

NUCLEAR
LAW
Bulletin
number 26

Contents

<i>Legislative and Regulatory Activities</i>	4
<hr/>	
<i>International Organisations and Agreements</i>	30
<hr/>	
<i>Texts</i>	41
<hr/>	
<i>Studies and Articles</i>	45
<hr/>	
<i>Bibliography</i>	58
<hr/>	

Nuclear Energy Agency

Organisation for Economic Co-operation and Development

LIST OF CORRESPONDENTS TO THE NUCLEAR LAW BULLETIN

- ARGENTINA - Mr. MARTINEZ FAVINI, Head of Legal Department, National Atomic Energy Commission
- AUSTRALIA - Office of External Relations, Australian Atomic Energy Commission
- AUSTRIA - Dr. STEINWENDER, Director at the Federal Chancellery
- BELGIUM - Mr. STALLAERT, Social Security Administration, Ministry of Employment and Labour
- Mr. DE SMEDT, Legal Counsellor, Ministry of Economic Affairs
- BRAZIL - Mrs. C. DO AMARAL LINHARES GOMES LEITE, Legal Adviser, Comissao Nacional de Energia Nuclear
- CANADA - Mr. BARKER, Director, Legal Services, Atomic Energy Control Board
- DENMARK - Mr. MELCHIOR, Head of Division, Ministry of Justice
- FINLAND - Mr. SAHRAKORPI, Legal Adviser, Ministry of Trade and Industry
- FRANCE - Mr. Mayoux, Deputy to the Head of the Legal Affairs Department, Atomic Energy Commission
- GERMANY (Federal Republic) - The Institute of Public International Law of Göttingen University, Department of Nuclear Law (Dr. PELZER)
- GHANA - Mr. LEBRECHT HESSE, State Attorney, Ministry of Justice
- GREECE - Greek Atomic Energy Commission
- INDONESIA - Mrs. SOEPRAPTO, Head of Legal Division, National Atomic Energy Agency
- IRELAND - Mr. SWEETMAN, Barrister-at-Law, Dublin
- Department of Transport and Power
- ISRAEL - Mr. NATIV, Legal Adviser of the Israeli Atomic Energy Commission
- ITALY - Mr. MARCHETTI, President of Session, Supreme Court
- Dr. NOCERA, National Committee for Nuclear Energy, Central Directorate for Nuclear Safety and Health Protection, Legal Section
- JAPAN - The Head of the Policy Division, Atomic Energy Bureau, Science and Technology Agency (Mr. MIYAMOTO)
- Mr. SHIMOYAMA, Deputy Manager of Financial and Purchasing Department, Japan Atomic Power Company

- NETHERLANDS - Mr. VAN GALEN LAST, Head of the Atomic Affairs Section,
Ministry of Foreign Affairs
- Mr. CORNELIS, Directorate of Nuclear Energy and
Radiation Protection, Ministry of Public Health and
Environmental Hygiene
- NEW ZEALAND - Mr. W.N. MacQUARRIE, Executive Secretary, Atomic Energy
Committee
- NORWAY - Ms. I.M. SITRE, Legal Adviser, Department of Legislation,
Ministry of Justice
- PHILIPPINES - Mr. CRISTOBAL, Legal Counsel for Nuclear Matters,
National Power Corporation
- PORTUGAL - Mrs. A. SETTE PIMENTA, Head, International Relations of
the Nuclear Energy Department, General Directorate for
Energy
- SPAIN - Mr. DE LOS SANTOS LASURTEGUI, Legal Adviser, Junta de
Energia Nuclear
- SWEDEN - Mr. JACOBSSON, Legal Adviser, Ministry of Justice
- Mr. HEDELIUS, Legal Adviser, Swedish Nuclear Power
Inspectorate
- SWITZERLAND - Mr. ZOGMAL, Legal Services, Office of Energy Economy,
Federal Department for Transport, Communications and
Energy
- THAILAND - Mr. KESHAGUPTA, Director of Health Physics Division,
Office of Atomic Energy for Peace
- TURKEY - Mrs KIPER, Head of External Relations, Turkish Atomic
Energy Commission
- UNITED KINGDOM - Mr. VENABLES, Assistant Treasury Solicitor, Treasury
Solicitor's Department, Department of Energy
- Mr RITCHIE, Legal adviser of the Atomic Energy
Authority of the United Kingdom
- UNITED STATES - Mr BRUSH, Department of Energy
- Nuclear Regulatory Commission
- ZAIRE - Mr MALU WA KALENGA, Commissioner for Nuclear Science
- IAEA - Mr HA VINH PHUONG, Legal Division, International Atomic
Energy Agency
- EURATOM - Mr PRELLE, Ispra Joint Research Centre, Commission of
the European Communities
- WHO - Dr. COOPER, Principal Editor, Periodicals, World Health
Organisation

LEGISLATIVE AND REGULATORY ACTIVITIES

• *Austria*

NUCLEAR LEGISLATION

Procedure for reconsideration of the use of nuclear energy (1980)

From 3rd to 10th November 1980, two opposing groups entered into a procedure (Volksbegehren) to reopen a debate in Parliament on the use of atomic energy concerning which, an Act of 1978, adopted following the negative result of a referendum in this respect, provides that it is forbidden in Austria to use nuclear fission to provide energy (see Nuclear Law Bulletin No. 23)

According to this procedure, two public petitions were opened for signature, the first aimed to obtain that the Zwentendorf nuclear power plant, whose commissioning had been at the core of the 1978 referendum, be converted immediately into a conventional thermal plant, while the second petition requested that the ban on nuclear energy be lifted so as to put that same plant into operation. The latter petition collected many more signatures (422,431) than required for this type of procedure (200,000). The anti-nuclear petition, on the other hand, collected only 147,764. Under the Constitution, Parliament must place on its agenda for discussion any petition containing at least 200,000 signatures. It should be noted, however, that in order to amend the 1978 Act, a three-quarters parliamentary majority vote is required.

RADIATION PROTECTION

1978 Decree relating to the Act on chest X-ray examinations

This Decree of 19th December 1978 was issued by the Federal Minister for Health and Environmental Protection (published in Mitteilungen der Osterreichischen Sanitätsverwaltung, Vol 80, No 3 of 15th March 1979) and concerns the periodicity of chest X-ray examinations. The Decree provides that such examinations should henceforth be carried out not more than once every two years.

1979 Decree on fluoroscopic examinations of patients in sanatoria

The Radiation Protection Act of 11th June 1969 (see Nuclear Law Bulletin Nos. 3 and 4) and the Radiation Protection Ordinance of 12th January 1972 (see Nuclear Law Bulletin Nos 8 and 9), supplementing the Act, provide that ionizing radiation shall be applied to the human body for medical purposes only, in the light of existing scientific and medical knowledge, and that exposure to radiation during radiographic examinations must be limited to that necessary for the examination.

Accordingly, this Decree of 3rd May 1979 of the Federal Minister for Health and Environmental Protection (published in *Mitteilungen der Osterreichischen Sanitätsverwaltung*, Vol 80, No. 6 of 15th June 1979) prescribes a set of rules to be complied with during such examinations. The latter should be undertaken on medical indication only, the physician referring patients for examinations, must determine their time and frequency and also state the queries to be satisfied by the radiologist. The method of examination must be such as to ensure minimum exposure to radiation. Finally, the Decree recommends that since radiation doses are considerably higher in fluoroscopic than in radiographic examinations, the former should, in particular, be restricted to those strictly necessary.

• *Belgium*

THIRD PARTY LIABILITY

Royal Order of 13th May 1980 fixing the operator's maximum amount of liability for a nuclear incident

This Royal Order (published in the Belgian Official Gazette of 21st June 1980) was made under the Act of 18th July 1966 on nuclear third party liability (see Nuclear Law Bulletin No 6), which provides for certain implementing provisions regarding the Paris Convention. The Order, which fixes the maximum amount of the operator's liability for damage caused by a nuclear incident, was made for the purpose of raising that liability, previously set by the Act at 500 million Belgian francs, to a maximum of one thousand million Belgian francs per incident. This measure was taken with a view to keeping such liability at least at a constant value, having regard to the rise in the price index during the period 1966-1978

• *Brazil*

ORGANISATION AND STRUCTURE

Decree of 26th July 1979 providing for the transfer of two Institutes to the National Nuclear Energy Commission

Under Decree No 70 855 of 21st July 1972 the Radiation Protection and Dosimetry Institute and the Nuclear Engineering Institute were placed under the Nuclear Technology Centre, run by the Brazilian Nuclear Undertakings Ltd (NUCLEBRAS) (see Nuclear Law Bulletin Nos 9 and 23). This 1979 Decree, No. 80 783, provides that both Institutes should be transferred back to the National Nuclear Energy Commission (CNEN), together with the assets required for their operation.

The Decree entered into force on the day of its publication.

Decree of 22nd January 1980 amending the Decree of 7th April 1975 concerning the structure of the National Nuclear Energy Commission

The 1975 Decree (No 75 569) made provision for the structure, organisation and duties of the National Nuclear Energy Commission (CNEN). The CNEN is supervised by a Steering Committee (Comissao Deliberativo - DB) and several executive bodies and directorates are responsible for its different activities.

Decree No. 84 411 of 22nd January 1980 provides, inter alia, for the management and tasks of the Radiation Protection and Dosimetry Institute and the Nuclear Engineering Institute (see above), within the CNEN.

• *Canada*

NUCLEAR LEGISLATION (general regime)

Information Bill (1980)

After implementation on 1st May 1980 of the Atomic Energy Control Board's policy on public access to licensing information (see Nuclear Law Bulletin No. 25) the Secretary of State introduced a general Information Bill on 17th July 1980 which should also concern nuclear activities and relates to the following principles set down below:

Freedom of information legislation creating a public right of access to government information, privacy legislation extending individual right of access to and protection of personal information in government files, and elimination of absolute Crown privilege, giving courts right of access to all government documents in litigation

RADIATION PROTECTION

1979 amendment to the Radiation Emitting Devices Regulations of 1972

The Radiation Emitting Devices Regulations of 10th February 1972 (see Nuclear Law Bulletin No. 11), as amended were further amended by Order of 2nd March 1979 (SOR/79-229, Canada Gazette Part II, Vol 113, No 5 of 14th March 1979).

