in question on the ground that the occasion for the appointment had not arisen, that there was a defect or irregularity in or in connection with the appointment, that the appointment had ceased to have effect or that the occasion for the person to act had not arisen or had ceased

PART V - THE STAFF OF THE ORGANISATION

Staff of Organisation

24. (1) The Executive Director may appoint such officers and engage such employees as the Board thinks necessary for the purposes of this Act

(2) The Executive Director may arrange with the Secretary of any Department of the Australian Public Service, or with a body established by an Act, for the services of officers or employees of that Department or of that body to be made available to the Organisation

(3) The terms and conditions of service or employment of persons appointed or engaged under sub-section (1) are such as are determined by the Board with the approval of the Public Service Board

PART VI - SAFETY REVIEW

Establishment and functions of Nuclear Safety Bureau

25 (1) The Board shall appoint such members of the staff of the Organisation as the Board determines to constitute a Nuclear Safety Bureau

(2) The Nuclear Safety Bureau is responsible to the Minister for monitoring and reviewing the safety of any nuclear plant operated by the Organisation

(3) The Nuclear Safety Bureau is responsible to the Board for the performance of such other functions (if any) as are assigned to the Bureau by the Board

(4) In this section

"nuclear plant" means a nuclear reactor or assembly of fissionable material in respect of which criticality is contemplated or possible,

"nuclear reactor" means a facility or device, including any plant associated with such a facility or device, in which a controlled nuclear chain reaction can be maintained without an additional source of neutrons

Safety Review Committee

26. (1) The Minister shall establish a Committee under the name Safety Review Committee

(2) The functions of the Committee are

(a) from time to time as the Committee considers appropriate, to review and assess the effectiveness of the standards, practices and procedures adopted by the Organisation to ensure the safety of its operations,

(b) either on its own initiative or at the request of the Minister or of the Board, to investigate any matter arising out of the operations of the Organisation that may have adverse consequences or implications in relation to the safety of those operations,

(c) either on its own initiative or at the request of the Minister, to furnish advice to the Minister on matters referred to in paragraphs (a) and (b), and

(d) either on its own initiative or at the request of the Board, to furnish advice to the Board on matters referred to in paragraphs (a) and (b)

(3) A reference in this section to the safety of the operations of the Organisation is a reference to the safety of the members of the staff of the Organisation and of the public in relation to those operations

(4) The Committee shall, as soon as possible after 30th June in each year, prepare and submit to the Minister and to the Board a report of its operations during the year that ended on that date.

(5) The Committee may submit to the Minister and to the Board such other reports relating to the operations of the Committee as the Committee considers appropriate

(6) The Minister shall cause a copy of each report received by the Minister under sub section (4) to be laid before each House of the Parliament within fifteen sitting days of that House after the report is received by the Minister.

(7) The Minister may cause a copy of a report received by the Minister under sub section (5) to be laid before each House of the Parliament if the Minister considers that the report is of sufficient importance to justify the report being brought to the attention of the Parliament

(8) For the purpose of the performance of its functions, the Committee may obtain advice or assistance from any member of the staff of the Organisation

(9) The Committee shall consist of such persons (not being fewer than two, nor more than six, in number) as the Minister from time to time appoints

(10) In making appointments to the Committee the Minister shall ensure that a majority of the members of the Committee are persons who are not members of the staff of the Organisation

(11) The Minister shall appoint one of the members of the Committee to be the Chairperson of the Committee and another of the members of the Committee to be the Deputy Chairperson of the Committee

(12) The Chairperson of the Committee may be referred to as the Chairman of the Committee or the Chairwoman of the Committee, and the Deputy Chairperson of the Committee may be referred to as the Deputy Chairman of the Committee or the Deputy Chairwoman of the Committee, as the case requires

(13) A member of the Committee may resign from office by writing signed by the member and delivered to the Chairperson of the Board

(14) At a meeting of the Committee

(a) if the Chairperson of the Committee is present - he or she shall preside;

- (b) if the Chairperson of the Committee is not present but the Deputy Chairperson of the Committee is present - he or she shall preside, or
- (c) in any other case - the members of the Committee present shall elect one of their number to preside

(15) Subject to sub-section (14), the Minister may determine the procedure to be followed at or in relation to meetings of the Committee, including matters with respect to

- (a) the convening of meetings of the Committee,
- (b) the number of members of the Committee who are to constitute a quorum, and
- (c) the manner in which questions arising at a meeting of the Committee are to be decided,

and the Minister shall cause the Committee to be notified in writing of any determination under this sub-section

(16) If the Minister decides that the members of the Committee should be remunerated, those members shall be paid such remuneration as is determined by the Remuneration Tribunal

(17) Members of the Committee shall be paid such allowances as are prescribed

(18) Sub-section (16) and (17) have effect subject to the Remuneration Tribunal's Act 1973

PART VII - FINANCE

Money of Organisation

27 (1) There is payable to the Organisation such money as is appropriated by the Parliament for the purposes of the Organisation

(2) The Minister for Finance may give directions as to the amounts in which, and the times at which, money referred to in sub-section (1) is to be paid to the Organisation

- (3) The money of the Organisation shall be applied only
 - (a) in payment or discharge of the expenses, charges, obligations and liabilities incurred or undertaken by the Organisation in the performance of its functions and the exercise of its powers,
 - (b) in payment of remuneration and allowances payable under this Act, and

(c) in making any other payments required or permitted to be made by the Organisation.

(4) Money of the Organisation not immediately required for the purposes of the Organisation may be invested

(a) on deposit with the Reserve Bank of Australia or any other bank approved by the Treasurer,

(b) in securities of the Commonwealth, or

(c) in any other manner approved by the Treasurer.

Estimates

28 (1) The Board shall prepare estimates, in such form as the Minister directs, of the receipts and expenditure of the Organisation for each financial year and, if the Minister so directs, for any other period specified by the Minister, and the Board shall submit estimates so prepared to the Minister not later than such date as the Minister directs

(2) The money of the Organisation shall not be expended otherwise than in accordance with estimates of expenditure approved by the Minister

Application to Organisation of Division 3 of Part XI of Audit Act

29 (1) It is hereby declared that the Organisation is a public authority to which Division 3 of Part XI of the Audit Act 1901 applies

(2) For the purposes of the application in relation to the Organisation of Division 3 of Part XI of the Audit Act 1901 by virtue of sub-section (1), a reference in that Division to the appropriate Minister shall be read as a reference to the Minister administering this Act

(3) The Organisation shall, in each report prepared pursuant to section 63M of the Audit Act 1901 [as that section applies in relation to the Organisation by virtue of sub-section (1)] include particulars of each direction given by the Minister to the Board under section 11 that is applicable in relation to the financial year to which the report relates

Exemption from taxation

30. (1) The Organisation is not subject to taxation under any law of the Commonwealth, of a State or of a Territory.

(2) Stamp duty or any similar tax is not payable under a law of the Commonwealth, of a State or of a Territory in respect of

(a) a security issued by the Organisation,

- (b) the issue, redemption, transfer, sale or purchase of such a security, not including a transaction entered into without consideration or for an inadequate consideration, or
- (c) a document executed by or on behalf of the Organisation, or any transaction, in relation to the borrowing of money by the Organisation

Contracts

31. The Organisation shall not, except with the approval of the Minister, enter into a contract involving the payment or receipt by the Organisation of an amount exceeding \$200 000

Borrowing from the Commonwealth

32. The Minister for Finance may, on behalf of the Commonwealth, out of money appropriated by the Parliament for the purpose, lend money to the Organisation at such rates of interest and on such other terms and conditions as that Minister determines in writing

Borrowing otherwise than from the Commonwealth

33 (1) The Organisation may, with the approval of the Treasurer, borrow money otherwise than from the Commonwealth on terms and conditions that are specified in, or are consistent with, the approval

(2) Approvals for the purposes of sub-section (1) may be in respect of particular borrowings or in respect of borrowings included within a specified class, or specified classes, of borrowings

(3) The Treasurer may, on behalf of the Commonwealth, guarantee the repayment by the Organisation of amounts borrowed under this section and the payment of interest on amounts so borrowed

(4) An approval under sub-section (1) shall be given in writing.

Dealings with securities

34. (1) The Organisation may, with the approval of the Treasurer but not otherwise, deal with securities.

(2) Where the Organisation borrows or otherwise raises money by dealing with securities, the Treasurer may determine that the repayment by the Organisation of the amounts borrowed or raised, and the payment by the Organisation of interest (if any) on those amounts, are, by force of this sub-section, guaranteed by the Commonwealth

(3) The power of the Treasurer to make a determination for the purposes of sub-section (2) extends to the making of a determination in respect of

- (a) securities included in a specified class, or specified classes, of securities, and
 - (b) transactions included in a specified class, or specified classes, of transactions
- (4) An approval under sub-section (1) shall be given in writing

Organisation may give security

35. The Organisation may give security over the whole or any part of its assets

- (a) for the repayment of money borrowed under section 33 and the payment of any money that the Organisation is otherwise liable to pay in respect of those borrowings, and
- (b) for the payment of any money that the Organisation is liable to pay in respect of dealings with securities under section 34,

including, but without limiting the generality of the foregoing, security for the payment of interest (if any) on money borrowed or otherwise raised by the Organisation

Borrowings not otherwise permitted

36 The Organisation shall not borrow, or otherwise raise, money except in accordance with sections 32, 33 and 34

Commercial revenue

37. (1) In this section, a reference to the commercial revenue received by the Organisation shall be construed as a reference to amounts of a revenue nature received by the Organisation in the course of the performance of its functions

(2) Subject to sub-section (3), any commercial revenue received by the Organisation shall be paid into the Consolidated Revenue Fund

(3) If the Minister and the Minister for Finance approve, the Organisation may retain the whole or a part of the commercial revenue received

PART VIII - MISCELLANEOUS

Gifts, grants, &c

38. Subject to the approval of the Minister, the Organisation may accept gifts, grants, bequests and devises made to the Organisation (whether on trust or otherwise) and may act as trustee of money or other property vested in the Organisation on trust

Trust money

39 (1) The Organisation shall ensure that any money received or held by the Organisation on trust is paid into an account opened and maintained pursuant to section 63J of the Audit Act 1901 (as that section applies in relation to the Organisation by virtue of section 29 of this Act) that does not, or accounts referred to in that section that do not, contain any money of the Organisation not held on trust

(2) Notwithstanding sections 27, 28 and 29

(a) money or other property held by the Organisation on trust shall be applied or dealt with only in accordance with the powers and duties of the Organisation as trustee, and

(b) money held by the Organisation on trust may be invested·

1) in any manner in which the Organisation is authorised to invest that money by the terms of the trust, or

ii) in any manner in which trust money may, for the time being, be invested under law,

but not otherwise.

(3) Section 63K of the Audit Act 1901 (as that section applies in relation to the Organisation by virtue of section 29 of this Act) has effect as if·

(a) the reference in that section to the transactions and affairs of the Organisation included a reference to transactions and affairs relating to money or property received or held by the Organisation on trust, and

(b) the reference in that section to payments out of the money of the Organisation included a reference to payments out of money held by the Organisation on trust

(4) Section 63L of the Audit Act 1901 (as that section applies in relation to the Organisation by virtue of section 29 of this Act) has effect as if·

- (a) the reference in sub-section 63L(1) to financial transactions of the Organisation included a reference to transactions relating to money received or held by the Organisation on trust,
- (b) the reference in sub-section 63L(4) to the receipt of payment of money the Organisation included a reference to the receipt or payment by the Organisation of money received or held by the Organisation on trust; and
- (c) the reference in sub-section 63L(4) to the acquisition, receipt, custody or disposal of assets by the Organisation included a reference to the acquisition, receipt, custody or disposal by the Organisation of assets received or held by the Organisation on trust.

(5) Estimates referred to in sub-section 28(1) shall not include estimates of receipts by the Organisation of money to be held on trust or of expenditure by the Organisation of money held on trust

Advisory Council

40 (1) The Minister shall establish an Advisory Council under the name Australian Nuclear Science and Technology Advisory Council

(2) The functions of the Advisory Council are

- (a) either on its own initiative or at the request of the Minister, to furnish advice to the Minister on matters relating to, or to the performance of, the functions of the Organisation, or
- (b) either on its own initiative or at the request of the Board, to furnish advice to the Board on matters relating to, or to the performance of, the functions of the Organisation

(3) The Advisory Council shall consist of such persons (not exceeding eleven in number and including at least one member of the staff of the Organisation elected by the members of the staff of the Organisation in such manner as the Minister approves) as the Minister from time to time appoints

(4) In making appointments to the Advisory Council, the Minister shall ensure that a majority of the members of the Advisory Council are persons who are not members of the staff of the Organisation

(5) A member of the Advisory Council holds office for such period, not exceeding five years, as is specified in the instrument of appointment of the member, but is eligible for re-appointment.