The amendments concern revocation of certain technical items in Schedules A and B to the Regulations and their replacement, namely regarding the definition of television receivers, photofluorographic X-ray equipment, specification of indicators for X-ray tube housing etc

REGIME OF NUCLEAR INSTALLATIONS

1979 Amendment to the Atomic Energy Control Regulations of 1974

The Atomic Energy Control Regulations of 30th May 1974, as amended (see Nuclear Law Bulletin Nos. 14 and 21) have been further amended by Order of 22nd May 1979 (SOR/79-422, Canada Gazette Part II, Vol. 113, No. 11 of 13th June 1979)

The amendments concern, in particular, the definition of a "prescribed item", of an "atomic radiation worker", and the definition in the French version of "unité alpha ou WL". In addition, the French version of Sub-section 21(1) has been replaced and refers to the procedure to be followed for reporting exposure to radiation in excess of prescribed levels

• *Finland*

NUCLEAR LEGISLATION

Nuclear Energy Bill (1980)

In February 1978, the Ministry of Trade and Industry set up a Committee for the purpose of undertaking an overall review of the 1957

Atomic Energy Act and preparing new legislation on nuclear waste management in Finland (see Nuclear Law Bulletin Nos. 21 and 22) The Committee has now proposed a Nuclear Energy Bill to replace the present Atomic Energy Act (356/571) (reproduced in Nuclear Law Bulletin No 11) The following is an analysis of the provisions of the proposed Bill

In its proposal, the Committee took as its starting point that the use of nuclear energy without a licence shall be forbidden and that in the use of nuclear energy, account shall be taken of the general interest of society as a whole, the safety of the use of nuclear energy from both the human and the environmental viewpoints, the need to ensure proper management of nuclear wastes, and the commitments of Finland under its international agreements in the field of nuclear energy

Scope of the Bill

The scope of application of the Bill is wider than that of the present Act, primarily in order to include within the sphere of control, certain measures which are important from the standpoint of organising the management of nuclear wastes and preventing the proliferation of nuclear weapons. The new Nuclear Energy Act would be applied. a) to construction, possession and operation of a nuclear installation (meaning installations, including research reactors, for producing nuclear energy as well as installations to be used for the extensive preparation, production, use, handling or storage of both nuclear substances and nuclear wastes); b) to the possession, preparation, production, transfer, handling, operation, storage, transportation, exportation and importation of nuclear substances and nuclear wastes; c) to the use and possession of nuclear-powered vehicles in the area of Finland; as well as d) to the exportation and importation of ores and concentrates containing uranium and thorium.

It is proposed that a statutory order should specify how the new Nuclear Energy Act would apply to the possession, transfer, importation and exportation of substances, devices, apparatus and equipment used in the production of nuclear energy to the extent that these are significant from the standpoint of prevention of nuclear weapon proliferation or that they constitute the subject of the obligations of Finland under its international agreements in the field of nuclear energy. The field of application of the Act would also cover the conclusion of agreements with a foreign national or a foreign corporate body concerning the use of nuclear energy, when such agreements are to be implemented elsewhere than in Finland and have a significance from the standpoint of the prevention of nuclear weapon proliferation or are related to the commitments of Finland under the above-mentioned international agreements.

As regards the application of the Act in the field of nuclear energy the expression "use of nuclear energy" will be used to refer not only to the production of nuclear energy but to the preparatory measures relating to such production and to the management of nuclear wastes possibly arising as a consequence of such production. All activities within the sphere of the concept "use of nuclear energy" would, as a rule, be subject to licensing.

General principles

According to the proposal of the Committee all use of nuclear energy should be subject to certain general principles namely a) the use of nuclear energy, taking into account its various possible effects, shall be in accord with the general interest of society as a whole, b) the use of nuclear energy shall not aim at the preparation or use of

nuclear explosives, c) in the use of nuclear energy, necessary measures shall be taken to keep danger to life, property and the environment at a minimum, d) plans and measures shall be put into effect to secure the physical protection of the use of nuclear energy from criminal activities and to ensure the adequacy of fire protection and rescue services.

According to the Bill, no activity contrary to the stated general principles for the use of nuclear energy shall be authorized. It shall be the responsibility of any person who is granted a licence for the use of nuclear energy to take satisfactory measures to ensure the safety of such use of nuclear energy. In the event that nuclear wastes are produced as a consequence of the activity of a licensee, such licensee should take satisfactory measures for the management of all nuclear wastes so produced and for the appropriate preparation of their management as well as bear the cost thereof.

Decision in principle of the Council of State; public hearing

The Committee considers as a central objective of its work that the decisions leading to the construction of a nuclear establishment of considerable general significance should be made at a sufficiently high level, at a sufficiently early stage and on the basis of sufficient information from all sides. The construction of such a nuclear establishment shall require, according to the proposed Bill, that before consideration of a construction licence there shall be a "decision in principle" by the Council of State as to whether the construction of the nuclear installation will be in accord with the general interest of society as a whole. Nuclear installations "of considerable general significance" include all nuclear installations other than those used for producing nuclear energy, the thermal power of which do not exceed 10 megawatts.

When considering the general interest of society as a whole, the Council of State should take into account the advantages and disadvantages of the construction of the nuclear installation, paying special attention to the following: a) the need for setting up the nuclear installation from the viewpoint of the overall energy management of the country, b) the suitability of the site planned for the nuclear installation, c) the safety of the nuclear installation and its effects on the environment, and d) the arrangements for nuclear fuel and nuclear waste management.

The decision in principle should be applied for in writing, and expert reports should be attached to the application concerning the estimated effect of the nuclear installation on the environment as well as its safety. Before the decision is taken, the applicant must not embark upon any measures which might affect the authorities' liberty to decide the matter at their own discretion.

It is provided that a public hearing shall be arranged before the decision in principle is taken. The applicant should publish a survey in general terms, checked before publication by the Ministry of Trade and Industry, describing the project for the installation and dealing with the estimated effects of the installation on the environment and its safety; this survey shall be made available to the public. The Ministry of Trade and Industry shall provide the opportunity for those residing in the vicinity of the proposed nuclear installation, for local communities and local authorities to present their opinions regarding the application before the decision in principle is made. In addition, the Ministry shall arrange a public meeting in the local community planned to be the site of the installation, at which opinions on the matter can be presented orally and in writing, a summary of the opinions presented shall be brought to the attention of the Council of State.

In addition, the Ministry of Trade and Industry is to request a statement from the Radiation Protection Institute and from the environment protection authorities, as required by law, regarding the application for a decision in principle; statements from the local community in which it is planned to locate the nuclear installation and from neighbouring communities, as well as any other report which it deems necessary

Notification to Parliament

According to the Bill, the decision in principle of the Council of State concerning the construction of a nuclear establishment which is of considerable general significance shall be immediately reported to the Speaker of Parliament. The decision can be abrogated if the Parliament so decides

Licences for the use of nuclear energy

In connection with the granting of licences for nuclear installations, the Committee proposes that the locus of the power of decision should be raised to a higher level in the administration of the State. The decision regarding the granting of licences for construction, possession and operation of a nuclear establishment of considerable general significance, as well as of other nuclear installations, should always be made by the Council of State. A licence for other uses of nuclear energy should be granted by the Ministry of Trade and Industry or, if so determined by statutory order, by the Radiation Protection Institute. As a rule, a licence for the use of nuclear energy should be granted only to a national of Finland or to a Finnish corporate body, foundation, or institution

A licence may be granted for a limited period of time. When a licence for the possession or operation of a nuclear establishment is granted for a limited period, in considering the length of the set period account should be taken of ensuring its safety and of its estimated operating life. The conditions of the licence may be specified or may be modified when necessary to ensure the safe use of nuclear energy or, if circumstances have changed substantially, in order to implement the general principles for the use of nuclear energy prescribed in the new Act. The same authority which has granted the licence may also revoke it when a condition for the granting of the licence no longer obtains, or when conditions of the licence or orders issued by the control authority have been violated in such a way as to hinder implementation of the general principles of the new legislation.

One of the objectives of the Committee has been to simplify the making of decisions regarding licences. The present conditions for a licence could be replaced at least in part by general regulations issued pursuant to the Act. The Radiation Protection Institute could issue general regulations concerning the safety of the use of nuclear energy which could then be confirmed by the Ministry of Trade and Industry. The Ministry for Internal Affairs could issue general regulations concerning safety arrangements for the use of nuclear energy to be observed in the nuclear establishment itself, or in the area of the nuclear establishment, as well as regulations concerning fire protection and rescue work, following consultation in each case, with the Ministry of Trade and Industry and the Radiation Protection Institute

The control authority

Authority in the nuclear energy field (and supervision of the application of the new Nuclear Energy Act) will remain with the Ministry

of Trade and Industry, in conjunction with an Advisory Council appointed by the Council of State for the preliminary handling of matters relating to the use of nuclear energy.

The Committee has endeavoured to emphasize the independent status of the control authority supervising the safety of the use of nuclear energy, namely, the Radiation Protection Institute. The duties of the Institute should include verification of the safe use of nuclear energy and of observance by licensees of the conditions of their licences, participation in the handling of applications for licences in accordance with the law, issuing general orders regarding the safety of the use of nuclear energy, and carrying out the necessary supervision of the use of nuclear energy in order to prevent nuclear weapon proliferation. The Advisory Council appointed by the Council of State shall also act in conjunction with the Radiation Protection Institute in the preparatory handling of matters concerning the safe use of nuclear energy.

On the basis of the new Nuclear Energy Act and regulations and provisions issued thereunder, and in the course of the supervision of the use of nuclear energy required in the international agreements concluded by Finland, the authorities shall be entitled to access to the places where any activity relating to the use of nuclear energy is performed, and shall be empowered to require licensees to take measures necessary for such supervision, for example the submission of reports.

If, while the control authority is carrying out an inspection, or it is otherwise observed that, in order to ensure the safe use of nuclear energy, or to discharge the obligations of Finland under its international agreements in the nuclear field, it is indispensable to make changes in the structure of a nuclear installation or in activities relating to its construction or its use, the control authority, upon having consulted with the licensee, is to issue the necessary orders regarding the matter. If the irregularities or deficiencies observed in the use of nuclear energy endanger health or the environment, or if this is so required in the course of its supervisory duties, the control authority can order such activities to be interrupted until their safety has been confirmed.

Nuclear waste management

The provisions regarding responsibility for nuclear waste management are considerably more detailed than under the present legislation. In the proposed Bill "nuclear waste" means such radioactive substances, equipment, and structures, including the nuclear establishment, which have become radioactive in connection with the production of nuclear energy or otherwise in the preparation of nuclear substances.

The responsibility of the licensee in respect of nuclear wastes ends, as a rule, only when the wastes have been finally transferred abroad or have been disposed of in a way which is intended to be final and provision has been made to meet the cost of measures to be taken after final disposal. In the event that a nuclear installation or nuclear wastes have been transferred, the licensing authority may shift the responsibility for safe-keeping the nuclear wastes entirely or in part to the transferee, if this does not affect achievement of the waste management objectives. The Ministry of Trade and Industry could, in accordance with principles to be issued in a statutory order, order that for purposes of final disposal, nuclear wastes are to be delivered to the State or to a domestic corporate body or institution under the authority of the State.

A detailed plan is to be drawn up regarding the measures for nuclear waste management after decommissioning of a nuclear installation. Such decommissioning is subject to prior approval of the plan by the control authority.