(6) The Minister shall appoint one of the members of the Advisory Council to be the Chairperson of the Advisory Council and another of the members of the Advisory Council to be the Deputy Chairperson of the Advisory Council

(7) The Chairperson of the Advisory Council may be referred to as the Chairman of the Advisory Council or the Chairwoman of the Advisory Council, and the Deputy Chairperson of the Advisory Council may be referred to as the Deputy Chairman of the Advisory Council or the Deputy Chairwoman of the Advisory Council, as the case requires

(8) A member of the Advisory Council may resign from office by writing signed by the member and delivered to the Chairperson of the Board.

(9) At a meeting of the Advisory Council

(a) if the Chairperson of the Advisory Council is present - he or she shall preside,

(b) if the Chairperson of the Advisory Council is not present but the Deputy Chairperson of the Advisory Council is present - he or she shall preside, or

(c) in any other case - the members of the Advisory Council present shall elect one of their number to preside

(10) Subject to sub-section (9), the Minister may determine the procedure to be followed at or in relation to meetings of the Advisory Council, including matters with respect to-

(a) the convening of meetings of the Advisory Council;

(b) the number of members of the Advisory Council who are to constitute a quorum, and

(c) the manner in which questions arising at a meeting of the Advisory Council are to be decided,

and the Minister shall cause the Advisory Council to be notified in writing of any determination under this sub-section.

(11) If the Minister decides that the members of the Advisory Council should be remunerated, those members shall be paid such remuneration as is determined by the Remuneration Tribunal

(12) Members of the Advisory Council shall be paid such allowances as are prescribed

(13) Sub-sections (11) and (12) have effect subject to the Remuneration Tribunals Act 1973

Advisory committees

41 (1) Subject to this section, the Minister may establish such advisory committees as the Minister considers necessary for the purpose of giving advice to the Board on particular matters or classes of matters relating to the functions of the Organisation

(2) An advisory committee shall consist of such persons as the Minister from time to time appoints.

(3) A member of an advisory committee holds office for such period as is specified in the instrument of appointment of the member, but is eligible for re-appointment

(4) A member of an advisory committee may resign from office by writing signed by the member and delivered to the Chairperson of the Board

(5) The number of members of an advisory committee required to constitute a quorum at a meeting of that advisory committee shall be as determined by the Board

(6) If the Minister decides that a member of an advisory committee should be remunerated, that member shall be paid such remuneration as is determined by the Remuneration Tribunal.

(7) A member of an advisory committee shall be paid such allowances as are prescribed

(8) Sub-sections (6) and (7) have effect subject to the Remuneration Tribunal's Act 1973

Delegation by Minister

42. (1) The Minister may, either generally or as otherwise provided by the instrument of delegation, by writing signed by the Minister, delegate to a person all or any of the Minister's powers under this Act, other than

(a) this power of delegation, and

(b) the Minister's powers under sub-paragraph 5(1)(a)(iii), sub-section 9(10), sections 11 and 17, sub-sections 26(1), (2), (9), (11), (15) and (16) and sections 28, 31, 40 and 46

(2) A power so delegated, when exercised by the delegate, shall, for the purposes of this Act, be deemed to have been exercised by the Minister

(3) A delegate is, in the exercise of a power so delegated, subject to the directions of the Minister

(4) A delegation under this section does not prevent the exercise of a power by the Minister.

Delegation by Treasurer

43. (1) The Treasurer may, either generally or as otherwise provided by the instrument of delegation, by writing signed by the Treasurer, delegate to a person holding or performing the duties of an office in the Department of the Treasury all or any of the Treasurer's powers under sections 33 and 34

(2) A power so delegated, when exercised by the delegate, shall, for the purposes of this Act, be deemed to have been exercised by the Treasurer

(3) A delegate is, in the exercise of a power so delegated, subject to the directions of the Treasurer

(4) A delegation under this section does not prevent the exercise of a power by the Treasurer

Delegation by Board

44. (1) The Board may, by resolution, delegate to a member of the Board or to an officer or employee, either generally or as otherwise provided by the resolution, all or any of the powers of the Board under this Act other than this power of delegation.

(2) A power so delegated, when exercised by the delegate, shall, for the purposes of this Act, be deemed to have been exercised by the Board.

(3) A delegate is, in the exercise of a power so delegated, subject to the directions of the Board

(4) A delegation under this section does not prevent the exercise of a power by the Board

Delegation by Executive Director

45. (1) The Executive Director, may, either generally or as otherwise provided by the instrument of delegation, by writing signed by the Executive Director, delegate to an officer or employee all or any of the powers of the Executive Director under this Act other than this power of delegation

(2) A power so delegated, when exercised by the delegate, shall, for the purposes of this Act, be deemed to have been exercised by the Executive Director

(3) A delegate is, in the exercise of a powers so delegated, subject to te directions of the Executive Director

(4) A delegation under this section does not prevent the exercise of a power by the Executive Director.

Joint Consultative Committee

46 (1) There is hereby established a Joint Consultative Committee comprising

(a) representatives of the Organisation, and

(b) either or both of the following:

(i) representatives of organisations of officers and full-time employees of the Organisation,

(ii) representatives of officers and full-time employees of the Organisation

(2) The manner in which the Joint Consultative Committee is to be constituted, the functions of that Committee and the manner in which that Committee is to carry out its functions shall be as determined by the Minister

Regulations

47. The Governor-General may make regulations, not inconsistent with this Act, prescribing matters:

(a) required or permitted by this Act to be prescribed by regulations, or

(b) necessary or convenient to be prescribed by regulations for carrying out or giving effect to this Act

STUDIES AND ARTICLES

ARTICLES

RADIOLOGICAL INJURY CLAIMS INCREASING, DECREASING OR NO CHANGE?*

Gerald Charnoff, Deborah Bauser, Maurice Ross, Attorneys

In recent years, there have been a number of significant developments in the field of radiological injury claims. I would like to review these events with you. I will focus on the circumstances that suggest that the trend will be a steady increase in radiological injury cases. I will also present the reasons why I believe the increase in such claims will be limited.

Prior to the accident at Three Mile Island (TMI), there were few radiation cases. Over more than a twenty-year period, from its inception in 1957 until 1978, the American Nuclear Insurers (ANI) received forty-two personal injury claims. In contrast, in 1979, the year of the TMI-2 incident, there were thirty claims. Twenty-nine of those claims were unrelated to TMI. After the accident at TMI, ANI received a new claim almost every two weeks. That figure is now down to about one claim a month. In addition to claims lodged against the nuclear power industry, companies in the uranium mining business, hospitals using nuclear medicine, and the United States Government have been named as defendants in radiation-induced injury suits.

Several factors have substantially contributed to the increase in the number of radiation injury claims. First, the accident at TMI-2 prompted public interest in the potential danger of radiation. More recently, the catastrophic accident at Chernobyl shocked the public. Second, the few radiation cases that have gone to trial have received a great deal of publicity, much of which has tended to dramatise the questions at issue and facilitate the proclivities of our litigious society. The trial in Utah about the health effects of fallout from the United States nuclear weapons test programme, Allen v US,

* This article is based on a paper presented by Gerald Charnoff to the Atomic Industrial Forum Conference on Nuclear Insurance and Indemnity Issues, San Diego, California, 10th-13th February 1987. It is reproduced by kind permission of the authors and the United States Council for Energy Awareness (effective 1st August 1987, the Atomic Industrial Forum merged with the United States Committee for Energy Awareness and formed this new entity). Responsibility for the views expressed and the facts given rests solely with the authors.

and the Silkwood case about injuries to a nuclear facility employee, are two examples of the inordinate amount of attention these cases draw. It is common knowledge that the Silkwood affair was even made into a Hollywood movie with all of its attendant rhetoric. In a moment, I will discuss the legal ramifications of the Silkwood and Allen cases¹

The third reason that I suspect radiation injury claims are occurring more frequently is the dominance of nuclear arms issues in the media, which inevitably increases public concern over all nuclear-powered activities, including peaceful applications of nuclear technology. The potential for vast destruction from nuclear weapons also has been dramatised in such popular films as "Testament" and "The Day After". As Justice Powell observed in his dissenting opinion in the Silkwood case, often little or no distinction is made between nuclear power designed to help ensure the future of our civilisation and the proliferation of nuclear weapons that could destroy it.

A fourth reason for an increase in radiological injury claims is the simple statistical fact that the demographics of our society are changing. A larger proportion of the population is above the age of fifty, when the natural incidence of cancer greatly increases. In addition, there is now a generation of persons who have been in radiation-related industries for most of their working lives. Based on general population statistics, over 15 per cent of employees in the nuclear industry will die from cancer, about 25 per cent will experience cancer. Since some cancers can be radiation-induced, each of these individuals is at least a potential claimant.

There are two types of radiation claimants: 1) employees whose injuries are allegedly suffered at work, and 2) all other individuals who have alleged radiation-induced injury². In a typical workmen's compensation case, an employee must show that his injury is covered by the applicable workmen's compensation statute and that his injury was connected with his employment. If the employee makes the appropriate showing, he will recover compensatory damages up to a statutory ceiling. The employee does not have to prove fault on the part of the employer. However, if an injury is compensable under a workmen's compensation scheme, the award generally represents the employee's exclusive remedy against the employer. In effect, the employee gets the benefit of strict liability in exchange for statutory dollar limits on his recovery.

A radiation claimant whose injury does not fall within a workmen's compensation scheme statute typically has two tort causes of action - negligence and strict liability. To be successful in a negligence action, a plaintiff must generally show that 1) the defendant had a duty that required him to conform to a certain standard of conduct for the protection of others against unreasonable risks, 2) a failure of the defendant to conform his conduct to the standard required, 3) a showing that the defendant's action had a close causal connection to the plaintiff's resulting injury (an element which is known in legal parlance as "proximate cause"), and 4) actual loss or damages from the injuries suffered by the plaintiff. Determination of the causal connection between the defendant's conduct and the plaintiff's injury in radiation-induced injury cases is complicated by the complex nature of the injuries suffered (usually cancer), the nature of the causation mechanism alleged (ionizing radiation from one specific source), the lengthy time between the event and the manifestation of the injury (the latency period), and other variables involved in tracing causation.

Despite the difficulty of showing causation in negligence actions, in 1984 the plaintiff's bar obtained a major victory in a case involving a claim of radiation-induced injury. Twelve hundred persons who lived downwind from the US atomic weapons testing site in Nevada during the 1950s and 1960s brought suit against the Federal Government, alleging that fallout from weapons tests caused cancer to them or to their relatives. Allen v US, 588 F Supp 247 (D Utah, 1984). The court found that the plaintiffs produced sufficient evidence of a connection between their injuries and the defendant's conduct to permit the court to draw a rational inference of causation. The court also found that the Government's negligent failure to adequately monitor and record the actual radiation exposures of off-site residents on an individual basis yielded many glaring deficiencies in the evidentiary record on the issue of causation. Under the circumstances, the court held that "substantial justice between the parties" would be served by shifting the burden of proof to the tortfeasor - the wrongdoer to prove his conduct was not a substantial cause of the plaintiff's injuries. The court's rationale was that if direct proof of actual cause was to fail, the ultimate burden of injury should fall upon the party who was negligent and who likely was in a better position to inform the court of the facts relating to causation. Under this burden-shifting approach, ten of the twenty-four plaintiffs were able to recover damages because they established that the fallout was a substantial factor in causing their injuries. The Allen case is pending before the Tenth Circuit Court of Appeals.

In addition to the Allen case, the general trend in tort law encourages radiation-induced injury claims, with the legal system taking on more insurance-like characteristics. The occurrence of an injury, in and of itself and without regard to fault, has often been held sufficient to justify an award of damages against some private party who, for one reason or another, is viewed as more capable of bearing the loss. While not always explicitly stated, it seems inescapable that one element underlying this new "strict liability" is the notion that certain entities are better able to bear the loss because of their greater ability to prevent or to insure against it. A plaintiff in a strict liability case need not prove either the existence of a contractual relationship between the parties or negligence on the part of the defendant. Under this doctrine, the defendant is held liable even if he exercised the utmost care to prevent the harm. In the case of ultra-hazardous activity, in which radiation-related industries have been classified in a number of cases, strict liability is "founded upon a policy of law that imposes on anyone, who for his own purpose creates an abnormal risk of harm to his neighbours, the responsibility of relief against that harm when it does in fact occur."³

The most important strict liability radiation case to date is the Silkwood case, in which the jury awarded the Silkwood estate \$500,000 for personal injuries, \$5,000 for property damage, and \$10 million in punitive damages. Karen Silkwood was a laboratory analyst at the Cimarron facility, an Oklahoma plant that fabricated fuel pins containing plutonium for use as reactor fuel. Silkwood's estate brought an action against her employer, Kerr-McGee, seeking compensation for personal and property damages allegedly suffered by Silkwood in connection with her exposure to radiation. The Federal district court held that Federal law did not pre-empt the field so as to bar plaintiff's recovery. It also concluded that Silkwood's exposure to plutonium was not job-related, therefore, Oklahoma's workmen's compensation laws did not apply. As a result, state tort law was applicable and under Oklahoma law, the defendants were strictly liable for injuries resulting from operation of the Cimarron facility because as a matter of law, the plant's operation was

considered to constitute an abnormally dangerous activity. The application of a strict liability rule effectively deprived Kerr-McGee of the traditional negligence defense of due care. Moreover, finding compliance with the Nuclear Regulatory Commission (NRC) radiation protection standards to be relevant to, but not determinative of a showing of the exercise of reasonable care by Kerr-McGee, the judge concluded that compliance with such Federal standards would not bar punitive damages.