The licensee must make preparatory arrangements towards meeting all the costs of the measures which may later be required for waste management. A subsequent report of the Committee will contain provisions regarding the procedure to be followed in providing for those costs, as well as provisions regarding the above-mentioned official organ of the State (corporate body or institution) to be entrusted with nuclear waste management.

Relation of the proposed Nuclear Energy Act to existing legislation

The Committee did not consider it feasible to codify all legislation concerning nuclear energy within the framework of the new Nuclear Energy Act. It has proposed including in the Act a specific provision to the effect that a licence granted in accordance with the Act does not automatically release the licensee from the obligation to comply with the requirements and regulations imposed in other legislation regarding the activity involved. However, the Committee has recommended that two acts, the Electricity Act and the Radiation Protection Act, should be amended to provide that the licences required in those acts are not necessary for an activity requiring a licence under the Nuclear Energy Act.

Since the Radiation Protection Institute has overall responsibility for the safety of nuclear installations and has special expertise regarding the special requirements to be imposed to ensure their safety, the Committee has included a provision in the new Nuclear Energy Act to the effect that the Radiation Protection Institute shall take the initiative in issuing statements and making proposals to the appropriate authorities regarding safety requirements for the use of nuclear energy, especially in the planning of the use of areas, in the granting of building permits, fire protection and rescue services and safety arrangements. Other authorities should be responsible for requesting the opinion of the Radiation Protection Institute when there is a matter to be settled which involves the safety of the use of nuclear energy, and this provision has accordingly been included.

As regards the special requirements for the safe use of nuclear energy the Radiation Protection Institute will be responsible, in a manner to be prescribed in more detail in a statutory order, for supervising the construction of any nuclear installation and compliance with the terms of the construction licence, as well as for issuing instructions. It will also be the task of the Institute, in co-operation with other authorities, to supervise the planning and implementation of fire protection measures and rescue services and related safety arrangements in connection with the use of nuclear energy.

Penalties

The Committee has aimed at clarifying the penalties for violation of the Nuclear Energy Act. A "nuclear crime", including the deliberate causing of danger by using nuclear substances or nuclear wastes, the preparing or procuring of a nuclear explosive, or the causing of a nuclear explosion, will be punished by imprisonment for no less than two years and no more than twelve years. Threatening to commit a

nuclear crime will be punished by imprisonment for a maximum of four years. The use of nuclear energy without a licence granted in accordance with the Nuclear Energy Act or the violation of other provisions of the Act will be punished by imprisonment for a maximum of two years.

Appeals

Appeals against the decisions of the Ministry of Trade and Industry and the decisions of the Radiation Protection Institute are to be made in the form of a complaint to the Supreme Administrative Court, in the manner prescribed for appeals in administrative cases.

Costs

The proposals of the Committee are made on the assumption that the present administrative structures in the field of nuclear energy will be maintained and thus, in this respect the proposals will not result in substantial increase in costs. Payments required for the cost of the supervision of licences under the Nuclear Energy Act as well as for other measures connected with supervising the safe use of nuclear energy are to be collected at the establishments concerned. The amount of these payments will be determined in accordance with the Act regarding the Grounds for the Calculation of Fees of the State.

• *France*

RADIATION PROTECTION

Order of 9th July 1980 on radiation protection in units and establishments under the Ministry of Defence

This Order on the protection against ionizing radiation of persons in units, services and establishments under the Ministry of Defence (Official Gazette of 29th July 1980) was made for the purpose of specifying the conditions of application to such units and premises of the provisions of Decree No. 67-228 of 15th March 1967 on the protection of workers against ionizing radiations (see Nuclear Law Bulletin Nos. 1 and 9). These provisions do not apply to large nuclear installations and nuclear installations classified as secret or to transport in relation to such establishments; to manufactured nuclear materials for national defence purposes or to their transport; to nuclear vessels or vessels carrying nuclear weapons, which are all governed by special regulations.

The Order lays down that the Army Health Service discharges the duties assigned to the Central Service for Protection against Ionizing Radiation (SCPRI) in consultation with the latter, it is also in charge of relations with commissions with special responsibilities in radiation protection. Representatives of the Army Health Service undertake the monitoring and control of sealed and unsealed radiation sources as well as radiation protection and detection devices, in accordance with the Decree of 15th March 1967.

The Army Radiological Protection Service is responsible, under the authority of the Director of the Army Health Service, for preparing and implementing radiation protection rules for the technical control of installations and for medical surveillance. It is also competent with respect to notifications and applications for approval of sealed sources and artificial radioisotopes to be transmitted to the Inter-ministerial Committee on Artificial Radioisotopes.

The Order further prescribes that no radioactive source or radiation-emitting equipment may be put into service without the controls provided for by the Decree of 15th March 1967

This Order repeals the Order of 6th December 1971 on radiological safety and radiation protection in installations under the Ministry of Defence.

REGIME OF RADIOACTIVE MATERIALS

Act of 25th July 1980 on the protection and control of nuclear material

Act No. 80-572 of 25th July 1980 on the protection and control of nuclear material was published in the French Official Gazette of 26th July 1980. The text of the Act is reproduced in the "Texts" Chapter of this issue of the Bulletin.

The Act provides that the conditions for the protection and control of such material will be specified in a Decree to be made in the Council of State. The provisions of the Act and the Decree will be analysed in the forthcoming issue of the Bulletin.

TRANSPORT OF RADIOACTIVE MATERIALS

Order of 12th March 1980 laying down safety rules for the transport of dangerous goods by sea

At present, the transport by sea of dangerous goods, including radioactive materials, is governed in France by an Order of 12th July 1954, as amended. This Order established a different system of classification of radioactive materials than that adopted later by the International Atomic Energy Agency (IAEA) and the Inter-Governmental Maritime Consultative Organization (IMCO). The new safety rules are contained in an Annex to the Order of 12th March 1980 published in the French Official Gazette of 27th September 1980. They are not, however, due to enter into force till 28th March 1981.

The new rules follow much more closely than the previous ones the model laid down in the IAEA Regulations for the Safe Transport of Radioactive Materials. In this way, the French provisions with regard to maritime transport will be aligned not only with the international recommendations for transport by sea but also with the French national rules governing transport by land, inland waterway and air since those too are based on the IAEA Regulations.

Order of 28th April 1980 amending the 1945 Regulations on the Transport of Dangerous Goods

This Order (published in the Official Gazette of the French Republic of 8th July 1980) amends the Regulations of 15th April 1945 on the Transport of Dangerous Goods (Class IV(b) - radioactive materials). The amendments cover a series of technical safety measures which also concern radioactive materials

• *Federal Republic of Germany*

NUCLEAR LEGISLATION

1980 Act concerning criminal acts against the environment - amendments to the Penal Code

The adoption on 28th March 1980 of the Act on the combating of criminal acts against the environment as well as its amendment of the Atomic Energy Act have already been reported (see Nuclear Law Bulletin No 25).

Another purpose of the Act of 28th March 1980 is to amend a number of provisions of the Penal Code (18th Act to amend the Penal Code) which deal with violations and criminal offences in the nuclear field.

The provisions of the Penal Code relating to the use of atomic energy, amended by the Act of 28th March 1980, read as follows:

Section 310(b) - Causing an explosion by means of nuclear energy

- (1) Any person who undertakes to cause an explosion by releasing nuclear energy and to endanger thereby the life or health of another person or property of considerable value belonging to another person, shall be liable to imprisonment for a term of not less than five years.

- (2) Any person who causes an explosion by releasing nuclear energy and thereby endangers, through negligence, the life or health of another person or property of considerable value belonging to another person, shall be liable to imprisonment for a term of up to ten years
- (3) In particularly serious cases, the penalty shall be life imprisonment or imprisonment for a term of not less than ten years, in the case of acts falling under sub-section (1) and imprisonment for a term of not less than five years in the case of acts falling under sub-section 2
- (4) In cases falling under sub-section (2) any person acting through negligence and causing a danger through negligence shall be liable to imprisonment for a term of up to three years or a fine

Section 311(a) - Misuse of ionizing radiation

- (1) Any person who undertakes, with the intention of causing bodily harm, to expose another person to ionizing radiation which is capable of causing bodily injury, shall be liable to imprisonment for a term of between six months and ten years.
- (2) If the perpetrator undertakes to expose an indeterminable number of persons to such radiation, the penalty shall be not less than five years imprisonment.
- (3) In particularly serious cases, the penalty shall be imprisonment for a term of not less than five years in case of acts falling under sub-section (1) and life imprisonment or imprisonment for a term of not less than ten years in the case of acts falling under sub-section (2). Where the perpetrator carelessly causes the death of a person by his act, this shall, as a rule, be considered as a particularly serious case.
- (4) Any person who, with the intention of interfering with the use of property of considerable value belonging to another person, exposes such property to ionizing radiation capable of interfering with its use, shall be liable to imprisonment for a term of up to five years or a fine. The attempt shall be punishable.

Section 311(b) - Preparation of offences

- (1) Any person who, in preparation of
 1. a deliberate undertaking to act within the meaning of Section 310, sub-section (1), or Section 311(a), sub-section (2), or,
 2. an act within the meaning of Section 311, sub-section (1), to be committed by means of explosives,produces, procures for himself or another person, stores, or hands over to another person, nuclear fuel, other radioactive substances, explosives, or special equipment required for the preparation of the act, shall be liable to imprisonment for a term of between one year and ten years in the case of acts falling under No. 1, and to imprisonment for a term of between six months and five years in the case of acts falling under No. 2.
- (2) In less serious cases falling under sub-section (1) No. 1, the penalty shall be imprisonment for a term of between six months and five years, and in less serious cases falling under sub-section (1) No. 2 the penalty shall be imprisonment for a term of between three months and three years.

Section 311(c) - Voluntary abandonment

- (1) The court may, at its discretion, reduce the penalty provided for in Section 310(b), sub-section (1) and Section 311(a), sub-section 2, if the perpetrator voluntarily abandons the further perpetration of the act or otherwise averts the danger.
- (2) The court may, at its discretion, reduce the penalty foreseen in the following provisions or may refrain from punishment according to these provisions, if the perpetrator
 1. in cases falling under Section 311(a), sub-section (1), voluntarily abandons the further perpetration of the act or otherwise averts the danger, or
 2. in cases falling under Section 310(b), sub-section (2), Section 311(a), sub-section (4), voluntarily averts the danger before considerable damage has been caused.
- (3) Any person who
 1. in cases falling under Section 310(b), sub-section 4, Section 311 sub-section (5), voluntarily averts the danger before considerable damage has been caused, or
 2. in cases falling under Section 311(b), voluntarily abandons the further perpetration of the act or otherwise averts the danger,shall not be liable to punishment.
- (4) Where the danger is averted without the perpetrator's interference, his voluntary and serious effort to achieve this aim shall suffice.