On appeal, the 10th Circuit Court of Appeals reversed the lower court on the workman's compensation issue, holding that Ms. Silkwood's injury was job-related, and therefore Oklahoma's workmen's compensation law did apply. As a result, the \$500,000 personal injury verdict was set aside. The court also set aside the award of punitive damages, reasoning that it was pre-empted by the Atomic Energy Act. Workman's compensation laws cover only accidental personal injuries, consequently, the appellate court upheld the jury's award of \$5,000 in compensatory damages for loss of property, finding that Kerr-McGee was strictly liable for the radiological contamination of Silkwood's furniture.

Because of the importance of the Federal pre-emption issue, the Supreme Court took review of the Silkwood case. In a troublesome 5-4 decision, the Supreme Court concluded that "NRC's exclusive authority to set safety standards did not foreclose the use of state tort remedies", and since "punitive damages have long been a part of traditional state tort law", their imposition was deemed permissible. In their vigorous dissents, Justices Blackmun and Powell argued that the majority opinion wreaked havoc with the state of the law on Federal pre-emption in the field of nuclear energy. As Justice Powell stated "The Court's decision will leave this area of the law in disarray. No longer can the operators of nuclear facilities rely on the regulations and oversight of the NRC. Juries unfamiliar with nuclear technology may be competent to determine and assess compensatory damages on the basis of liability without fault. They are unlikely, however, to have even the most rudimentary comprehension of what reasonably must be done to assure the safety of employees and the public"⁴

Rightfully viewing punitive damages as "regulatory" rather than compensatory in nature, the dissenting Justices recognized that allowing juries to levy punitive damages in radiation injury cases effectively implemented a jury's ad hoc standard of care in cases involving the control of radioactive materials. In each case, a jury now can impose virtually any amount of punitive damages on an NRC licensee irrespective of the licensee's compliance with Federal safety standards. Thus, in Silkwood, notwithstanding Kerr-McGee's substantial compliance with NRC requirements, it was permissible for the jury to disregard these standards and penalize Kerr-McGee for the conduct of its activities at the Cimarron facility. Ironically, the NRC had conducted a thorough investigation into Silkwood's contamination and found no material violation of Federal regulations by Kerr-McGee that could justify NRC imposing a civil fine. As the dissenting Justices vehemently observed, the Court's decision, in effect, authorizes lay juries and judges to implement uninformed and standardless judgments about nuclear safety matters.

The Silkwood case is troublesome for another reason. Karen Silkwood is not the typical radiation injury plaintiff. There was no evidence that Ms. Silkwood suffered any specific injury, temporary or permanent, other than mental distress for a short (several days) period. This fact was further highlighted by Silkwood's death by an unrelated cause soon after her

irradiation To the extent Silkwood may have had a future radiation-induced physical injury, its probability of occurrence was reduced to zero when she was killed in a car accident. Thus, while actual damages were initially assessed before the appellate court ruled that compensatory damages were recoverable under Oklahoma's workmen's compensation statute, those damages were imposed by the jury for Silkwood's mental suffering

Parenthetically, it is interesting to note that the only guidance the Silkwood jury sought from the trial judge during their deliberations was clarification of the definition of "physical injury". This term was critical to the plaintiff's personal injury claim because under Oklahoma and many other states' tort laws, compensatory damages for pain and suffering are only recoverable if they are incidental to a physical injury. Thus, the judge had been required to instruct the jury that it had to find that Silkwood sustained a physical injury from her exposure to plutonium before it could award damages for mental anguish and emotional suffering. In a rather extraordinary supplemental instruction to the jury, the judge allowed, however, that "certainly physical injury can include a non-visible or non-detectible injury, and may include injury to bone, tissue or cells". Not surprisingly, the jury was able to find that such a physical injury had occurred. Perhaps, then, the lower court in Silkwood effectively eliminated any distinction between irradiation - at any level - and a radiation injury. It is difficult to understand how a jury can find that a physical injury has been sustained if the injury is neither visible nor otherwise detectible.

In another radiation injury case, Brafford v. Susquehanna Corp., 586 F Supp 14 (D Col 1984), settled before trial, the district court judge refused to grant summary judgment on this very same issue, concluding that it was a question of fact whether a present injury in the form of chromosome damage was suffered by the plaintiff. In Brafford, the court recognised the defendant's concern that acceptance of the plaintiff's position would fundamentally pervert the rule against speculative injury. Nevertheless, the judge ruled that if the jury were to find that the plaintiffs had experienced subcellular damage from radiation, a present physical injury would exist that would be a sufficient basis for recovering damages for the increased risk of cancer.

The Silkwood decision cleared the way for states to regulate damages for radiological injuries. In the summer of 1985, the Wisconsin legislature passed a statute making it easier for a plaintiff to recover damages for harm caused by a "nuclear incident", i.e. a release of radiation from a radioactive waste repository and associated storage facilities or the transportation of radioactive waste. As passed, the legislation's most salient features were 1) joint and several strict liability for the harm, 2) a rebuttable presumption that the harm suffered by the plaintiff "could reasonably have resulted" from the nuclear incident, and 3) damages for mental anguish or emotional harm and consequential economic loss. The Governor of Wisconsin vetoed the portions of the bill allowing damages for mental anguish, emotional harm and consequential economic loss, nevertheless, the Wisconsin law increases the potential for radiological injury lawsuits.

In addition to the changes in the law which make radiological injury claims more likely, a recent discovery has given rise to more claims. About two years ago, an engineer in Pennsylvania set off a radiation alarm on his way to work at a nuclear power plant. Testing showed that the worker's house was contaminated with radon - an invisible, odourless, tasteless, colourless gas.

produced naturally in the ground as a radioactive byproduct of decaying uranium. Man-made radon pollution has been a problem for homeowners near uranium mines or processing mills, where radon is produced as radioactive waste known as "tailings", or is emitted during a mining operation. Suits have already been filed by buyers of radon-contaminated houses against sellers and real estate agents for non disclosure and against builders for defective construction. In the Brafford case, discussed previously, a family had brought suit after learning that its house had been constructed on radon-producing mill tailings. The family brought a common law action for battery against the mill's owner, claiming the radon's radioactive particles "touched" them without their consent. They sought treble damages for forcible eviction, compensatory damages for present and future injuries including mental grief and anxiety, and punitive damages.

Amid the signs of increasing radiological injury claims, there also have been some developments which should slow the trend to increased litigation. In 1984, the Federal government won an important radiological injury case. In Johnston v. US, 597 F Supp 374 (D Kan, 1984), four employees of an aircraft instrument plant brought suit against the Government contending that their respective cancers and resultant damages were caused by exposure to radiation which originated from luminous dials and other aircraft instrument parts. The court held that the plaintiffs failed to establish that their cancers were caused by exposure to the radiation.

The opinion in Johnston is particularly noteworthy for its condemnation of the plaintiff's expert witnesses. Plaintiffs' experts included K Z Morgan, John Gofman, and Carl Johnson. The court noted that Gofman/Morgan et al had been the "heroes" of the Silkwood and Allen cases and had succeeded there because of the "absence of well-prepared, skilled counsel or such superb witnesses as those who addressed the issue here." The court's opinion savaged them with language such as "intellectually dishonest", "so-called experts", "alarmists", and "advocates for a cause" among the milder characterisations. The court explained that it had gone into great depth in its opinion so as to "put to rest, once and for all, the likes of Drs Gofman, Morgan, and Johnson." The court's basic position was that the international scientific consensus, as expressed by the Committee on the Biological Effects of Ionizing Radiations (BEIR III), the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), and similar groups, ought to be respected, and that the dissenters like Gofman, Morgan, and Johnson were simply not credible.

Beyond its condemnation of the plaintiffs' expert witnesses, the Johnston case had several other important features. First, it showed that the normal tort law system can handle complicated radiological injury cases when dedicated judges and lawyers take the time to learn and analyse the scientific data and do not abdicate their responsibilities to the expert witnesses. Even the judge in Johnston admitted that he was originally quite skeptical of the government's case. However, he did an exceeding amount of study and, in fact, admits in his opinion that the evidence forced him to change his mind by 180 degrees. Second, Johnston recognised a body of well-established literature on the subject of radiological injury claims. This should help to narrow the role of experts in future cases and give all parties a better understanding of the strength of their cases in light of the developing consensus of scientific opinion.

In addition to strides toward better judicial management of radiological injury claims, there has been Federal legislative activity in the area. In 1982, Senator Hatch introduced a Bill to provide compensation to citizens allegedly injured by the fallout from the US nuclear weapons testing programme in the 1950s and 1960s. Under Hatch's proposal, probabilities of causation for each type of radiogenic cancer would be determined based upon dose, age at time of exposure, age at onset of illness, sex, race, smoking habits, and other specified factors. Two classes of awards were envisioned: 1) any person whose "probability of causation" is greater than 50 per cent would be entitled to one hundred per cent recovery for his claim up to a maximum of \$500 000, and 2) any person whose "probability of causation" is between 10 and 50 per cent would be entitled to a prorata award calculated by multiplying his probability of causation by \$500 000. No recovery would be allowed for individuals with less than a 10 per cent "probability of causation". The advantage of the Hatch proposal was that it sought to eliminate case-by-case proof of causation in this class of radiation injury cases. It would have simplified matters for plaintiffs, although they still would have had to demonstrate the radiation dose incurred. Of course, the methods and assumptions used in preparing the probabilities of causation would determine the fairness of the results. More troublesome was the proposal to allow compensation, albeit partial, where the attributable risk was as low as 10 per cent. That meant that recovery would have been allowed notwithstanding the fact that there was a 90 per cent probability that the illness was due to other factors.

The Hatch Bill was not fully enacted, however, part of the Bill was added to the 1982 Orphan Drug Act, which became law on 4th January 1983. That new provision required the Secretary of Health and Human Services to produce, within one year, a set of radioepidemiological tables that would specify a risk factor between cancers that may be caused by radiation and specific radiation doses received prior to the onset of disease. The requisite tables were prepared by the National Institute of Health (NIH), and were reviewed by the National Academy of Science (NAS) and the National Council on Radiation Protection. The tables do appear to simplify this complex technology so that lay juries can more easily decide the issue of causation in radiation injury cases, on the other hand, some experts are concerned about over-simplification of causation factors, which could lead to poor results. The tables have not yet been used in a trial, however, they may impact the litigation of radiation induced injury claims.

In 1985, Senator Hatch introduced another Bill which provided for the establishment of a commission to award compensation to persons damaged as a result of open-air atomic bomb tests and uranium mining. In assessing claims for radiogenic cancer, the commission was to rely upon the preponderance of current scientific opinion, such as the views of the National Institute of Health, the National Cancer Institute, and the National Academy of Sciences, among others. Although the amendment was defeated, its recognition of the consensus of scientific opinion is, like the Johnston case, a step in the right direction.

In addition to the recent judicial and legislative developments in the area of radiological injury claims, the nuclear industry has taken steps that will enable it to better deal with such claims and consequently decrease their numbers. Some utilities are establishing a substantial medical data base for employees well in advance of potential litigation as well as developing a network of consultants with medical expertise in radiation injuries. For example,

Commonwealth Edison Company is replacing its current health physics computer system with a new state-of-the-art records management system, establishing a Radiation Advisory Committee to address the company's radiation policy and litigation issues, and instituting an epidemiologic programme with the Northwestern University Cancer Center, which will assess over a period of years medical risks to employees in the electric utility industry

The establishment of a reliable data base should make it possible to reconstruct with substantial accuracy the work-related exposure of a particular individual through the use of company records such as badge readings and the employee's work assignment history. Examination of the level of exposure, the disease type, and the latency period for the disease may rule out a causal relationship between the claimant's cancer and his occupation. For example, an employee could be precluded from demonstrating causation if his tenure at work was not as long as the minimum latency period of the contracted disease.

Radiological injury claims are difficult for laymen to understand and are difficult for lawyers to prove. Nevertheless, they have increased substantially from their uncommon occurrence prior to the TMI-2 accident. The notoriety of several cases may have induced other plaintiffs to file radiation injury claims. The application of a rule of strict liability in these cases also invites more litigation. Moreover, the Silkwood case has the potential of opening up a Pandora's box of cases seeking compensatory damages for psychological and emotional injuries as well as punitive damages. To date, however, this has not happened, perhaps because of the battering taken in the Johnston case by the most well-known plaintiffs' experts in this field. Whether legislative schemes to simplify radiation injury cases will produce the desired result remains to be seen. It is clear that we can expect continuing legislative and judicial developments in the next several years as our lawmakers grapple with the management of these complex cases.

NOTES AND REFERENCES

- 1 See article on the Silkwood litigation in Nuclear Law Bulletin No. 37 (Note by the Secretariat)
- 2 It should be noted that the latter category excludes the "atomic" veterans who participated in the Government's weapons test programme. Because atomic veterans are suing the Government, they face special legal obstacles (e.g. the Government's sovereign immunity)
- 3 Silkwood v. Kerr-McGee Corp., 485 F. Supp. 566, 597 (W.D. Ok. 1979), aff'd in part and rev'd in part, 667 F.2d 908 (10th Cir. 1981), rev'd and remanded, 104 S.Ct. 615 (1984)
- 4 104 S.Ct. 615, 640 (1984).

THE CONCEPT OF PROPERTY DAMAGE AND RELATED ISSUES IN LIABILITY
LAW - POSSIBLE IMPLICATIONS FOR THE PARIS CONVENTION ON
THIRD PARTY LIABILITY IN THE FIELD OF NUCLEAR ENERGY*

Catarina Holtz, Swedish Ministry of Justice**

Introduction

In recent years, the concept of property damage has become the focus of attention in various fields of liability law. Technical developments of human activities entailing higher risks of damage has accentuated the need for discussions regarding the classic boundaries of this concept. Effects on the environment as such, which in the end may be detrimental to human health as well as to ecosystems, are important issues of today. Interventions by authorities to prevent such effects may have a bearing on the future direction of liability law.

Developments within national law may create disharmony at the international level, also in areas of law where international regimes exist.

A special problem is associated with national safety measures for the prevention of damage, which have an impact on the legal prerequisite for liability of an adequate causal link between the source of the damage and the damage itself. Such measures may cut off this link, thus depriving victims of their right to compensation from those carrying out the hazardous activity in question.

Within the NEA Group of Governmental Experts some of the issues above are already under discussion. The Group has been discussing in particular the inclusion of costs for preventive measures in the concept of property damage under the Paris Convention. However, this and other related issues need further consideration.

The purpose of this article is, then, to attempt a definition of the most important legal issues involved, and deals with three major topics:

- the concept of property damage,
- adequate causality and interventions by public authorities, and
- damage to the environment

* Responsibility for the views and facts in this article rests solely with the author. In preparing this article the author has drawn heavily on works by other experts, for whose contributions due gratitude is hereby expressed.

** Mrs Holtz is the Swedish Representative in the NEA Group of Governmental Experts on Third Party Liability in the Field of Nuclear Energy. This Group is responsible for following the application of the Paris Convention and its interpretation.

I THE CONCEPT OF PROPERTY DAMAGE

General

The term "property" points to anything which may be owned or possessed by man. This meaning includes also the notion of an assessable value attached to such a possession. In its widest sense the English word "property" would then correspond to the French "biens" and the German "Vermögenswerte", which both imply something of value. In order for something to have a value the object would normally have to be negotiable, as an object which may be sold, rented or leased, etc.

According to Black's Law Dictionary "property" denotes "everything which is the subject of ownership, corporeal or incorporeal, tangible or intangible, visible or invisible, real or personal, everything that has an exchangeable value or which goes to make up wealth or estate. It extends to every species of valuable right and interest and includes real and personal property, easements, franchises and incorporeal hereditaments."

The key word here is, as pointed out in a Note for the Group of Governmental Experts by Dr. Robert Pelzer (Federal Republic of Germany), that there must be a possessor, for whom the right represents an asset. Thus, under civil liability law, there is no damage where there is no possessor of any interest to claim compensation for infringement on his rights.

The possessor may, on the other hand, take on many different shapes. He may be a State as owner of property or an interest (either in the form of government as such or as a business enterprise), a private corporation, a private person, any association or form of organisation recognised by law as having the status of a legal person. Therefore, it may not be entirely true to assume that damage to the environment as such will to a large extent be left uncovered under the existing liability regimes. This particular issue will be discussed further in Part III.

The fundamental principle underlying civil liability is the right of restitutio in integrum for the injured party. Thus, the liable party should put the victim into the exact same position he would have been in, had the damage not occurred (barring the possibility of restitution in kind).

The classic definition of property damage under the law of torts may be described as follows: any infringement on any rights resulting in a diminishing of a value of such rights should be compensable. This concept would include physical harm to or loss of property (damage in rem), loss of income and profits, as well as economic loss resulting from interrupted use of the property in question¹.

The principles underlying this attempt at a definition of the extent of compensable damage may seem to have very far-reaching implications for anyone carrying out potentially harmful activities. Another important issue, particularly so for the Paris Convention, is the insurance aspect. Both have a financial significance for the operator of a nuclear installation. However, other principles, such as the prerequisite of an adequate causal link, put restrictions on the possibility for compensation, as will be discussed below.

A distinction is sometimes made between economic damage as a result of property damage (i.e. loss of value of damaged or lost property) and economic damage which has no connection with such physical damage. Such economic damage is sometimes referred to as "pure economic loss"². This particular issue will be discussed further below and in Part II.

Developments in International Civil Law

The two major international regimes which immediately come into mind are the Paris Convention and the 1969 Civil Liability Convention (CLC), the latter covering oil pollution damage.

Various problems regarding the concept of property damage under the Paris Convention were discussed during the 1984 Munich Symposium on Nuclear Third Party Liability and Insurance - Status and Prospects³. In the same year, Protocols to the CLC and the 1971 Fund Convention (constituting the International Oil Pollution Compensation Fund, the IOPCF) were adopted.

During the Munich Symposium, it was pointed out that it was evident that liability was not limited to damage to property (in rem), but, on the other hand, that it was equally evident that not any damage to property was eligible for compensation⁴. The author stated further his view that there were doubts as to the compensability of nuclear damage along the same lines as damage under the provisions of tort law "with all their ramifications". His conclusions were that the problem of filling gaps in the concept of property damage should be left to applicable national laws, the reason being that attempts at creating international harmony in such an area as "characterised by national peculiarities" as indemnity law would fail miserably.

The particular problem of inclusion of preventive costs was also addressed by the same author. The conclusion drawn was that "any claim for damage under nuclear third party liability" would fail in the absence of the condition of a nuclear incident (the preventive measures having been so successful that no "nuclear incident" had occurred). Any extension of the concept of property damage would therefore require an amendment of the Paris Convention⁵.

The same view was held by one of the participants in the Congress of the International Nuclear Law Association (INLA) in Konstanz (Federal Republic of Germany) in 1985⁶. This view was shared by the other members of Working Group No. 2 on nuclear liability at the Congress.

In its recent discussions of this particular problem, however, the NEA Group of Governmental Experts agreed that there were justifications for the inclusion of preventive costs in cases where the measures taken did not fully prevent a nuclear incident.

It may be interesting to note that, according to the Swedish Act on Insurance Contracts, the insured person is obliged to take preventive measures when there is danger of an incident causing damage occurring and that, consequently, the insurer must pay the costs for such measures. It seems here that the issue falls into two different subtopics, recoupage of preventive measures taken by outside authorities as opposed to measures taken by the insured person himself. The Group of Governmental Experts found that measures taken

by parties other than the nuclear operator himself should be covered, provided an incident had indeed occurred

As for the Civil Liability Convention on Oil Pollution Damage (CLC), it would seem that its founding fathers possessed some foresight when they already expressly included from the start preventive costs in the concept of compensable damage. In the 1984 Protocol to the CLC this inclusion was made more precise in its wording, mainly to prevent speculative claims⁷

When comparing the Paris Convention (PC) and the CLC, however, one may find resemblances. Whereas the PC talks of "nuclear damage" and the CLC of "oil pollution damage" both speak of "loss or damage" [PC Article 3(a)(ii) and CLC Article I 6]. The only major difference between the two is that the Paris Convention is completely silent on the point of preventive costs.

The CLC may prove fruitful for the further discussions on the concept of property damage in the field of nuclear energy, since there is extensive experience assembled over the years through the practices of the IOPC Fund. As can be seen from Jacobsson and Trotz (see note 1) the extent of the concept today would include also pure economic loss, except in cases where the damaged interest would not be open to compensation due to "remoteness"⁸

It should be noted, however, that the 1984 version of the CLC deviates in two other respects from the Paris Convention. The first deviation concerns the express inclusion of "loss of profit" as a result of impairment of the environment. The second concerns - relative to preventive costs - the express inclusion of damage as a result of preventive measures. The implications of these inclusions will be discussed in Parts II and III.

Developments in Swedish Law

The earliest developments occurred within the domain of real estate property, where strict liability has long since applied to damage to neighbouring properties as a result of dangerous activities (such as excavating with the use of explosives). This rule has some connection with the established principle in international law of sic utere tuo ut alienum non laedas⁹. The same principle underlies Swedish legislation on the use of water.

The extent of compensable damage resulting from such activities has undergone changes recently. Under the Water Regulation Act of 1983 also economic loss and damage to amenities may be compensated. The prerequisite is - as always - that the damage sustained may be expressed in money and that the adequate causal link to an alleged cause (source) of the damage is proven.

In 1986, the Act on Environmental Damage went into force. This Act deals specifically with liability for damage caused by activities carried out on real estate property, whether on land or in water. Under this Act, damage resulting from pollution of water, air or ground is compensated (as well as damage from noise, vibrations or other disturbances) on a strict liability basis. The Act excludes nuclear damage and damage due to transport incidents (e.g. oil pollution at sea). Damage is compensable wherever it occurs, even at a global level, provided that the source is to be found within Swedish territory. The travaux préparatoires lay down the following guidelines for the proper application of the Act.

Compensation is awarded for personal injury, property damage and pure economic loss, with the proviso that claims for pure economic loss must be of some significance. The reasoning behind this proviso is that the introduction of such a right was thought to be an expansion of liability not hitherto recognised generally in liability law, which would therefore require some restriction.

The concept of property damage is not directly defined. However, it is clear from the travaux préparatoires that the right of compensation for "amenities" will apply also under this Act.

Since the Act is modelled on pre-existing Swedish liability law and practices, other guidelines may be found in the Bills introducing the Water Regulation Act and the 1969 Environment Protection Act.

The delimitation of party, i.e. who will be recognised as a legitimate claimant, also has an impact on the extent of the concept of property damage. Under the Water Regulation Act, a wide range of interested parties is included: real estate property owners whose property is damaged, holders of various rights such as liens, mortgages, usufructs or rights to electric power. Court precedents further extended this list to include also holders of rights to harbour boats, float timber and other lesser or more remote interests, including cases where the agreement was only oral or even where the right was exercised only through the tacit consent by the owner of the affected real estate. A few Supreme Court cases went so far as to create a new term "infringement of the general public's right to enjoy nature". Today, however, it is generally recognised that infringements on amenities without any connection to property damage in rem are not compensable. Thus, anyone claiming damages for a destroyed view from a place where he used to go for recreation (this place not being his property) is not recognised as a legitimate claimant, whereas a property owner whose view is destroyed by constructions on a nearby site would be recognised, provided he can prove his economic loss (e.g. a fall in the market value of his property).

The Bill introducing the 1969 Act on Environment Protection differs little from the travaux préparatoires of the 1986 Act. In the former it was held that a person, who becomes ill from having eaten fish from a lake contaminated by mercury, is entitled to compensation, as is a person who happens to pass with his boat through an area where the water is polluted by waste matter and his boat is soiled by this. Thus, almost anyone would be recognised as a legitimate claimant, provided the rule of adequate causality is met.

The Swedish Nuclear Liability Act defines "nuclear damage" as follows [Section 1(a)(viii)]

"Nuclear damage" means

- 1) any damage caused by the radioactive properties of nuclear fuel or radioactive products or a combination of radioactive properties with toxic, explosive or other hazardous properties of such fuel or products,

- 2) any damage caused by ionizing radiation emitted from any other source of radiation inside a nuclear installation than nuclear fuel or radioactive products"

It should be noted that the text incorporates amendments made by the 1982 Protocol to the Paris Convention. Consequently, like the Protocol, those amendments have not yet entered into force.

The venue chosen by the Swedish legislator was to use the structure of the Vienna Convention and define the concept of nuclear damage itself.

Section 13(a) contains the important provision that "compensation payable under the Act shall be fixed in accordance with the general rules of the law of torts".

This means that the nature and extent of compensation under Swedish national law would be decided on the basis of the above outline of elements in liability law. It was said in the travaux préparatoires to the Nuclear Liability Act that the principles for deciding compensation for nuclear damage should follow developments in liability law. The rule was made this flexible in order to allow for future adjustments.

Conclusions

The Paris Convention leaves decisions on the nature and extent of damage to be compensated to the national law of Contracting Parties (Article 11, cf. also Exposé des Motifs, paragraph 52). From the various aspects touched upon in the above review, the time would seem ripe to discuss, in more depth, the existing concept of damage in various countries under the Paris and Brussels regimes, in order to arrive at a decision on whether or not there is need for a revision of the Paris Convention.