Section 311(d) - Release of ionizing radiation

- (1) Any person who, in violation of administrative duties,
 - 1 releases ionizing radiation, or
 - 2 carries out nuclear fission processeswhich are capable of endangering the life or health of another person, shall be liable to imprisonment for a term of up to five years or a fine.
- (2) The attempt shall be punishable
- (3) If the act is committed through negligence, the penalty shall be imprisonment for a term of up to two years or a fine.
- (4) A person violates administrative duties within the meaning of sub-section (1), when such person seriously offends against a legal provision, an enforceable interdiction, order or condition, which serves to protect against the dangers resulting from ionizing radiation or a nuclear fission process.

Section 311(e) - Defective construction of a nuclear installation

- (1) Any person who knowingly produces or supplies a defective nuclear installation (Section 330(d) No. 2) or who produces or supplies defective objects intended for the construction or operation of such installation, and thereby knowingly endangers the life or health of

another person, or property of considerable value belonging to another person, such danger being connected with the effects of a nuclear fission process or radiation from a radioactive substance, shall be liable to imprisonment for a term of not less than six months and up to five years.

- (2) The attempt shall be punishable.
- (3) In particularly serious cases the penalty shall be imprisonment for a term of between one and ten years.
- (4) Any person who, whether by an intentional act or by negligence, unwittingly causes danger in the cases specified in sub-section 1, shall be liable to imprisonment of up to five years or a fine

Section 322 - Confiscation

Where an offence punishable under Sections 310(b) to 311(b), 311(d), 311(e), 316(c) or 319 has been committed,

1. any object produced by such act or which was used or intended for the commission or preparation of such act, and
 - 2 any object relating to such an offence
- may be confiscated.

Section 324 - Pollution of water

- (1) Any person who, without authorization, pollutes water or otherwise affects its properties, shall be liable to imprisonment for a term of up to five years or a fine.
- (2) The attempt shall be punishable.
- (3) Where the act is committed through negligence, the penalty shall be imprisonment for a term of up to two years or a fine

Section 325 - Air pollution and noise

- (1) Any person who, in violation of administrative duties, while operating an installation, in particular a workshop or a machine,
 1. causes alterations of the natural composition of the air, in particular by releasing dust, gases, vaporous or odorous substances, which are capable of damaging, outside the area belonging to the installation, the health of another person, animals, plants or other objects of considerable value, or
 2. causes noise capable of damaging, outside the area belonging to the installation, the health of another person,shall be liable to imprisonment for a term of up to five years or a fine. The first sentence of this sub-section shall not apply to motor-cars, railway vehicles, aeroplanes or vessels
- (2) The attempt shall be punishable.
- (3) Where the act is committed through negligence, the penalty shall be imprisonment for a term of up to two years or a fine
- (4) A person violates administrative duties within the meaning of sub-section (1), when such person seriously offends against an enforceable order or condition which serves to protect the environment, or

operates an installation without having the licence required for the protection of the environment or contrary to an enforceable interdiction issued for that purpose

Section 326 - Waste disposal endangering the environment

- (1) Any person who, without authorization, treats, stores, deposits or otherwise disposes of wastes which
 1. contain or may produce poisons or agents causing dangerous and contagious diseases for human beings or animals,
 - 2 are explosive, self-ignitable or more than slightly radioactive, or
 3. are capable, in view of their nature, state or amount, of polluting over a long period or of adversely affecting water, the air or the soil,shall be liable to imprisonment for a term of up to three years or a fine.
- (2) The same penalty shall apply to any person who fails to hand over radioactive wastes the surrender of which is imposed by the Atomic Energy Act or a statutory ordinance issued thereunder.
- (3) In cases falling under sub-section (1), the attempt shall be punishable
- (4) If the act is committed through negligence, the penalty shall be imprisonment for a term of up to one year or a fine.
- (5) The act shall not be punishable if adverse effects on the environment, in particular on human beings, water, air, soil, domestic animals or useful plants, are obviously excluded in view of the total amount of waste involved.

Section 327 - Unauthorized operation of installations

- (1) Any person who, without having the required licence or in contravention of an enforceable interdiction, operates a nuclear installation, holds or dismantles wholly or in part a nuclear installation which is ready to operate or has been decommissioned, or materially alters such installation or its operation, shall be liable to imprisonment for a term of up to five years or a fine.
- (2) A term of up to two years imprisonment or a fine may be imposed on any person who operates
 1. an installation requiring a licence within the meaning of the Federal Act on Protection against Nuisances,* or
 2. a waste disposal installation within the meaning of the Waste Disposal Act,**

* Bundes- Immissionsschutzgesetz

** Abfallbeseitigungsgesetz

without having the licence or land-use planning decree required by the Act in question or in contravention of an enforceable interdiction based on the Act in question.

- (3) If the act is committed through negligence, the penalty shall be
1. in cases falling under sub-section 1, imprisonment for a term of up to two years or a fine,
 2. in cases falling under sub-section 2, imprisonment for a term of up to one year or a fine.

Section 328 - Unauthorized handling of nuclear fuel

- (1) Any person who, without having a licence or in contravention of an enforceable interdiction
1. treats, processes or otherwise uses nuclear fuel outside a nuclear installation or who materially deviates from the procedure laid down in a licence for the treatment, processing or other use of such fuel or who materially alters the installation or its location as specified in the licence,
 2. (a) stores nuclear fuel outside Government custody,
(b) transports nuclear fuel, or
(c) imports, exports or otherwise conveys nuclear fuel into or out of the jurisdiction of this Act,

shall be liable to imprisonment for a term of up to five years or a fine.

- (2) The same penalties shall be incurred by any person who
1. fails to surrender nuclear fuel, the surrender of which is imposed by the Atomic Energy Act,
 2. delivers nuclear fuel to unauthorized persons.
- (3) If the acts are committed through negligence, the penalty shall be imprisonment for a term of up to two years or a fine

Section 330 - Serious hazards to the environment

- (1) Imprisonment for a term of between three months and five years shall be incurred by any person who
1. commits an offence falling under Section 324 sub-section 1, 326 sub-sections 1 and 2, 327 sub-sections 1 and 2, 328 sub-sections 1 and 2, or 329 sub-sections 1 to 3.
 2. while operating an installation, in particular a workshop or a machine, contravenes a legal provision, enforceable interdiction, order or condition, which serves to protect against air pollution, noises, vibrations, radiations or other adverse effects on the environment or other dangers to the public or the neighbourhood,
 3. operates a pipeline for the transport of substances dangerous to water or a facility for the storage, filling or handling of such substances, without having the required licence, suitability

certificate or general permit or contravenes an enforceable interdiction, order or condition serving to protect against adverse effects on the environment, or seriously violates the generally recognized technical rules, or

4. in his capacity as the driver of a vehicle or as the person otherwise responsible for the safety of the transport operation, carries, despatches, packs or unpacks, loads or unloads, accepts or leaves to other persons or fails to mark nuclear fuel, other radioactive substances, or other dangerous goods, without having the required permit, or contravenes an enforceable interdiction, order or condition which serves to protect against adverse effects on the environment, or seriously violates the legal provisions aiming at protection against the dangers resulting from these goods,

and thereby endangers the life or health of another person, property of considerable value belonging to another person, the public water supply or a publicly recognized medicinal spring. No. 2 of the first sentence of this sub-section shall not apply to motor-cars, railway vehicles, aeroplanes and vessels.

- (2) The same penalties shall be incurred by any person who by any of the acts specified in sub-section (1) Nos. 1 to 4
 1. adversely affects the properties of water or of soil which is used for agriculture, forestry or horticulture in such a way that the water or soil cannot be used as formerly and that for an extended period of time, or
 2. adversely affects natural elements of considerable ecological importance in such a way that the impairment is irreparable, or can be repaired only with considerable difficulty or after an extended period of time.

The second sentence of sub-section (1) shall apply mutatis mutandis.

- (3) The attempt shall be punishable.
- (4) In particularly serious cases the penalty shall be imprisonment for a term of between six months and ten years. It shall, as a rule, be considered as a particularly serious case when the perpetrator by his act,
 1. endangers the health or life of a great number of persons, or
 2. carelessly causes the death of or serious injury (Section 224) to a person
- (5) Any person who, in cases falling under sub-sections (1) or (2), causes, through negligence, danger or prejudice, shall be liable to imprisonment for a term of up to five years or a fine.
- (6) Any person who, in cases falling under sub-sections (1) or (2), acts and causes a danger or prejudice through negligence, shall be liable to imprisonment for a term of up to three years or a fine.

Section 330(b) - Voluntary abandonment

- (1) In cases falling under Section 330, sub-sections (1) and (5) in conjunction with sub-section (1), and Section 330(a), the court may, at its discretion, reduce the penalty or refrain from giving punish-

ment according to these provisions, if the perpetrator voluntarily averts the danger before considerable damage has been caused. Given the same conditions, the perpetrator shall not be punished according to Section 330 sub-section (6) in conjunction with sub-section (1)

- (2) Where the danger is averted without the perpetrator's interference, his voluntary and serious effort to achieve this aim shall be sufficient.

Section 330(c) - Confiscation

Where an offence punishable under Sections 326 sub-sections (1) and (2), 327 sub-section (1), or 328 sub-sections (1) and (2) has been committed,

1. any object produced by such act or which was used or intended for the commission or preparation of such act, and
 2. any object relating to such an offence,
- may be confiscated.

Section 330(d) - Definitions

For the purposes of this Chapter

1. "water" means:
surface water and the ground water within the jurisdiction of this Act, and the sea,
2. "nuclear installation" means:
an installation for the production or treatment or processing or fission of nuclear fuel, or for the reprocessing of irradiated nuclear fuel;
3. "a facility for the storage, filling or handling of substances dangerous to water" includes a facility belonging to a public undertaking,
4. "dangerous goods" means:
goods within the meaning of the Act on the Carriage of Dangerous Goods or a statutory ordinance issued thereunder, and within the meaning of the legal provisions relating to international carriage of dangerous goods in their respective fields of application

ORGANISATION AND STRUCTURE

1980 Act to amend the provisions of the Atomic Energy Act concerning costs

By an Act of 20th August 1980, the Bundestag (Parliament) amended the provisions of the Atomic Energy Act concerning costs (Bundesgesetzblatt 1980, I, p.1556); Section 21 of the Atomic Energy Act is replaced by new Sections 21, 21a and 21b, for the purpose of providing the levying of administrative fees and expenses with a new and broader legal basis

According to the new Section 21, costs, namely fees and expenses, are levied by the administrative authority for its activities, as enumerated in detail in sub-section (1), Nos. 1 to 5, i.e., for decisions on applications for licences for transport or storage of nuclear fuels or erection and operation of nuclear installations. Under Sections 21a and

21b, special provisions on costs apply to installations for final or temporary storage of nuclear waste belonging to the Bund and the Länder. The use of such installations entails fees and payments of expenses (Section 21a). In order to cover the cost of the investments required for storage installations, contributions or pre-payments on contributions may be requested from all persons likely to use such installations in future.

This amendment of the Atomic Energy Act entered into force on 29th August 1980. However, additional regulations are required regarding the procedure for levying costs and, pending their coming into effect, the previous provisions in respect of costs continue to apply.