II ADEQUATE CAUSALITY AND INTERVENTIONS BY PUBLIC AUTHORITIES

At the Munich Symposium the implications of the legal requirement of an adequate causal link between the damaging activity (the source of damage) and the damage was discussed¹⁰. This requirement may be defined as follows:

For a legitimate claim to exist, the damage must have followed as a result of a particular incident. Further, however, this "logical" causality - sine qua non - not being enough to merit compensation, there has to be a "natural", "close" link between the cause and the result. The damage must be a "typical" result of the incident.

An example illustrating the difference between eligible and non-eligible damage has been given in Swedish doctrine thus¹¹ (relating to the law of torts):

An air-traffic controller directs the pilot of an airplane to a certain height but makes a mistake as to the correct level that should have been chosen. At the directed flight-level the airplane collides with a bird with the result that the plane crashes.

This situation, the author points out, does not meet the criterion of adequate causality. Pure chance had it that the bird happened to fly into the airplane. Thus the controller could not be found liable under tort law. Had he directed the pilot to the correct level there might have been another bird, whereas, vice versa, there might not have been any birds at the incorrect level.

If, instead, the situation is changed so that the airplane is mistakenly directed to a level where another plane is already flying and the two collide, there is, on the other hand, an adequate causal link. This is so, because the aim of the controller's work is precisely to supervise the various flight paths to ensure the safety of each airplane vis-à-vis other airplanes. The collision is thus a natural or typical result of the controller's negligence, for which he is liable.

Now, when discussing damage resulting from interventions by public authorities, several issues emerge, a couple of which may look like this:

1. Is "damage" resulting from such interventions (e.g. prohibition of the sale of certain foodstuffs) cut-off from compensation, precisely because the natural link of causality between the nuclear incident and the economic loss has been broken through the interventions? Or in other words, the source of the damage is not the nuclear incident and therefore the damage is not nuclear damage.¹²

2. It could be argued that the loss of income or profit due to the drop in sales is not a typical result of a nuclear incident (whether or not there was an intervention, which may have caused the drop).

Again, reference is made to the article by Jacobsson and Trotz, where they state that there is general reluctance to accept claims for "pure economic loss" or "consequential damage" (p. 477 et seq.). However, it is noted that developments have taken place lately towards a less restrictive approach. The difficulty here seems to be how to formulate appropriate criteria for such claims.

These conclusions may on the one hand point to a restrictive construction of the Paris Convention since it was elaborated during a time when pure economic loss was not generally accepted as a legitimate claim.

The fact that, in the Paris Convention, the nature and extent of damage to be covered under the Convention was left to national law to define is another indication that Article 3 is to be construed narrowly.

Another indication inducing caution against inclusion of pure economic loss and losses as a result of interventions (preventive measures) is the fact that it was thought necessary to spell these rights out in the texts of the Civil Liability Convention on Oil Pollution Damage.

On the other hand, it is apparent from the legal developments within the oil pollution field that the time has come to consider the viability of extending the concept of damage to cover both pure economic loss as such and damage resulting directly from interventions by public authorities with a preventive aim

Under Swedish nuclear liability law, unlike the Federal Republic of Germany¹³, persons who suffered loss of income etc as a result of interventions due to the Chernobyl incident, were not covered. The appropriations made by the Swedish Parliament had to be decided as an extra allocation out of the State budget

This difference gives rise to another question. Disharmony in national legislation, although the national laws are based on the same Convention, may create difficulties within the Paris/Brussels system. What would have happened, had there been a need for the use of the Brussels additional compensation scheme¹⁴, due to an incident having occurred in a Paris/Brussels State?

Conclusions

It might not be an exaggeration to claim that the problems of adequacy and damage as a result of interventions require a discussion on the need for a revision of the Paris Convention to ensure that developments in civil liability law elsewhere are not overlooked in the field of nuclear energy and that necessary adjustments are made (to the extent found appropriate)

III DAMAGE TO THE ENVIRONMENT

Dr. Pelzer points to one major flaw of civil liability law when stressing the fact that "there exists no claim for damage to a 'res communis omnium'" (his Note for the Group of Governmental Experts). However, civil liability must naturally be restricted to serve a few fundamental purposes. It is a legal regime established solely for the purpose of ensuring restitution for damage to private persons by private persons whose activities caused the damage. Over the years, definitions of the nature of legitimate claims, the prerequisite of adequate causality and the requirement that damage must be somehow assessable in terms of money have put limitations to the possibilities for recovery

The nature and extent of liability which thus has emerged was thought to be adequate to meet the needs of potential victims as well as those of liable parties.

In recent years, however, the potential effects of human activities have resulted in developments of these principles as well as deviations from them. To this, the Chernobyl accident undoubtedly will also contribute. So far, however, it seems (at least from a Nordic horizon) that the first concern of States has been to remedy effects of pollutive activities, which has prompted them to pass restrictions on exhaust fumes and pollutants and wastes from

industries, to introduce monitoring programmes for forests and seas and to encourage research and concrete actions to stem the detrimental influences on our environment.

Little has yet been done among lawyers to "put the record straight", i.e. to discuss the accepted fundamental principles of civil liability law, to analyse the issues and to formulate new legal concepts, if needed¹⁵

The first inconsistency to deal with is the concept of "environmental damage". It does not fit into the established framework of civil liability law, since it carries no legal consequence in itself. There is no claim for "res communis omnium"

When the Swedish Act on Damage to the Environment was introduced, it did not mean that the concept of environmental damage was given a specific legal role to play. The Act is still modelled on the basic principles of bodily injury and property damage. The forward step may be said to lie in the acceptance of strict liability for a wider range of activities and the - rather cautious - introduction of coverage for pure economic loss.

As was pointed out in Part I, the remaining, uncovered field of damage to the environment may not be as large as assumed at the outset. Another aspect is, that even though there might be a need for and an interest in covering also this field, civil liability law may not be the most appropriate legal remedy.

When it comes to what may be called "damage to the environment as such" (i.e. after any costs of preventive measures and reinstatement have been covered), where there is no claimant because there is no assessable claim, it may perhaps be a better solution to leave this area to public international law, for states to consider the issue as one between themselves.

One reason behind this suggestion is that the extension of rights of compensation may have little effect on the possibilities to recover, since the claimant may fail to prove causality. This risk seems to increase in step with additions to the "compensable damage" list. Thus, a victim may not be helped by a generous legislator in this respect.

Another reason is that if civil liability law put an unfair burden on would-be "perpetrators", it would be meaningless to claim compensation because there would be no financial possibility to pay.

Thus, I would concur with the observations made by Dr. Pelzer that environmental damage as such is not covered by the Paris Convention.

However, there is still a need to analyse the issues involved. There is, to begin with, a risk that the current use of "environmental damage" as a concept similar to or in the same category as "bodily injury" and "property damage" will blur our thinking.

An analysis of the two latter concepts show that they were chosen to relate closely to individuals. It is the personal circumstances of the individual person which are in focus. His or her financial situation has been affected. "Environmental damage", on the other hand, has no meaning to the individual, unless he or she is affected by it. This difference, then, could be said to be the basis of the Swedish Act on Environmental Damage, its first

Section beginning thus "Compensation under this Act is awarded for such bodily injury, property damage and pure economic loss as activities on real estate property have caused in its surroundings " Section 3 gives the list of "influences on the environment" giving rise to compensable damage under Section 1, thus. "Compensation is awarded for damage sustained through

1 pollution of rivers," etc

Thus, it seems rather that "environmental damage" is a legal prerequisite, one step removed from the damage to be compensated At the same time, this concept of the "environment" serves as a restriction of the applicability of the Act, excluding all damage to persons or property which is not the result of effects on the environment.

Finally, it should be pointed out that the term "environmental damage" is not used anywhere in the Act, except in its title

To conclude, these rather preliminary observations on a new phenomenon would seem to merit further discussion, if only to arrive at the conclusion that the concept of damage to the environment may not be useful for the development of civil liability law

IV GENERAL CONCLUSION

Some Issues Involved

The above overview gives rise to a number of legal issues to be resolved, which may be summarised as follows

The need for a clear definition of the concept of property damage

- damage in rem (including loss),
- tangibles and intangibles, etc ,
- remoteness,
- loss of income or profit, with or without connection with damage in rem,
- costs of preventive measures,
- legitimate claimants,
- damage as a result of interventions

The reasons for and against an extended concept with regard to the exceptional risks involved in nuclear activities have to be considered, namely, the possible impacts on the insurance side; the possible impacts, from an extension of the concept, on the Brussels Supplementary Convention Also, is the rule of adequacy a reason for a revision of the Paris Convention? And finally, as regards environmental damage, is there a need for a new approach in civil liability law?

Pending the outcome of discussions on these and other items, an assessment should be made of the desirability and need for a revision of the Paris Convention

NOTES AND REFERENCES

- 1 Cf the definitions discussed by M Jacobsson and N Trotz, The Definition of Pollution Damage in the 1984 Protocols to the 1969 International Convention on Civil Liability for Oil Pollution Damage and the 1971 Fund Convention, Journal of Maritime Law and Commerce, Vol 17, No 4, October 1986
- 2 Cf supra note 1
- 3 Proceedings of the Munich Symposium, published by OECD, Paris, 1985
- 4 H Steinkemper Questions raised by the concept of nuclear damage in the ambit of the nuclear Conventions, with particular regard to the German viewpoint, Proceedings of the Munich Symposium, p 231 et seq.
- 5 Cf also J. Deprimoz La notion de dommage nucléaire appliquée au coût des mesures préventives en cas de menace imminente de dommages aux tiers, ibidem, p 241 et seq
- 6 H Schattke Inclusion of the costs of evacuation and of other preventive measures in the event of a nuclear incident within third party liability Proceedings of Nuclear Inter Jura '85, N Pelzer ed , Nomos Verlagsgesellschaft, Baden-Baden, 1986, p 292 et seq
- 7 Cf supra note 1, p 487
- 8 Cf supra note 1, pp 477-478, 484 and 490
- 9 Cf IAEA document, GOV/INF/509 26th January 1987, p 7.
- 10 J Hébert, Observations sur l'établissement du lien de causalité entre "le fait ou la succession de faits de même origine" et les "dommages" nécessaire à la mise en oeuvre de la Convention de Paris sur la responsabilité civile dans le domaine de l'énergie nucléaire, Proceedings of the Munich Symposium, p 241 et seq
- 11 J Hellner (Prof of Civil Law, University of Stockholm), Skadestandsrätt (Liability Law), Stockholm, 1985
- 12 Cf H K Shapar and P. Reyners The Nuclear Third Party Liability Regime in Western Europe The Test of Chernobyl, p 12 (Atomic Industrial Forum (AIF) Conference on Nuclear Insurance and Indemnity Issues, San Diego, February 1987)
- 13 See Pelzer, M., Current problems of nuclear liability law in the post-Chernobyl period - a German standpoint, Nuclear Law Bulletin No 39, June 1987, p 66 et seq

- 14 The Brussels Convention, Supplementary to the Paris Convention sets up a system of compensation in three tiers: the first is covered by the operator's financial security (Paris Convention), the second is covered by the State where the installation of the operator liable is situated, and the third is covered jointly by the Parties to the Convention according to a formula based on gross national product and installed nuclear thermal power
- 15 Cf also the discussion by Jacobsson and Trotz on the concept of environmental damage, *ibid* p 479 et seq and 487 et seq

THE REFERENDUMS ON NUCLEAR ENERGY IN ITALY*

Claudio Sartorelli, Legal Adviser

1 Introduction

Following the nuclear referendums held in Italy on 8th November 1987, it is clear that the anti-nuclear coalition has won a sizeable victory.

There were three referendums involved which, from the moment they were proposed in 1986 immediately after the Chernobyl accident, gave rise in Italy to impassioned debate and raised numerous political and legal problems. In particular, during 1987, they were a factor in the early dissolution of the previous Parliament, and strongly influenced the electoral campaign by promoting, inter alia, the success achieved by the "Greens". Moreover, they constituted one of the stumbling-blocks to the formation of a new coalition Government.

As an aid to understanding the scope of this issue and its political and legal repercussions, this article will analyse the general working of referendums in Italy before commenting on the political events occurring after environmentalist groups and certain political parties lodged a request for referendums on nuclear energy. The article will, lastly, examine the consequences of the referendum results.

2 The referendum in Italian law

In Italian law, the possibility of holding a referendum on an ordinary Act is provided for in Article 75 of the Constitution which stipulates, in its first paragraph, that a popular referendum to decide whether an Act or other item of legislation should be totally or partially repealed should be held when a minimum of 500 000 voters or five regional councils so request.

This provision therefore establishes clearly that a referendum may only be held with respect to the abrogation (total or partial) of an Act. In the immediate post-war period, when the Constitution was being drafted, the intention was to impose certain limits on the scope of referendums, and after long discussions, the option of an abrogative referendum was chosen. Referendums on the adoption of Bills and consultative referendums are excluded as far as the ordinary law is concerned. Nevertheless, as will be seen below, certain types of consultative referendums are carried out in practice, outside the scope of Article 75 of the Constitution. These are referendums organised at local level on the initiative of commune authorities, with the purpose of sounding out local opinion on issues of specific interest to the region concerned.

Article 75 further provides, in its second paragraph, that referendums on the abrogation of tax and budget legislation, laws relating to amnesty and pardon or laws authorising the ratification of international treaties are not allowed.

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

Clearly, these limits were established to prevent, in the first place, recourse to referendums for obviously corporatist purposes and, in the second place, to prevent the electorate being asked its opinion on laws which require a detailed knowledge of the external context and a proper understanding of the situation, things which most voters may not have. This argument has often been advanced with regard to referendums on nuclear energy to point out how difficult it is for voters to form an opinion on a topic as complex as that of energy sources, particularly the technical aspects thereof, something which could not of course have been envisaged by the drafters of Article 75, since this was not an issue at the time.

The last paragraph of Article 75 specifies that detailed rules for holding referendums (procedures and timetables) should be laid down in ordinary legislation. These Acts governing the holding of referendums were promulgated under the pressure of different political events.

The first such Act adopted was the Constitutional Act No. 1 of 11th March 1953 which details the various powers of the Constitutional Court and entrusts this body with the task of verifying that referendum requests do not relate to any of the categories of legislation in regard to which consulting the electorate in this way is excluded by Article 75 of the Constitution.

This specific aspect being regulated, the ordinary law had still to determine the procedures and competent bodies for all the operations preceding the referendum itself (fixing the date, verifying the signatures collected, etc.)

However, it was to be more than twenty years before such legislation was passed, and therefore, it was impossible to hold a referendum during this whole period. The implementing Act was only adopted in 1970 along with promulgation of the Act on divorce which had given rise to differences in Parliament and indeed within the Government majority. So as to avoid blocking the progress of this Act in Parliament, the political parties agreed to promulgate at the same time an Act to implement the referendum procedure so as to allow the electorate to vote immediately on whether or not provision for divorce should be retained in Italian law. Thus, Act No. 352 of 25th May 1970 was promulgated, which set up a special Office, under the Supreme Court of Appeal, (Corte di Cassazione) called the Central Referendum Office. This Office has the task of checking that referendum requests are in compliance with the law (that signatures are in order, time limits adhered to, etc.) except, of course, for controlling admissibility under the second paragraph of Article 75 of the Constitution, which - as already indicated - is the duty of the Constitutional Court.

As planned, following the entry into force of this implementing Act, a referendum on the Act relating to divorce was held; the vote, both in this case and in following referendums*, giving rise to a negative result in that the majority of the electorate has always voted for maintaining the law in question. It follows that no Act has ever been repealed in Italy as a result of a referendum.

* The most important such referendums have concerned the Act on abortion, the Act on the financing of political parties, and the Act on variable salaries (indexing salaries to inflation).

In spite of this, requests for referendums have been made with increasing frequency in recent years. Most of them emanate from political circles - in particular, the Radical Party - anxious to educate public opinion about important political and social issues.

Most such requests do not get beyond the stage of the admissibility test applied by the Constitutional Court on the basis of the rules laid down in paragraph 2 of Article 75 of the Constitution. This was the case with the first proposal for a referendum on nuclear energy.

3. The 1980 proposal for a referendum on nuclear energy

This proposal concerned the main provisions of Act No. 393 of 2nd August 1975 regulating the different phases of the procedure for establishing nuclear power plants. However, the referendum request was judged inadmissible by the Constitutional Court (Decision No. 31 of 13th February 1981). The Court held that the provisions in question, dealing with the implementation of the Italian nuclear programme in compliance with EURATOM Treaty requirements, were closely linked to the working of the Treaty and could not therefore, under Article 75, paragraph 2, of the Constitution, form the subject-matter of a referendum.

We shall now turn to the present situation in Italy, resulting from the lodging of a new proposal for referendums on nuclear energy.

4. The 1987 nuclear referendums - the provisions of the Act in question

These referendums were requested in 1986, after the accident at Chernobyl, by a special Committee set up by the Radical Party, the People's Democratic Party (extreme left) and several political organisations and associations for the protection of the environment. These referendums were requested at the same time as others dealing in particular with hunting and the accountability of judges.

As concerns more especially the referendums on nuclear power, the first obstacle confronting the sponsoring Committee was of course to succeed in identifying provisions that could be repealed. This proved to be difficult, above all because referendums in Italy are not allowed to be held on general issues such as "Are you in favour of continuing to build and operate nuclear power plants in Italy?" They must relate to specific provisions of an Act, for example, "Are you in favour of abrogating Section X of Act X?". But in the nuclear field, there is no provision of Italian legislation explicitly ordaining the use of nuclear energy. Most of the provisions in the nuclear field concern the controls carried out in installations, the liability regime, etc. Consequently, repealing them would not have the effect of prohibiting the use of this source of energy. On the contrary, it could encourage the free development of the uses of nuclear energy, and the effect of the referendum would be quite the opposite of that intended.

In addition, the sponsoring Committee had to take account of the previous request for a referendum which was held to be unconstitutional by the Constitutional Court. It was therefore necessary to avoid references to provisions which could be clearly linked to international treaties, especially the EURATOM Treaty which includes amongst its objectives the creation of a

sound basis for the development of the nuclear industry in European Community countries. It was therefore essential that the purpose of the provisions chosen by the Committee should not have a purpose contrary to the objectives of the EURATOM Treaty.

In the circumstances, the Committee identified the following provisions:

- The first twelve paragraphs of the single Section of Act No. 8 of 10th January 1983 providing for payment by ENEL (the public body which operates electricity facilities in Italy, including nuclear power plants) of subsidies to communes and regions on whose territory a nuclear power plant is located.
- The thirteenth paragraph of the single Section of Act No. 8 of 19th January 1983 which provides that when local authorities do not succeed, in the context of the procedure for finding a site for nuclear power plants, in identifying zones which might serve the purpose, this choice must be made by a governmental body, the C I P E (Interministerial Committee for Economic Programming).
- The first paragraph of the single Section of Act No. 856 of 18th December 1973, referring to ENEL's power either to promote the constitution of undertakings abroad with the objective of building and operating nuclear installations, or to participate in such undertakings.

These clearly are provisions regulating specific and well-defined aspects which, if repealed, would not involve the immediate cessation of the operation of nuclear installations in Italy, nor prevent the construction of new installations.

5 Referendum procedure controls exercised by the Supreme Court of Appeal and the Constitutional Court

The Committee sponsoring the referendum began to collect signatures on 22nd May 1986, namely, a few days after the accident at Chernobyl, at the same time as signatures were being collected for the referendums on hunting and magistrates. On 6th August*, i.e. fifteen days before the statutory time-limit, the signatures gathered (more than 950 000, or nearly twice the minimum number required under Article 75 of the Constitution) were lodged with the Central Referendum Office, attached to the Supreme Court of Appeal. The Court verified that the signatures were in order and, after some discussion about the desirability of grouping the three referendum proposals, decided that, as wished by the sponsoring Committee, the requests should be presented independently. Thus, the three referendum proposals remained separate and, in theory, could have given rise to different results.

The three requests were then submitted to the Constitutional Court for an opinion, in particular, concerning the international Treaties restriction.

* Chosen because it was the 41st anniversary of the Hiroshima bomb.

In its Judgment No 25 of 3rd February 1987, the Constitutional Court held that the three referendum requests were admissible, considering that the proposals in question were substantially different from those which had been declared unconstitutional in 1981. Thus, the Court was of the opinion that the provisions were in no way connected with the EURATOM Treaty

More precisely, the Court observed that the first two referendum requests related to provisions which did not fall within the scope of application of the said Treaty. The referendum on subsidies concerned a problem of internal policy relating to economic relations between authorities (ENEL, regions, communes) which functioned within a national context. The referendum on the choice of sites related to the allocation of powers between the various national organs and bodies responsible for questions relating to the siting of nuclear power plants. Moreover, the Resolution of the Council of the European Communities of 28th November 1978 expressly recognised that each Member State had such powers

The third referendum, concerning the possibility for ENEL to promote the constitution of undertakings with foreign agencies or to participate in them if their objective was to construct or operate nuclear installations, was also held admissible by the Constitutional Court which found no interference with the EURATOM Treaty. The Court was of the opinion that the provisions in question concerned the limits of ENEL's power to negotiate, without there being any link with relations between States. It also considered that, in any event, this request would essentially re-establish the original situation by repealing a provision which did not appear in the Act creating ENEL (Act No 1643 of 6th December 1962) but which had been introduced subsequently by Parliament (Act No 856 of 18th December 1973), precisely in order to allow ENEL to participate in agreements with foreign electricity companies, such as the NERSA and ESK agreements

It may be mentioned, in the interests of completeness, that at the same hearing the Constitutional Court gave its opinion on the proposals for the referendums relating to the other topics. It declared the request relating to the accountability of judges admissible, but refused that relating to hunting. Thus, following the Court's decision, the referendums on nuclear energy and on judges were the only two on which the electorate could be asked to vote

In accordance with the Act, the Government then had to fix the date of the referendum. Since Section 34 of Act No 352 of 25th May 1970 provides that the electorate can only be asked to vote on a Sunday between 15th April and 15th June, the date of the referendums on nuclear energy and on the accountability of judges was fixed for 14th June 1987

6 Circumstances capable of preventing the referendums being held
- National Conference on Energy

At this stage of the proceedings, two sets of circumstances only could have prevented the referendums being held on the above-mentioned date: the passing of new legislation repealing the provisions to which the referendums related, or alternatively, early elections

The first of these is expressly provided for in Section 39 of Act of No 352 of 1970. Under this Section, the referendum procedure must be stopped in the event of the repeal of the provisions to which the referendum request relates, on condition, however, that the legislation repealing the previous Act amends it substantially. If, on the other hand, the new legislation does not actually change the main principles of the previous Act and the content of each provision, the referendum must proceed on the basis of the new provisions. It is the task of the Supreme Court of Appeal to decide whether or not the amendments introduced by the new legislation are substantial.

It is therefore clear that, for these conditions to be met, there would have had to be an agreement between the political entities involved and very careful drafting of the new provisions to be promulgated. Some moves were, however, made in this direction. For example, just when the political situation had reached its most critical phase, the Liberal Party proposed new provisions to substitute for those in respect of which the referendums had been requested. More precisely, this proposal involved entrusting the management of the financial subsidies to local authorities to the Ministry of Industry rather than to ENEL, and conferring directly on Parliament, instead of the Government, the final decision to be taken with respect to the siting of installations (in the event of lack of action by the local authorities), or to the authorisation to be given to ENEL to participate in foreign undertakings.

This proposal, in respect of which an investigation would in any event have had to be carried out as to the substantial nature, or lack thereof, of the amendments envisaged, made no further progress since there was no real hope, in the context of the previous Parliament, of reaching an agreement. The political crisis arising from this led to fulfilment of the second hypothesis, i.e. early elections.

This, in itself, did not prevent the referendums from ever being held, but resulted in their being postponed to a later date. For, the second paragraph of Section 34 of Act No 352 of 1970 provides that referendums must be automatically suspended in the event of an early dissolution of Parliament, and the referendum procedure may not begin again till 365 days after the date of the election of the new Parliament. Given that the new elections were held on 14th June 1987, i.e. on the exact date originally set for the referendums, these latter could only be held on a Sunday after 14th June 1988. In fact, given that Section 34 allows voting only between 15th April and 15th June, the referendums in question should normally have been postponed till the year 1989.

It is precisely with regard to this complex situation that the positions taken by the various parties differed. Initially, in the month of February 1987, the referendum requests had not yet progressed beyond the stage of being examined by the Constitutional Court, and there was still a possibility that the parties might reach agreement on a solution to this problem. In particular, the conclusions of the National Conference on Energy, convened by the Government at the request of Parliament after the accident at Chernobyl, were eagerly awaited.

The organisers of this Conference had intended that the whole range of scientific, technical, economic and social interests would be represented so that the Government and Parliament could be provided with the elements required to decide on a possible review of the Energy Plan.

However, the outcome of the Conference, finally held in Rome from 24th to 27th February 1987, was disappointing due to the absence of the environmentalist lobby which had decided not to participate, and also because the various parties concerned did not succeed in adopting similar approaches. The Conference confirmed, on the contrary, that as far as energy issues were concerned, differences of opinion could be discerned within parties belonging to the same Government coalition.

Without describing in detail discussions which go beyond the issue of nuclear energy and concern more strictly political questions of relations between the parties making up the Government, it is nevertheless of interest to mention some of the proposals for solving the referendum problem, inasmuch as they are based on legal arguments.

One of these proposals, initially put forward by the Communist Party and later taken up - although on a significantly different basis - by the Christian Democrats, was to proceed with a consultative referendum rather than an abrogative one, i.e. to hold a referendum which did not automatically involve the repeal of statutory provisions in force, but could nevertheless constitute a valid guide for the Government and Parliament in taking decisions.