• *Sweden*

NUCLEAR LEGISLATION

Bill concerning the future energy policy (1980)

In March 1979, a special ad hoc Committee on nuclear legislation was appointed in order to revise all nuclear legislation in Sweden and will put forward its proposals to the Government by 30th June 1981.

In the meantime, following the referendum procedure, the Government submitted to Parliament in April 1980, a Bill concerning the future energy policy in Sweden. Parliament endorsed a statement by its Standing Industry Committee in this respect. The main points of the statement are the following

"The Committee finds that all political parties in Parliament, with the exception of the Communist Party, are of the opinion that the result of the referendum should provide the basis for the aim and direction of the future energy policy. This means that no further installation of nuclear power shall take place in addition to the 12 reactors which are in operation, ready for operation or under construction. Nuclear power shall be abandoned at a rate possible considering the need for electrical power to maintain employment and welfare. Safety aspects shall determine the sequence in which the reactors shall be taken out of operation. It is necessary to state clearly the period of time within which decommissioning of the reactors shall take place. The technical lifetime of the reactors is, according to the Government's Bill, approximately 25 years. It must now be stated that the last reactor in Sweden shall be closed at the latest in the year 2010. Regulations on the number of reactors and on the length of the period of decommissioning should be included in the nuclear legislation. The prerequisites can properly be given closer consideration by the ad hoc Committee on nuclear legislation".

• Turkey

ORGANISATION AND STRUCTURE

1980 Decree amending the 1974 Decree on the licensing of nuclear installations

Decree No. 8/1348 of 24th July 1980 which amends Decree No. 7/9141 of 5th December 1974 on the licensing of nuclear installations (see Nuclear Law Bulletin No. 15) was published in the Official Turkish Gazette of 16th August 1980. The amendments mainly concern the mandate of the Nuclear Safety Committee (see Nuclear Law Bulletin No. 22) and the qualifications of its members. The Decree also contains provisions relating to construction licences and their limited period of authorization.

RADIATION PROTECTION

1973 Decree on dangerous activities

Decree No. 6174 of 29th March 1973 of the Minister of Labour concerning dangerous activities (published in the Turkish Official Gazette of 9th April 1973) was made under Act No. 1475 of 25th August 1971. The Decree includes in its list of dangerous activities, work involving radiology, radioactive materials and equipment, and lays down provisions to be complied with in connection with this work.

1973 Decree on the protection of medical workers

Decree No. 7/6229 of 5th April 1973 of the Minister of Labour was published in the Turkish Official Gazette of 18th April 1973. The Decree concerns, inter alia, the protection of workers in the field of radiology and nuclear medicine.

NUCLEAR-POWERED SHIPS

Summary of the Regulations on the transit and visits in Turkish waters of foreign armed forces nuclear-powered ships

The Regulations on the transit and visits in Turkish waters, inland waterways and harbours of nuclear ships belonging to foreign armed forces were published in the Turkish Official Gazette of 20th February 1979.

These Regulations make provision for the principles and procedures of these visits, including the movements and activities of such nuclear ships in Turkish waters and harbours. Applications for the transit and visits of nuclear-powered ships should be sent to the

Ministry of Foreign Affairs through diplomatic channels, at least 90 days before the planned transit or visit. The application should provide all the particulars of the ship, its date of arrival and the intended period of its stay. In accordance with international rules, the application should be accompanied by documents concerning the safety and operating procedures for nuclear-powered ships and the required certificate of financial security.

• *United Kingdom*

TRANSPORT OF RADIOACTIVE MATERIALS

The Merchant Shipping (Dangerous Goods) (Amendment) Rules 1980

These Rules of 9th June 1980 came into operation on 1st July 1980. They amend the Merchant Shipping Rules 1978 (see Nuclear Law Bulletin No 23) and revoke the Merchant Shipping (Dangerous Goods) (Amendment) Rules 1979.

The 1978 Report of the Department of Trade's Standing Advisory Committee on the Carriage of Dangerous Goods in Ships (the Blue Book) and the 1977 Edition of the International Maritime Dangerous Goods Code of IMCO (the IMDG Code), referred to in the 1978 Rules have been further amended, and these Rules therefore update the references to the Blue Book and the IMDG Code and make further provision as to the marking of dangerous goods carried aboard ships. Radioactive substances are one class of such goods for the purposes of the 1978 Rules.

• *United States*

ENVIRONMENTAL PROTECTION

Nuclear Waste Policy Bill (1980)

On 30th July 1980, the Senate passed S. 2189, a bill which if enacted would establish a comprehensive national policy for dealing with nuclear waste management. The bill, known as the Nuclear Waste Policy Act, was adopted by the Senate on a roll call vote, 88-7. It has yet to be acted on by the House of Representatives and any prediction on the likelihood of this bill being enacted into law in its existing form is highly speculative at this time. However, S. 2189 is an important landmark in the legislative process for establishing a clear national policy and comprehensive programme for dealing with nuclear waste.

In brief, the bill establishes procedures which will lead to the eventual construction of Department of Energy (DOE) facilities for the interim storage of spent reactor fuel and DOE repositories for the long term storage of reprocessed high level waste and spent fuel. Repositories for high level waste and spent fuel will feature continuous monitoring and a capability for ready retrieval. In addition, by 1st January 1985 DOE shall submit initial site characterization reports to Congress and the Nuclear Regulatory Commission (NRC) for the construction of at least one mined repository for commercial high level waste. In contrast to the heavy federal involvement with storage and disposal of spent fuel and high level waste, the major responsibility for low level waste disposal is left with the states. Individual states are encouraged to enter into compacts with neighbouring states, subject to the consent of Congress, to establish low level waste disposal facilities on a regional basis. The bill also statutorily creates a State Planning Council on Nuclear Waste which will afford states, localities and the public the opportunity to participate in the formulation of federal nuclear waste management policy. Also, the National Nuclear Waste Management Plan described in the bill provides a mechanism to improve the co-ordination of federal activities with respect to nuclear waste management.

I. Interim Storage of Spent Fuel

The bill calls for maximizing the utilization of available spent fuel pools at civilian nuclear power plants and for establishing a federally owned and operated system for the interim storage of spent fuel generated at such power plants at one or more away-from-reactor (AFR) facilities. DOE will construct or acquire the AFR facilities, but each will be subject to the licensing and regulatory authority of the Nuclear Regulatory Commission (NRC).

DOE will contract with individual power plant owners to take title to spent fuel, transport it to the AFR, store it, and dispose of the waste products from the fuel.⁽¹⁾ Owners will be charged a one-time fee, on a per unit of spent fuel basis, sufficient to cover the transportation costs and a pro-rata portion of the construction, operation, maintenance, and decommissioning costs of the AFR facility. In addition, a surcharge will be imposed to reflect the costs of long term disposal of high level waste associated with the spent fuel. However, the original owner of the spent fuel is entitled to be paid the value of any fuel resources recovered from the spent fuel, less the costs of recovery.

Potentially affected states will be kept fully informed by DOE of the site selection process. Within 90 days after the bill is enacted into law, DOE is required to notify the governor and legislature of any state within which a potential AFR site is located of its intention to investigate that site. Once a specific site is selected by DOE, the governor of the affected state may object in writing to the selection. If objections are filed, DOE must suspend work on the facility and submit the objections to the President, along with its own comments and recommendations. The President is then given 90 days in which to determine whether the facility is essential to the national interest. Unless the President determines the facility is essential, all activities specific to the facility will be terminated. The President's decision is final and not subject to judicial or administrative review.

(1) The bill specifically provides that it does not authorize DOE to take title to spent fuel, transport spent fuel or dispose of spent fuel or the waste products of spent fuel from nuclear power plants not located within the United States.

II. Disposal of High Level Waste

a) Long-Term Monitored Storage

Within one year of the enactment of the bill, DOE is required to transmit to Congress a proposal for a system consisting of at least one facility for the "disposal" of high-level radioactive waste (HLW) resulting from civilian nuclear activities. The facilities are to be designed to accommodate spent fuel as well as reprocessed waste from civilian programmes. The proposed system must permit continuous monitoring of the reprocessed waste and spent fuel and provide for its ready retrieval. DOE is required to consult with NRC and the Environmental Protection Agency in formulating its proposal.

When the proposal is transmitted to Congress it shall be accompanied by an environmental assessment which discusses alternative technologies, but when Congress authorizes construction of the initial facility, any environmental impact statement required pursuant to the National Environmental Policy Act of 1969 need not consider any alternative to the design criteria set forth in S 2189 itself, as it may be amended. The facility will be subject to the licensing authority of the NRC, but the Commission may not consider alternative design criteria in the licensing process. DOE is also directed to continue and accelerate studies of alternative waste disposal options, including placement in deep ocean sediments, ejection into space and placement in very deep drill holes.

b) Mined Repositories

DOE is directed to accelerate its programme to demonstrate the geologic disposal in mined repositories of commercial HLW and submit initial site characterization reports for such a facility to Congress and NRC by 1st January 1985. DOE will identify each state within which there is located one or more sites potentially acceptable for use as mined repositories and notify the governor, state legislature and Tribal Council of any affected Indian tribe. Once notified, each affected state and Indian tribe will have the right to participate in a process of consultation and concurrence, based on public health and safety concerns, in all stages of the planning, development and operation of the repository (2)

State participation in the decision-making process will be in the form of Repository Review Panels (RRP). (3) DOE is directed to enter into a co-operative agreement with the Repository Review Panel which will provide for sharing of information, the facilitating of permitting procedures, joint project review, formulation of joint monitoring arrangements, and procedures for resolving RRP objections at any stage from planning through operation. The public is given a statutory right to participate in the negotiation of the co-operative agreement. The bill expressly provides that any such agreement shall not affect the NRC's authority under existing law

-
- (2) The consultation and concurrence procedure described here is not expressly limited to mined repositories. However, since the procedures specify that certain steps are to be taken prior to construction of a "main shaft", the authors apparently contemplated mined repositories.
- (3) Unless otherwise provided by state law, a RRP will be chaired by the governor of the affected state and consist of seven additional individuals from the state, appointed by the governor. In any event, affected Indian tribes must be represented.

DOE must prepare and file three reports with Congress once a proposed site for the repository has been selected. The first report, the Proposed Site Report, will document the basis for DOE's proposed selection of a specific site after detailed site characterization and investigatory activities at one or more possible sites are completed. The second report, the Repository Development Report, will be submitted to Congress at the earliest feasible time prior to the intended submission of an application to NRC for a "licence to construct the main shaft" (or prior to site preparation work, if a licence to construct a main shaft is not required by law). This report shall contain the licence application (or equivalent), including relevant environmental impact analyses, a plan for safely transporting material to the repository, including an assessment of environmental, health and safety impacts of such transportation, a description of emergency planning procedures, and any plan to provide financial assistance to state or local governments or Indian tribes. The Repository Loading Report, the final report, will be submitted to Congress at the earliest feasible time prior to submission of an application to the NRC for a licence (where required) to place significant quantities of nuclear material into the repository. The RRP would have an opportunity to review any of these reports prior to their submission to Congress.