However, as already indicated, there is no provision in the Constitution for a referendum of this type. For that reason, the proposal first envisaged an appropriate amendment of the Constitution, using a procedure which, though provided for under the Constitution itself, is a somewhat complex one. It comprises two successive debates by each of the two Houses of Parliament, separated by an interval of at least three months, the decision after the second debate being taken on an absolute majority basis. Subsequently, under the pressure of events - since the political crisis had then reached its height - the proposal to proceed with a consultative referendum was renewed. However, this time its sponsors intended to have it adopted simply by means of ordinary legislation, giving the referendum in question the status merely of an opinion poll, and thus not directly affecting the legislation in force.

The idea, in practice, was to proceed with a referendum which was altogether similar to those conducted outside the scope of Article 75 of the Constitution and which are held at local level, on the initiative of commune authorities. In recent years, referendums of this type have indeed been conducted at local level to allow the inhabitants concerned to vote on the siting of conventional electric power stations. The electorate has always voted by an overwhelming majority against the setting up of such power plants.

In the case in point, however, this type of referendum was to be nationwide in scope. That is why - apart from the fact that it was not accepted by the politicians - this proposal also gave rise to strong doubts of a legal nature on the part of the majority of constitutional law experts. These experts considered that it would in any event be necessary to amend the Constitution since the Parliament of the time had, after lengthy discussions, decided expressly to exclude referendums of a consultative nature.

The second initiative, on which most of the political parties and the Government formed after the last elections reached agreement, concerned the period which had to elapse before the referendums could be held. As provided for under Section 34 of Act No. 352 of 1970, this period was excessively long for this reason, and in an obvious effort to overcome the growing differences

between the various political entities, the Government submitted, a long time before the elections, a Bill to amend the provisions of Section 34. Under this Bill, abrogative referendums were to be allowed only six months after political elections, i.e. after a much shorter period than before.

Due to the dissolution of Parliament and the elections which followed, this Bill made no further progress, but a new Bill was presented by the new Government at the very beginning of its mandate. This was a special Act which was rapidly approved by Parliament and has thus already entered into force (Act of 7th August 1987). As concerns the referendums on nuclear power and the accountability of judges, it introduced special provisions which will not be applied to any other future referendums. In substance, the Act provided for certain exceptions to Act No. 352 of 1970 and, in particular, specified that the above-mentioned referendums would be held on a Sunday between 15th October and 30th November 1987. The exact date was later fixed at 8th November 1987.

7 The referendum campaign

Once the date for voting had been fixed, the referendum campaign was opened and the political parties informed the electorate of their policy with regard to each referendum.

Bearing in mind the wording on the ballot paper ("Are you in favour of the abrogation of Section . ?"), in accordance with which persons in favour of the abrogation of the provisions in question (i.e. in agreement with the anti-nuclear coalition) had to vote YES, whereas those in favour of the provisions being retained (i.e. in favour of nuclear power) had to vote NO, the political parties supplied the information set out in the following Table

	1st Nuc Ref (Local subsidies)	2nd Nuc Ref (Siting of power plants)	3rd Nuc Ref (Power plants abroad)
MSI Extreme right	YES	YES	NO
PLI Liberals	NO	NO	NO
DC Christian Democrats	YES	YES	NO
PRI Republicans	NO	NO	NO
PSDI Social Democrats	YES	YES	YES
PSI Socialists	YES	YES	YES
PR Radicals	YES	YES	YES
GREENS Ecologists	YES	YES	YES
PCI Communists	YES	YES	YES
DP Extreme left	YES	YES	YES

It seems clear that while the YES vote of certain parties conformed to a resolutely anti-nuclear stance, the same vote by other parties reflected instead a strategical move. These latter parties hoped to obtain the repeal of the provisions in question - which in any event were of a marginal nature in the overall context of legislation on nuclear installations - so as to remove any political significance from such a vote.

The two referendums on legal matters rendered the situation more complex still, one of them, the referendum relating to the accountability of judges, brought to light differences of policy, including differences within each party (especially the Communist Party).

8 The referendum results

As already mentioned, voting took place on 8th November 1987 and gave rise to the results set out in the following Table.

	1st Nuc Ref (Local subsidies)	2nd Nuc Ref (Siting of power plants)	3rd Nuc Ref (Power plants abroad)
Number of registered voters	45,800,017	45,800,017	45,800,017
Votes cast	29,840,520 (65.2%)	29,837,961 (65.1%)	29,840,833 (65.2%)
YES	20,996,347 (80.6%)	20,601,293 (79.7%)	18,803,403 (71.8%)
NO	5,056,150 (19.4%)	5,257,462 (20.3%)	7,371,117 (29.2%)
Valid votes total	26,052,497	25,858,755	26,174,610
Blank ballot papers	2,536,648 (8.5%)	2,654,572 (8.9%)	2,388,117 (8.0%)
Spoiled ballot papers	1,251,375 (4.2%)	1,324,634 (4.4%)	1,278,106 (4.3%)
Invalid papers total	3,788,023 (12.7%)	3,979,206 (13.3%)	3,666,223 (12.3%)

As can be seen from these figures, the YES (i.e. anti-nuclear) coalition won the day by obtaining between 71 per cent and 80 per cent of the votes cast in the three nuclear referendums. The highest results were obtained with respect to the two referendums concerning legal matters, for which the YES votes represented 80.2 per cent and 85.1 per cent respectively.

It must, however, be emphasized that only 65 per cent of the electorate participated in these referendums, this being a very low percentage in Italy, where participation in elections is normally much higher.

In this respect, it should also be noted that, under the Act implementing Article 75 of the Constitution, referendums are not valid unless at least 50 per cent of voters nation-wide have participated in them. In certain regions, participation was lower than this minimum.

What is more, the percentage of blank and spoiled ballot papers was high: 12 to 13 per cent.

These factors demonstrate that, in addition to the YES and NO coalitions, there was a third large group which did not follow the wishes of the political parties and which was opposed to the holding of the referendums. Moreover, such an approach was adopted, during the electoral campaign, by several influential newspapers. These newspapers argued that it was inadvisable to submit to the popular vote, issues as complex as those of energy policies and the accountability of judges. It was argued that these were problems which, since they require a detailed knowledge of the technical background and careful consideration of the facts, might be incomprehensible to the majority of voters or, in any event, difficult to understand.

9 Abrogation of the provisions to which the referendums related

In view of the majority obtained by the YES coalition, the provisions to which the referendum related must now be repealed. This is the first time that such an event has occurred since, in all other referendums held previously in Italy, the majority of the electorate has always voted against the abrogation of the legal provisions in question.

When considering the specific consequences which may result from this, it must be first be borne in mind that the abrogation of the provisions to which the three nuclear referendums related cannot, in law, have retroactive effect. It follows that site location procedures which were already completed should not be called into question, any more than agreements already concluded by ENEL to participate in foreign companies should be revoked.

Moreover, the special Act which made it possible to hold the referendums early also provides that in the event of a vote in favour of repealing the provisions, the Government may postpone such a repeal for up to four months from the date of the vote. In fact, under ordinary procedures, there should only be a two-month delay.

Clearly, the intention was, by using this provision applicable only to the referendums on nuclear energy and the accountability of judges, to make it possible for the Government and politicians to continue to take decisions on the topics in question, even *a posteriori*, after the vote by the electorate.

The purpose of this was to be able, once the result of the referendums was known, to reach an agreement between the political parties on the adoption of new legislation which naturally should contain substantial changes as compared to the previous law. In this way, it would be possible, in the event of a vote for abrogation, to substitute new rules for the provisions to be repealed and thus to avoid any undesirable legislative gaps.

At the present time, the situation is still developing and it therefore does not seem possible for the moment to say which solutions might in practice be adopted. However, it is certain that the vote expressed by the electorate in the referendums of 8th November last will have a considerable influence on the policies adopted in the energy field and will clearly affect nuclear energy's future potential in Italy.

BIBLIOGRAPHY

• *Federal Republic of Germany*

Archiv des Völkerrechts, Vol. 25, No 3, 1987, published by J C B Mohr (Paul Siebeck) Verlag, Tübingen, 1987, pp 277-369

This issue of the German Journal on Public International Law "Archiv des Völkerrechts" is focused on international nuclear energy law and contains articles by specialists in this field.

Michael Klopfer (University of Trier) deals with "International law problems of nuclear power plants near a State border (Internationalrechtliche Probleme grenznaher Kernkraftwerke) (pp 277-293) He illustrates his topic with the French nuclear installations at Cattenom After having pointed out that the operation of nuclear installations, including those near a State border is, in principle, a permissible activity under public international law Klopfer gives special attention to the recommendations of the trilateral "Commission internationale pour la protection de la Moselle contre la pollution" concerning radioactive releases into the Mosel river He affirms the obligatory character of these recommendations and summarises the legal possibilities of making them effective

Norbert Pelzer (University of Göttingen) investigates the legal consequences of the Chernobyl accident in his article "The impact of the Chernobyl accident on international nuclear energy law" (pp 293-311) Although a network of legal provisions concerning the use of nuclear energy were in force before the accident at Chernobyl occurred, that event proved that there were still gaps in the system. The author deals with the efforts begun in the aftermath of the accident in order to cope with the new situation According to the author, general acceptance of the peaceful uses of nuclear energy under public international law remained unaffected notwithstanding a growing opposition in various countries International organisations, especially the IAEA, played a leading role in dealing with the creation of new legal regimes Focal points of improving existing rules were preventive measures (e g the conclusion of the 1986 Vienna Conventions on Early Notification of a Nuclear Accident and on Assistance in the Case of a Nuclear Accident or Radiological Emergency) and measures to assure compensation for damage (e g improving the existing Paris and Vienna Conventions' regimes).

Dietrich Rauschnig (University of Göttingen) in his article on "Right of foreign residents to bring an action against a domestic nuclear installation licence" (Klagebefugnis von Auslandsbewohnern gegen eine inländische Atomlagenebene) criticises a judgment of the Federal Administrative Court of 17th December 1986 which granted such right to bring an action to residents of EC Member States (pp 312-332) Rauschnig's arguments are based on public

international law rules as well as on an interpretation of German domestic law. He deal in particular with the Court's ruling that the special relations among EURATOM Member States requires granting of a right of action to residents of such States. Moreover, the author points out the practical difficulties and consequences involved in the implementation of the judgment.

In addition to the above articles, this issue of "Archiv des Völkerrechts" contains the English texts of the 1986 Vienna Conventions on Early Notification and on Assistance (pp 342-354) and finally, the text of the above-mentioned judgment of the Federal Administrative Court (pp 355-360).

• *Italy*

Lezioni di diritto dell'energia, G. G. Gentile, Collana di studi giuridici 4, Libera Università Internazionale degli Studi Sociali, Roma, Giuffrè Editore, Milan, 1987, 378 pages

This book is the fourth in a series of publications dealing with the different aspects of law. It contains studies relating to energy law and includes a section (No IV) on the special legal regime for nuclear activities, prepared by international legal specialists.

Section IV is divided into four chapters. Chapter I analyses the legal framework for peaceful industrial nuclear activities in Italy and in other European countries and compares the different nuclear procedures in France, the Federal Republic of Germany, Belgium, Spain. In particular, the author reviews Italian case-law on nuclear power plant siting and the competence of national authorities in the licensing process.

Chapter II deals with the third party liability of the nuclear operator and begins with a review of the international nuclear liability Conventions, namely the 1960 Paris Convention and its 1963 Brussels Supplementary Convention, the 1963 Vienna Convention and the 1962 Convention on the liability of operators of nuclear ships as well as the 1971 Convention relating to civil liability in the field of maritime carriage of nuclear material. The second part of this chapter deals with national nuclear liability legislation, it discusses the liability of the nuclear operator, the constructor of nuclear installations and the carrier of nuclear material respectively. Also described are the concepts of nuclear incident and nuclear damage, channelling of liability and its limitations. Finally, a comparative analysis is made of the different national nuclear liability regimes.

Chapter III concerns the decommissioning of nuclear installations in the context of the Paris Convention, and the liability and insurance problems raised. The author points out that the Convention is silent on this question and reviews the technical characteristics of an installation in the process of decommissioning (when the nuclear fuel has been removed from the site).

Following an analysis of the different levels of risk, and the legal, administrative and technical uncertainties in respect of the application of the Convention to such installations, he concludes that it is preferable for them to be covered by the special nuclear third party liability regime and not by common law. The solution lies with the OECD Steering Committee for Nuclear Energy which has the power, under the Convention, to clarify this problem.

Chapter IV covers protection against ionizing radiation. The author reviews international radiation protection regulations and describes the work of the international competent organisations on the basis of the recommendations of the International Committee on Radiation Protection (ICRP), these organisations (NEA, IAEA, WHO and ILO) collaborate in this work. Following this review, special mention is made of EURATOM's radiation protection Directives which are binding on Community States. Also, Italian radiation protection legislation is described with particular regard to nuclear power plants and ionizing radiation sources.

The Appendix to this publication contains the texts of Italian nuclear legislation and the consolidated texts of the Paris Convention and the Brussels Supplementary Convention, including the 1982 Protocols to amend them.