A key feature of the bill is a Congressional review and approval process for proposed repositories. This process formally begins when the second report, the Repository Development Report, is transmitted to Congress. If the relevant Repository Review Panel objects to this report, either House of Congress may veto the proposal by passing a resolution stating in substance that state or local concerns have been inadequately addressed. If the repository in question is primarily for the disposal of wastes produced through defense activities and the President finds that development of the repository is essential to national security, then both Houses must adopt a non-concurrence resolution in order to terminate the project. DOE could resume work thereafter only upon revision of the Repository Development Report and reconsideration in accordance with the procedures applicable to the original proposal. The passage of a resolution by Congress would not be binding upon NRC with respect to any licensing action on the subject repository.

III. Low Level Waste

The bill provides that it is the policy of the federal government that each state is responsible for the disposal of non-federal low level radioactive waste (LLW) generated within its borders and that LLW can be most safely and efficiently managed on a regional basis. States are encouraged to enter in compacts with neighbouring states, subject to the consent of Congress, relating to the management of LLW on a regional basis. Compacts may restrict the use of regional disposal facilities to the disposal of non-Federal LLW generated with that region.

To assist the states in implementing the LLW policy, the President is directed to prepare and submit to Congress and the states, within 120 days after enactment of the bill, a report which

- 1) defines on a regional basis the present and future LLW disposal capacity needed and transportation requirements,
- 2) defines the status of all present commercial LLW disposal facilities,
- 3) evaluates the capability and associated costs of using DOE owned LLW disposal facilities to provide interim storage of commercially generated LLW, and

4) recommends any needed additional research and development.

DOE is also directed to provide financial and technical assistance to the states

IV. State Planning Council on Nuclear Waste

The bill establishes an advisory committee known as the State Planning Council on Nuclear Waste. Its principal function is to provide advice and recommendations to all levels of government on all aspects of nuclear waste management. The Council is to be composed of eighteen members, fourteen of whom are appointed by the President. Eight of the Presidential appointees will be state governors, five will be elected officials from the state or local level and one shall be a tribal government representative. The remaining four members will be the Secretaries of the Departments of Energy, Interior and Transportation and the Administrator of the Environmental Protection Agency. The NRC shall participate as an observer.

V. National Nuclear Waste Management Plan

In order to improve the co-ordination of federal activities with respect to nuclear waste management, DOE, in consultation with the State Planning Council on Nuclear Waste, NRC, and other affected federal agencies, is directed to prepare and submit to Congress an annual nuclear waste management plan which describes current and planned federal activities for managing nuclear waste and spent nuclear fuel. Public comment will be solicited on the draft plan, and the President will review the draft and resolve any divergent views expressed by the federal agencies or the Council.

INTERNATIONAL ORGANISATIONS AND AGREEMENTS

INTERNATIONAL ORGANISATIONS

• *The OECD Nuclear Energy Agency*

STATEMENT ON THE LICENSING ASPECTS OF NUCLEAR POWER PLANT SITING (1980)

The Sub-Committee on Licensing of the NEA Committee on the Safety of Nuclear Installations, which represents the regulatory authorities on licensing in Member countries, recently undertook a review of the basic issues underlying the licensing of sites for nuclear power plants from the viewpoint of possible incidents. Current consideration by the United States of a new siting policy for nuclear power plants gave particular stimulus to the review.

The Sub-Committee on Licensing reached agreement on defining the context in which siting should be viewed within the licensing process, demonstrating that the international consensus concerning siting was maintained.

In view of the public interest in these questions, the Sub-Committee proposed to issue a Statement expressing the common views of the national licensing authorities. The main points of the Statement are briefly the following:

- Siting selection alone should not replace engineering and operating measures to achieve safety, although the choice of a site may definitely also contribute to public health and safety,
- Site selection is governed by practical conditions in the country or region concerned (availability of land, cooling water, population density etc.). In some countries, the site is selected independently of specific plant design, while in others engineered features are considered as factors in final site selection in order to provide a uniform level of safety for people in regions of varying population density,

- When selecting a site it is important to consider the feasibility of implementing an emergency plan in case of an accident extending beyond the plant site, as the ability to take quick emergency measures is also a factor in achieving protection of the public,
- Analysis of the relationship between siting, emergency planning and engineered safety features enables regulators to judge the overall safety of a nuclear plant. To improve definition of the relationship, further research should be continued at national and international levels on certain topics, including: amount of fission product release to be expected from the core during a hypothetical accident; dispersion of radioactive materials released in such an accident and their deposition within the plant and in the environment; assessment of potential health consequences; and development of risk assessment techniques for nuclear plants.

This Statement was published accordingly, following approval by the Council of the Organisation for Economic Co-operation and Development (OECD).

• IAEA

STANDARDIZATION OF IRRADIATED FOOD

In 1971 the IAEA and NEA jointly initiated the International Project in the Field of Food Irradiation (IFIP) involving wholesomeness studies both on individual food products and on complete diets. Twenty-four Member States* are at present taking part in this project and over US\$ 3 million have been provided by the participating countries in the course of ten years. The results of those studies were evaluated by a Joint FAO/IAEA/WHO Expert Committee on the Wholesomeness of Irradiated Food in 1976. The Expert Committee recommended the unconditional acceptance for human consumption of irradiated potatoes, wheat, chicken, papaya and strawberries and the provisional acceptance of two irradiated fish species and of irradiated rice and onions. On the basis of these recommendations a "Draft General Standard for Irradiated Foods" and a "Draft Code of Practice for the Operation of Radiation Facilities used for the Treatment of Foods" were prepared late in 1976 by an FAO/IAEA Advisory Group on Standardization in Food Irradiation. The drafts were submitted to the Codex Committee on Food Additives (CXFA), the subsidiary body of the Codex Alimentarius Commission designated by the latter in

* Australia, Austria, Belgium, Brazil, Denmark, Finland, France, the Federal Republic of Germany, Ghana, Hungary, India, Iraq, Israel, Italy, Japan, the Netherlands, Norway, Portugal, South Africa, Spain, Sweden, Switzerland, the United Kingdom and the United States of America.

1969 to deal with food irradiation (the Codex Alimentarius Commission is the governing organ of the Joint FAO/WHO Food Standards Programme). CXFA considered them at its annual meetings in 1977, 1978 and 1979, and then submitted them to the Codex Alimentarius Commission with a view to their adoption as a recommended standard and a recommended code of practice. At its 13th session, in December 1979, the Codex Alimentarius Commission adopted the drafts, which thus became a "Recommended International General Standard for Irradiated Foods" and a "Recommended Code of Practice for the Operation of Radiation Facilities used for the Treatment of Foods". The recommended standards were circulated in October 1980 by the Secretariat of the Codex Alimentarius Commission to all Member States of the Commission for acceptance.

Such standardization of irradiated foods, including the harmonization of national legislation and regulatory procedures, will facilitate the practical application of food irradiation processes at both the national and the international level. Also, it will enhance confidence among trading nations that foods irradiated in one country and offered for sale in another satisfy commonly acceptable standards of wholesomeness and have been subjected to good manufacturing practices and irradiation treatment control. In this connection, an Advisory Group on International Acceptance of Irradiated Food convened by FAO/IAEA and WHO in December 1977, recommended the preparation of model regulations for the control of and trade in irradiated food, and these model regulations were published in 1979 in the IAEA Legal Series No. 11 "International Acceptance of Irradiated Food - Legal Aspects".

The standardization achieved may be considered a breakthrough in food irradiation from the scientific, technological and legal points of view and may pave the way to the commercialization of irradiated foods at the international level.

• *Euratom*

COUNCIL DIRECTIVE OF 15TH JULY 1980 AMENDING THE DIRECTIVES LAYING DOWN BASIC SAFETY STANDARDS FOR PROTECTION AGAINST IONIZING RADIATION

The Council of the European Communities has issued a new Directive (published in the Official Journal of the European Communities of 17th September 1980) to amend the Directives laying down the basic safety standards for the health protection of the general public and workers against the dangers of ionizing radiation (see Nuclear Law Bulletin Nos. 18 and 25). This Directive is based on the latest recommendations of the International Commission on Radiological Protection (ICRP).

The changes as compared with the 1976 Directive may be summarized as follows:

- The new regulations define the Becquerel (special name of the international standard unit of activity) and the Gray (special name of the international unit of absorbed dose) which replace the Curie and the Rad. Also new is the Sievert, which is the special name of the international standard unit of dose equivalent,
- Any activity implying exposure to ionizing radiation must be justified by the advantages which it produces and all exposures must be kept as low as reasonably achievable,
- As regards exposure of the population as a whole, Member States must henceforth transmit regularly to the Commission of the European Communities the results of controls and estimates of exposure, in particular, with respect to the genetic dose; and must immediately notify other Member States and the Commission of any accident involving exposure of the population.
- Health surveillance must be carried out on the population as a whole and on reference groups in all places where such groups may occur; therefore the concept of "critical groups" of the population has been replaced by "reference groups".

Finally, the fundamental principles governing the health surveillance of the population and of workers have become those governing operational protection of the population and of exposed workers. Operational protection applies in the medical as well as in other fields.

It should be noted that the principles governing health surveillance of exposed workers remain the same as the principles laid down by the 1976 Directive. Furthermore, the yearly dose limits for whole body exposure of exposed workers (5 rems) and of the population as a whole (0.5 rem) are unchanged.

Member States are required to comply with this Directive within a period of four years as from 3rd June 1980, and if they have not yet conformed to the 1976 Directive, the period is reduced to thirty months.

AGREEMENTS

• *IAEA-United States*

CO-OPERATION AGREEMENT

The Agreement for Co-operation between the IAEA and the United States of America that was concluded in 1959 for a period of twenty years (INFCIRC/5, part III) was first amended in 1974 to provide for a duration of 55 years (INFCIRC/5/Mod.1). In June 1979, the Board of Governors authorized the Director General to conclude a Second Amendment setting forth in an Annex to the Agreement the United States criteria for transfer and export arrangements concerning nuclear material, equipment and facilities, on the understanding that such action did not constitute any expression of views by the Board on the criteria in question. The Second Amendment was signed in Vienna on 14th January 1980 and entered into force on 6th May 1980, upon receipt by the IAEA of a notification from the United States Government that it had complied with all requirements for such entry into force.

MULTILATERAL AGREEMENTS

• *France*

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD

A series of amendments to technical Annexes A and B of the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) came into force on 1st March 1980.

These amendments were published in France by Decree No 80-523 of 7th July 1980 (Official Gazette of 12th July 1980).

• *IAEA*

CONVENTION ON THE PHYSICAL PROTECTION OF NUCLEAR MATERIAL

During its thirty-fourth session, the General Assembly of the United Nations adopted in November 1979 Resolution 34/11 in which, inter alia, it noted with appreciation the successful conclusion of the negotiation on the Convention on the Physical Protection of Nuclear Material and the signing of the Final Act. By October 1980, 26 States and the European Atomic Energy Community had signed the Convention. The status of the Convention is provided separately below. Pursuant to Article 19, the Convention requires 21 ratifications for its entry into force. The authentic texts of both the Convention and the Final Act have been reproduced in document INFCIRC/274/Rev.1. (See also Nuclear Law Bulletin No. 24).

LIST OF SIGNATORIES

<u>Name of State</u>	<u>Date of signing</u>	<u>Place of Signing</u>
United States of America	3.3.80	New York and Vienna
Austria	3 3 80	Vienna
Greece	3.3.80	Vienna
Dominican Republic	3.3.80	New York
Guatemala	12.3.80	Vienna
Panama	18.3.80	Vienna
Haiti	9.4.80	New York
Philippines	19.5.80	Vienna
German Democratic Republic	21.5.80	Vienna
Paraguay	21.5.80	New York
USSR	22.5.80	Vienna
Italy	13.6.80	Vienna - signed as Member State of Euratom
Luxembourg	"	"
Netherlands	"	"
United Kingdom	"	"
Belgium	"	"
Denmark	"	"
Germany, Federal Republic of	"	"
France	"	"
Ireland	"	"
Hungary	17.6.80	"
Sweden	2.7.80	" Ratified 1.8.80
Yugoslavia	15.7.80	"
Morocco	25.7.80	New York
Poland	6.8.80	Vienna
Canada	23.9.80	"
and Euratom	13.6.80	Vienna

VIENNA CONVENTION ON CIVIL LIABILITY FOR NUCLEAR DAMAGE

On 26th August 1980, the Republic of Peru deposited its instrument of accession to the Vienna Convention on Civil Liability for Nuclear Damage. Pursuant to Article XXIV, the Convention entered into force with respect to Peru on 26th November 1980. Information on the status of the Convention and the Optional Protocol Concerning the Compulsory Settlement of Disputes is provided separately below.

I. CONVENTION

1. Date of adoption: 21st May 1963
2. Place of adoption: International Conference on Civil Liability for Nuclear Damage, held by the International Atomic Energy Agency in Vienna, 29th April - 19th May 1963
3. Date of entry into force: 12th November 1977
4. Languages. English, French, Russian, Spanish
5. Depositary. Director General of the IAEA
6. Printed text. IAEA Legal Series No. 4, Revised 1976 Edition - "International Conventions on Civil Liability for Nuclear Damage"
7. Parties and dates of ratification or accession:
 - Argentina - 25th April 1967
 - Bolivia - 10th April 1968
(accession)
 - Cameroon - 6th March 1964
(accession)
 - Cuba - 25th October 1965
 - Egypt - 5th November 1965
 - Niger - 24th July 1979
(accession)
 - Peru - 26th August 1980
(accession)
 - Philippines - 15th November 1965
 - Trinidad and Tobago - 31st January 1966
(accession)
 - Yugoslavia - 12th August 1977
8. Other Signatories:
 - Colombia - 21st May 1963
 - Spain - 6th September 1963
 - United Kingdom of Great Britain and Northern Ireland - 11th November 1964

II. OPTIONAL PROTOCOL

1. and 2. As above
3. Not yet in force
- 4 to 6. As above
7. Ratification: Philippines - 15th November 1965
8. Signatory: United Kingdom of Great Britain and Northern Ireland - 11th November 1964

AGREEMENT ESTABLISHING THE ASIAN REGIONAL PROJECT ON FOOD IRRADIATION

Within the framework of the Regional Co-operative Agreement for Research, Development and Training related to Nuclear Science and Technology (the RCA) (see Nuclear Law Bulletin No. 21), the negotiation between the IAEA and Japan of an agreement establishing the Asian Regional Co-operative Project on Food Irradiation was completed in Tokyo in May 1980. The text of the Agreement was circulated in July 1980 to the Governments parties to RCA for consideration and acceptance. The Agreement, which will have a duration of three years from the date of its entry into force, provides for two categories of Parties. Participating Governments which will make available the necessary scientific and technical facilities and personnel to carry out portions of the Project accepted by them, and Donor Governments which will make contributions of money or in kind for the implementation of the Project and will accept for work at their designated installations scientific or technical personnel designated by the other Parties. The technical details of the Project are set forth in an Annex to the Agreement. As in the case of other RCA projects, a Scientific Co-ordinating Committee (the Project Committee) composed of representatives of all the Parties including the IAEA is responsible for assigning portions of the Project to Participating Governments, subject to their consent, for supervising the implementation of the Project and for making necessary recommendations to the Parties in this connection. Secretariat duties are performed by the IAEA which will consider providing technical and other assistance in support of co-operative activities under the Agreement. In addition, the IAEA may invite other Member States to make special contributions of money or in kind for the Project through bilateral arrangements between them and the IAEA.

The Agreement entered into force on 28th August 1980, after acceptance by Indonesia, the Republic of Korea and the Philippines as Participating Governments, and by Japan in the capacity of a Donor Government. Pakistan subsequently accepted the Agreement as a Participating Government on 3rd October 1980. A number of other countries in Asia have also expressed interest in this regional co-operative Project and are taking steps to accept the Agreement. Bangladesh, India, Malaysia, Sri Lanka and Thailand. At the first meeting of the Project Committee convened in Jakarta from 2nd to 5th September at the invitation of the Indonesian Government, representatives of nine Governments parties to RCA took part in the establishment of a programme of work for 1980-81 and in the distribution of tasks among participating countries. Research and development activities to be carried out under the Project will cover studies of radiation effect, irradiation technology, packaging studies and economic evaluation in relation to selected food items of special interest to participating countries in the region. For the implementation of the Project, the Government of Japan has made a special contribution of US\$ 76,000 for the fiscal year 1980 and will make further contributions up to US\$ 80,000 for each of the fiscal years 1981 and 1982.

EXTENSION OF THE MONACO LABORATORY AGREEMENT

The International Laboratory of Marine Radioactivity at Monaco was first established in 1961 by a tripartite Agreement between the IAEA, the Principality of Monaco and the Oceanographic Institute at Monaco. The Agreement has been extended or renewed three times, in 1963, 1969 and 1975. The current Agreement (INFCIRC/129/Rev.1), concluded in 1975 for a period six years, was due to expire on 31st December 1980. The purpose of the Agreement is to promote the development of studies on the effects of radioactivity in the sea and collaboration to this end between national and international institutions, using nuclear and other techniques. In response to the wish of the Government of Monaco to have more time to make proposals about the future of the Laboratory within the framework of plans for developing a new area in Monaco, the Board of Governors in September 1980 approved the Director General's recommendation for a six-month extension of the current Agreement as an interim measure, pending final arrangements between the Parties.

SAFEGUARDS AGREEMENTS

On 14th April 1976 Cuba and the Union of the Soviet Socialist Republics concluded an Agreement for Economic and Technical Co-operation which provides, among other things, for co-operation in the establishment of a nuclear power plant with a capacity of 800 MW in Cuba and the supply of the necessary services, equipment and material. At the request of Cuba, an agreement providing for the application of safeguards to the nuclear power plant, fuel and materials to be supplied by the Soviet Union was negotiated between Cuba and the IAEA and approved by the Board of Governors in April 1980. The Agreement was signed and entered into force on 5th May 1980 (INFCIRC/281).

Under an agreement of 15th May 1980 between Cuba and the Soviet Union, the Soviet Union will supply to Cuba a nuclear research reactor and its fuel for the Research Institute of the Cuban Academy of Sciences. The reactor, which is planned to become operational at the end of 1985 with a power of up to 10 MW, will be used for training, the production of radioisotopes and the applications of nuclear techniques in various fields. Also in response to a request of the Government of Cuba, the Board of Governors in September 1980 approved an agreement between the IAEA and Cuba for the application of safeguards in connection with the supply of this research reactor.

In September 1980, the Board of Governors further acceded to a request by Argentina in approving an Amendment to the Agreement of 22nd July 1977 between Argentina and the IAEA (INFCIRC/250) for the application of safeguards in connection with a contract between the National Atomic Energy Commission of Argentina and the Reaktor Brennelement Union GmbH at Hanau in the Federal Republic of Germany for co-operation in the fabrication of fuel elements. The Amendment is designed to place under safeguards all nuclear material transferred from the Federal Republic of Germany to Argentina in connection with the implementation of the contract. Such material will be subject to safeguards in Argentina upon arrival there, even if the material is not put to immediate use.

After approval by the Board of Governors in June 1980, Indonesia and the IAEA on 14th July 1980 concluded an Agreement for the application of safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons. The Agreement entered into force on that date (INFCIRC/283).

On 2nd July 1980, the United States Senate approved the Agreement between the IAEA and the United States Government for the application of safeguards to all nuclear activities except those of direct national security significance. The Agreement will enter into force upon receipt by the IAEA of a notification from the United States Government that it has completed the legal requirements for such entry into force.

SUPPLY AGREEMENTS

A tripartite agreement was concluded on 22nd September 1980 between the IAEA, Malaysia and the United States, under which the IAEA is providing assistance to Malaysia in obtaining the transfer from the United States of a one-megawatt TRIGA Mark II research reactor and about 24.76 kilograms of 20% enriched uranium contained in fuel elements for its operation. The reactor is to be installed and operated at the Tun Ismail Atomic Research Centre at Bangi, Selangor, in Malaysia.

For the continued operation of a similar research reactor at the Jozef Stefan Institute at Ljubljana in Yugoslavia, a Fourth Supply Agreement was signed on 16th January 1980 between the IAEA, the United States and Yugoslavia, pursuant to which 1,372 grams of 70% enriched uranium contained in fuel elements will be supplied to Yugoslavia by the United States through the IAEA.

• *IMCO*

1971 BRUSSELS CONVENTION

On 21st July 1980, Italy deposited its instrument of ratification of the Brussels Convention of 17th December 1971 relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material (see Nuclear Law Bulletin No. 23). In accordance with Article 6 of the Convention, it entered into force for Italy on 19th October 1980. This ratification brings up to eight the Contracting Parties to the Brussels Convention. The instrument of ratification of Italy was accompanied by the following statement:

"It is understood that the ratification of the said Convention will not be interpreted in such a way as to deprive the Italian State of any right or recourse made according to the international law for the damage caused to the State itself or its citizens by a nuclear accident".