• *United Kingdom*

The State and Nuclear Power - Conflict and Control in the Western World, by Joseph A. Camilleri, published by Wheatsheaf Books Ltd, a member of the Harvester Publishing Press Group, Brighton, 1984, 347 pages

The author, a professor of political science, observes in his book that the nuclear controversy, because of the major role it has played in the politics of most Western countries, provides a rich example for the teaching of State decision-making in the creation and development of a new industry.

The study is divided in three parts. The first part examines the modalities, scope and efficiency of state intervention in the decision-making process. In noting that States, particularly Western States, are not monolithic, the author believes that the tendency towards centralisation is counterbalanced, to differing degrees in different countries, by the division of power between the central government, parliament, and the judicial branch, administration and public enterprises, regional and local authorities, and by the diverse opportunities of expression afforded to sectoral interests.

The second part of the book looks at the challenge presented by the nuclear debate to the legitimate power of the State in its relation with society. The dissemination of nuclear technology has created economic and military rivalries among States and the author tries to evaluate to what extent the policies of different States have succeeded in balancing national interests and the preservation of an international order.

The method employed by the author is a comparative one based on the search for similarities and differences in the functioning and results obtained by the state systems of the United States, France, the Federal Republic of Germany, the United Kingdom, and Brazil. The work is well documented principally by Anglo-American and French sources

• *United States*

The International Atomic Energy Agency and World Nuclear Order by Lawrence Scheinman, published by Resources for the Future, Washington DC, distributed worldwide by the Johns Hopkins University Press, Baltimore, 1987, 320 pages

This book critically assesses the structure and functions of the IAEA, identifies key issues confronting the Agency today, and offers recommendations for dealing with the challenges it faces

Following an analysis of the non-proliferation regime, and its evolution (Chapter 1), the background and origins of the IAEA from the Baruch plan, through Atoms for Peace, to negotiations resulting in the establishment of the Agency are discussed in Chapter 2

Chapter 3 provides an overview of the structure and programmatic activities of the IAEA. Emphasis is given to the special structural characteristics of the Agency and their evolution, in particular the Board of Governors, the General Conference, and the Secretariat. Discussion of the programme is focused primarily on technical co-operation and assistance

Chapters 4 and 5 deal with the Agency's Safeguards System. Chapter 4 discusses the development of safeguards, from the inception of the Agency, to the time it assumed safeguards responsibilities under the 1970 Treaty on the Non-Proliferation of Nuclear Weapons (NPT), with particular attention to the non-NPT safeguards document (INFCIRC/66), the latter still applies today to a number of potential proliferator states including Pakistan, India, Argentina, Brazil, South Africa, and Israel. Chapter 5 describes the NPT safeguards document (INFCIRC/153), examining the differences and similarities with the earlier document (INFCIRC/66) and the impact of a broadened responsibility on the Agency. Together, the chapters look into the objectives of safeguards, implementation experience, and the problems that have arisen

Chapter 6 reviews the main events of the mid- and late 1970s (for example, India's nuclear test, the imminent spread of sensitive nuclear technologies to unstable regions of the world, the growing competitiveness of the world nuclear market) that contributed to a change in national non-proliferation policies in certain key states, particularly the United States, and considers the impact of those policy changes on the IAEA, international safeguards, and the non-proliferation regime

Chapter 7 examines four key problems that have confronted the IAEA as a consequence of the changing international environment described in the previous chapter, and considers the effect that they have had on the Agency's ability to fulfil its statutory responsibilities and the impact of that on the international nuclear regime

Chapter 8, which is the concluding chapter, summarises the key aspects of the preceding analysis. Four ways through which the Agency could be strengthened are identified

- more effective leadership roles for its most important members, particularly the United States;
- increased political, financial, technical, and human support for the safeguard functions of the Agency;
- greater efforts to prevent the Agency from becoming suffused with extraneous and polarizing political issues;
- balancing of advanced country interests in safeguards and developing country interests in enhanced availability of technical assistance

The measures or actions are proposed in the interest of ensuring successful continuation of the IAEA as a central cog in the machinery of international nuclear co-operation and non-proliferation

**WHERE TO OBTAIN OECD PUBLICATIONS
OU OBTENIR LES PUBLICATIONS DE L'OCDE**

ARGENTINA ARGENTINE

Carlos Hirsch S.R.L.
Florida 165 4º Piso,
(Galera Guemes) 1333 Buenos Aires
Tel 33 1787 2391 y 30 7122

AUSTRALIA AUSTRALIE

D A Book (Aust.) Pty Ltd.
11 13 Station Street (P O Box 163)
Mitcham, Vic. 3132 Tel (03) 873 4411

AUSTRIA AUTRICHE

OECD Publications and Information Centre,
4 Simrockstrasse,
5300 Bonn (Germany) Tel (0228) 21 60 45
Gerold & Co Graben 31 Wien I Tel 52 22.35

BELGIUM BELGIQUE

Jean de Lannoy
avenue du Roi 202
B-1060 Bruxelles Tel (02) 538 51 69

CANADA

Renouf Publishing Company Ltd/
Éditions Renouf Ltée,
1294 Algona Road, Ottawa, Ont. K1B 3W8
Tel (613) 741-4333

Toll Free/Sans Frais

Ontario, Quebec, Maritimes

1-800-267 1805

Western Canada, Newfoundland

1-800-267 1826

Stores/Magasins

61 rue Sparks St. Ottawa, Ont. K1P 5A6
Tel (613) 238-8985

211 rue Yonge St. Toronto, Ont. M5B 1M4
Tel (416) 363-3171

DENMARK DANEMARK

Munksgaard Export and Subscription Service
35 Nørre Søgade, DK 1370 København K
Tel +45 1 12.85 70

FINLAND FINLANDE

Akateeminen Kirjakauppa,
Keskuskatu 1 00100 Helsinki 10 Tel 0 12141

FRANCE

OCDE/OECD
Mail Orders/Commandes par correspondance
2, rue André-Pascal
75775 Paris Cedex 16
Tel (1) 45 24 82.00

Bookshop/Librairie 33 rue Octave-Feuillet
75016 Paris
Tel (1) 45 24 81 67 or/ou (1) 45 24 81 81

Librairie de l'Université
12a rue Nazareth
13602 Aix-en-Provence Tel 42.26 18 08

GERMANY ALLEMAGNE

OECD Publications and Information Centre,
4 Simrockstrasse,
5300 Bonn Tel (0228) 21 60 45

GREECE GRÈCE

Librairie Kauffmann,
28 rue du Stade, 105 64 Athens Tel 322 21 60

HONG KONG

Government Information Services,
Publications (Sales) Office,
Information Services Department
No. 1 Battery Path, Central

ICELAND ISLANDE

Snaebjörn Jónsson & Co. h.f
Hafnarstræti 4 & 9
P O B. 1131 - Reykjavik
Tel 13133/14281/11936

INDIA INDE

Oxford Book and Stationery Co.
Scandia House New Delhi I Tel 331 5896/5308
17 Park St. Calcutta 700016 Tel. 240832

INDONESIA - INDONÉSIE

Pdu-Lipi, P O Box 3065/JKT.Jakarta
Tel 583467

IRELAND IRLANDE

TDC Publishers Library Suppliers,
12 North Frederick Street, Dublin 1
Tel 744835-749677

ITALY ITALIE

Libreria Commissionaria Sansoni,
Via Lamarmora 45 50121 Firenze
Tel 579751/584468

Via Bartolini 29 20155 Milano Tel 365083
Editrice e Libreria Herder
Piazza Montecitorio 120 00186 Roma
Tel 6794628

Libreria Hoepli,
Via Hoepli 5 20121 Milano Tel 865446
Libreria Scientifica

Dott. Lucio de Bussio "Aesou"
Via Meravigli 16, 20123 Milano Tel 807679
Libreria Lattes,
Via Garibaldi 3 10122 Torino Tel 519274

La diffusione delle edizioni OCSE è inoltre
assicurata dalle migliori librerie nelle città più
importanti

JAPAN - JAPON

OECD Publications and Information Centre
Landic Akasaka Bldg. 2-3-4 Akasaka,
Minato-ku, Tokyo 107 Tel 586 2016

KOREA - CORÉE

Kyobo Book Centre Co. Ltd
P O Box Kwang Hwa Moon 1658
Seoul Tel (REP) 730 78 91

LEBANON LIBAN

Documenta Scientifica/Redco,
Edison Building, Bliss St.
P O B. 5641 Beirut Tel 354429-344425

MALAYSIA - MALAISIE

University of Malaya Co-operative Bookshop
Ltd
P O Box 1127 Jalan Pantai Baru,
Kuala Lumpur Tel 577701/577072

NETHERLANDS PAYS-BAS

Staatsuitgeverij
Chr Plantijnstraat, 2 Postbus 20014
2500 EA S-Gravenhage Tel 070-789911
Voor bestellingen Tel 070-789880

NEW ZEALAND NOUVELLE-ZÉLANDE

Government Printing Office Bookshops.
Auckland Retail Bookshop, 25 Rutland Street,
Mail Orders, 85 Beach Road
Private Bag C P O

Hamilton Retail Ward Street,
Mail Orders, P O Box 857
Wellington Retail Mulgrave Street, (Head
Office)

Cubacade World Trade Centre,
Mail Orders, Private Bag
Christchurch Retail 159 Hereford Street,
Mail Orders, Private Bag

Dunedin Retail Princes Street,
Mail Orders, P O Box 1104

NORWAY NORVÈGE

Tanum-Karl Johan
Karl Johans gate 43 Oslo 1
PB 1177 Sentrum, 0107 Oslo 1Tel (02) 42.93 10

PAKISTAN

Mirza Book Agency
65 Shahrah Quaid E-Azam, Lahore 3 Tel 66839

PORTUGAL

Libreria Portugal
Rua do Carmo 70-74 1117 Lisboa Codex
Tel 360582/3

SINGAPORE SINGAPOUR

Information Publications Pte Ltd
Pei-Fu Industrial Building,
24 New Industrial Road No. 02-06
Singapore 1953 Tel 2831786, 2831798

SPAIN ESPAGNE

Mundi-Prensa Libros, S A
Castelló 37 Apartado 1223 Madrid 28001
Tel 431 33 99

Libreria Bosch Ronda Universidad 11
Barcelona 7 Tel 317 53 08/317 53 58

SWEDEN SUÈDE

AB CE Fritzes Kungl. Hovbokhandel,
Box 16356, S 103 27 STH
Regeringsgatan 12,
DS Stockholm Tel. (08) 23 89 00

Subscription Agency/Abonnements
Wennergren-Williams AB,
Box 30004 S104 25 Stockholm Tel (08)54 12 00

SWITZERLAND - SUISSE

OECD Publications and Information Centre,
4 Simrockstrasse
5300 Bonn (Germany) Tel (0228) 21 60 45

Librairie Payot,
6 rue Grenus, 1211 Genève 11
Tel (022) 31 89 50

**United Nations Bookshop/
Librairie des Nations-Unies**

Palais des Nations,
1211 - Geneva 10
Tel 022 34-60-11 (ext 48 72)

TAIWAN - FORMOSE

Good Faith Worldwide Int'l Co Ltd
9th floor No. 118 Sec 2
Chung Hsiao E. Road
Taipei Tel 391 7396/391 7397

THAILAND THAÏLANDE

Suksat Siam Co Ltd
1715 Rama IV Rd
Samyarn Bangkok 5 Tel 2511630

TURKEY TURQUIE

Kültür Yayınları Is-Türk Ltd St
Atatürk Bulvarı No 191/Kat. 21
Kavaklıdere/Ankara Tel 25 07 60

Dolmabahçe Cad No 29
Besiktas/Istanbul Tel 160 71 88

UNITED KINGDOM ROYAUME-UNI

H M Stationery Office
Postal orders only (01)211-5656
P O B. 276, London SW8 5DT
Telephone orders (01) 622.3316, or

Personal callers
49 High Holborn London WC1V 6HB
Branches at Belfast, Birmingham
Bristol Edinburgh Manchester

UNITED STATES ÉTATS-UNIS

OECD Publications and Information Centre,
2001 L Street, N W Suite 700
Washington, D C 20036 4095
Tel (202) 785 6323

VENEZUELA

Libreria del Este,
Avda F Miranda 52 Aptdo 60337
Edificio Galipan Caracas 106
Tel 32 23 01/33 26 04/31 58 38

YUGOSLAVIA YUGOSLAVIE

Jugoslovenska Knjiga Knez Mihajlova 2,
P O B 36, Beograd Tel 621 992

Orders and inquiries from countries where
Distributors have not yet been appointed should be
sent to

OECD Publications Service Sales and
Distribution Division 2, rue André-Pascal 75775
PARIS CEDEX 16

Les commandes provenant de pays où l'OCDE n a
pas encore désigné de distributeur peuvent être
adressées à

OCDE, Service des Publications, Division des
Ventes et Distribution 2 rue André-Pascal 75775
PARIS CEDEX 16

71055-09-1987

OECD PUBLICATIONS, 2, rue André-Pascal, 75775 PARIS CEDEX 16 No. 44223 1988
PRINTED IN FRANCE
(57 87 40 1) ISSN 0304-341X