The following is a list of the Contracting Parties to date

		<u>Date of deposit of instrument of rati- fication</u>
France	(ratification)	2nd February 1973
Spain	(accession)	25th May 1974
Denmark	(ratification)*	4th September 1974
Sweden	(ratification)	22nd November 1974
Norway	(ratification)	16th April 1975
Federal Republic of Germany	(ratification)**	1st October 1975
Yemen Arab Republic (Sanaa)	(accession)	6th March 1979
Italy	(ratification)	21st July 1980

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

The fifth Consultative Meeting of the Contracting Parties to the London Convention was held at the Headquarters of the Inter-Governmental Maritime Consultative Organization (IMCO) in London from 22nd to 26th September 1980 (see Nuclear Law Bulletin Nos 17, 18, 20, 22 and 24)

The meeting was informed that forty-four Governments had ratified or acceded to the Convention. Fourteen of the Contracting Parties are NEA Member countries. The status of ratifications and accessions as at 1st September 1980 was the following:

Afghanistan	Morocco
Argentina	Netherlands
Byelorussian SSR	New Zealand
Canada	Nigeria
Cap Verde	Norway
Chile	Panama
Cuba	Papua New Guinea
Denmark	Philippines
Dominican Republic	Poland
Finland	Portugal
France	South Africa
German Democratic Republic	Spain
Germany, Federal Republic of	Sweden
Guatemala	Switzerland
Haiti	Tunisia
Hungary	Ukranian SSR
Iceland	United Arab Emirates
Jordan	United Kingdom
Kenya	United States of America
Lybian Arab Jamahiriya	USSR
Mexico	Yugoslavia
Monaco	Zaire
	Japan (14th November 1980)

* The instrument of ratification of Denmark contains the reservation that the Convention shall not apply to the Faroe Islands.

** The instrument of ratification of the Federal Republic of Germany is accompanied by a declaration relating to the application of the Convention in (West) Berlin.

TEXTS

• *France*

ACT NO. 80-572 OF 25TH JULY 1980
ON THE PROTECTION AND CONTROL OF NUCLEAR MATERIALS*

Section 1

The provisions of this Act shall apply to all fusible, fissile or fertile nuclear material and also to any substance, excluding ores, containing one or more fusible fissile or fertile elements the list of which shall be specified by decree issued in the Council of State (Conseil d'Etat)

Section 2

The importing and exporting of the nuclear material defined in Section 1, under contracts entered into by French and foreign operators, and the manufacture, possession, transfer, use and carriage of such material shall be subject to licence and to a control system under the conditions laid down by this Act. Such conditions shall be specified by a Decree issued in the Council of State after taking the opinion of the High Council for Nuclear Safety.

Exporters shall be required to stipulate to purchasers and sub-purchasers the conditions regarding the subsequent use of nuclear material to which the issue of a licence for any such export may be subject.

Section 3

Stipulations may be attached to the licence referred to in Section 2 regarding, among other things, its period of validity, the quantities and form of the nuclear material concerned and the measures to be taken in order that its location be known and its theft, diversion or loss be prevented. It may be suspended or withdrawn in the event of any violation of the provisions of this Act and of the regulations introduced for implementing it

* Unofficial translation by the Secretariat.

The Decree referred to in Section 2 shall specify, among other things, the quantities of such material below which no licence is required.

Section 4

The purpose of the control system referred to in Section 2 shall be to prevent the loss, theft or diversion of nuclear material. It shall relate to the technical and accounting aspects of the operations listed in Section 2 and shall enable the location and use of the said material to be known at all times and the nature and quantities of any material which may be missing to be revealed. It shall also include measures for preventing the theft and diversion of such material.

Section 5

The officers operating this control system shall hold warrants for such purpose issued by the Government authorities, shall be sworn and bound to professional secrecy subject to conditions and the penalties laid down in Section 378 of the Penal Code.

Section 6

Any person who improperly takes possession of nuclear material covered by the provisions of this Act or who carries on without a licence any activities referred to in Section 2 or knowingly gives incorrect information for the purpose of obtaining such a licence shall be sentenced to imprisonment for a period of from two to ten years and a fine of between 5,000 and 50,000,000 Francs, or either of these two penalties solely.

The Court may furthermore order the confiscation of both the nuclear material and the equipment used in the manufacture, use or carriage of such material.

The intentional violation by individuals or legal persons acting in any capacity in establishments where nuclear material as defined in Section 1 above is held of the laws and regulations and regulations and the instructions of the operator or his representatives may, if it is of such a nature as to jeopardise the nuclear safety of the installations, the protection of nuclear material or the safety of persons and property, immediately entail:

- in the case of individuals, without prejudice to any criminal penalties applicable, without notice or compensation and once the person responsible has been apprised of the acts with which he is charged and that person has submitted his comments thereon, the suspension or termination of any contractual or statutory relation whereby such persons operate notwithstanding any provision to the contrary in the rules or agreements applicable to them;
- in the case of legal persons, the withdrawal of government licences and the suspension or termination without notice or compensation of any agreements under which such legal persons act, notwithstanding any provision to the contrary in such agreements.

Section 7

Any person who hinders the application of the control system or knowingly supplies incorrect information shall be sentenced to imprisonment for a term of between two months and two years and a fine of 2,000 to 50,000 Francs or either of these penalties solely.

Section 8

Any person who holds a licence as referred to in Section 2 or is entrusted, in any capacity whatsoever, with the safekeeping or management of the nuclear material subject to this Act and becomes aware of the loss, theft, disappearance or diversion of such material and fails to inform the police or gendarmerie within 24 hours at the latest following such discovery, shall be sentenced to imprisonment for a period of from 15 days to two years and a fine of between 5,000 and 250,000 Francs or either of these penalties solely.

Where the person holding the licence referred to in Section 2 is a legal person, the same penalties shall apply to its executives if they had knowledge of the loss, theft, deterioration or diversion and did not report it within the time-limit stated in the previous paragraph.

Before entrusting an employee with the safekeeping of the nuclear material subject to the provisions of this Act, the employer shall notify him of the obligations incurred by him under this Section and the penalties to which he is liable in the event of its violation, and shall obtain acknowledgment of receipt of such notification. These provisions shall be specified as necessary by Decree issued in the Council of State

Section 9

The services responsible for reporting violations of the provisions of this Act and of any implementing regulations shall be the officers and personnel of the Police Judiciaire*, customs officers, fraud prevention officers, inspectors of large nuclear installations, the officers referred to in Section 5, officials of the weights and measures department and, provided that they are duly sworn and appointed for the purpose, inspectors of the Central Service for Protection against Ionizing Radiation

Section 10

The Government shall report annually to Parliament on the operation of the provisions of this Act.

This Act shall apply in the overseas territories and in the territorial community of Mayotte

* Corresponds approximately to the Criminal Investigation Department (CID) in the United Kingdom

Section 11

Only the provisions of Section 6 of this Act shall apply to nuclear materials for defence use or kept in nuclear installations relating to defence.

This Act shall be put into effect as a law of the State

STUDIES AND ARTICLES

ARTICLES

TECHNICAL AND LEGAL ASPECTS RELATING TO THE LABELLING OF IRRADIATED FOODSTUFFS*

L. G. Ladomery, United Nations Food and Agriculture Organization
and
F. Nocera, Comitato Nazionale per l'Energia Nucleare, Italy

Introduction

Various aspects are currently covered in national legislation governing the process of food irradiation, such as (a) its effectiveness, (b) the justification of its use, (c) the safety of persons assigned to operate irradiators, (d) the wholesomeness of irradiated foodstuffs, including their nutritive adequacy and organoleptic properties, and (e) technical and other information to be included on the label or accompanying documents to which the food has been subjected, both for the purposes of further processing and packaging of the irradiated food and for consumer information. This latter aspect must be looked at in the light of the present attitude of consumers and their desire to be adequately informed about the nature and composition of foodstuffs as well as in the light of legislation intended to protect the consumer. Such information is transmitted mainly by means of labelling and it is this aspect of regulations governing irradiated foods which is the subject of this paper.

* This paper has been reproduced from the Food Irradiation Newsletter, October 1980, issued by the Joint FAO/IAEA Division of Isotope and Radiation Applications of Atomic Energy for Food and Agricultural Development, by kind permission of the authors and both organisations. Responsibility for the views expressed and the facts given rests solely with the authors.

General outline of the Problem

Legislation existing in a number of countries all requires that the fact of irradiation be declared in connection with irradiated foods. It may be concluded, therefore, that legislators desire to ensure that the consumer, processor or packer of irradiated foods be informed concerning the irradiation process to which such foods have been subjected.

The desire to inform the consumer of the fact of irradiation poses several questions such as the following: What represents adequate information for the consumer or for the processor? What should be the exact expression to be used on the label? How should irradiated foods, which have been further processed, be labelled? Should irradiated ingredients or irradiated components of ingredients contained in composite foods be declared as having been irradiated?

Before going into a detailed discussion of these questions, it should be remembered that, in the case of irradiated foods sold as such (i.e. not as a further processed food or ingredient of composite foods), statements on the label informing the consumer that the food has been treated by ionizing radiation imply both a "positive" and a "negative" aspect. On the one hand - the positive aspect - it can be claimed on the label that the foods have acquired certain properties through irradiation such as better keeping or hygienic qualities. On the other hand - the negative aspect - the consumer may attribute to the declaration that a food has been irradiated an indication of health hazard.

In the case of (a) processed single-ingredient food commodities made from irradiated raw materials and (b) multi-ingredient foods containing irradiated components, reference to the original purpose of the irradiation would no longer seem appropriate, since it is no longer relevant to the finished processed product. For example, inhibited sprouting is a positive feature of raw potatoes but obviously not of prepackaged fried potato chips made from irradiated potatoes. In the case of processed foods, therefore, reference to irradiation on the label can only imply the negative aspect mentioned above.

The question can also be raised in respect of labelling as to whether it is necessary to prescribe in law the exact expressions to be used to convey to the consumer the information that the food or its components have been irradiated, and whether harmonization of such expressions at the international level would be desirable in the interest of free movement of irradiated foods in trade.

In prescribing labelling provisions in relation to the irradiation process it would seem to be necessary to distinguish between (a) irradiated foods sold as such (e.g. irradiated wheat, onions, potatoes, poultry, fish, strawberries, papaya, etc.); (b) irradiated foods which have been further processed into single-ingredient food commodities (e.g. fried potato chips, dried fish, onion powder, puffed rice, flour made from irradiated raw cereals, etc.) and (c) multi-ingredient manufactured foods containing irradiated ingredients (e.g. canned meat, fish and vegetables containing irradiated ingredients such as potatoes, meat, poultry, fish, spices and onions)

Irradiated foods may be destined for the consumer, the wholesaler or the processor depending on circumstances. In the case of: (a) prepackaged irradiated raw foods; (b) irradiated foods which have undergone further processing and (c) irradiated foods included as ingredients in composite foods as outlined in the preceding paragraph, it is normally the consumer for whom the food is intended. However, certain types of irradiated raw products (e.g. potatoes, onions, garlic, etc.) may be offered for sale to the public without having been prepackaged. This poses technical problems of affixing labels on the food offered for sale, apart from the question as to what information relating to irradiation should be given.

Irradiated raw commodities such as meat, fish, poultry, wheat, potatoes, onions and garlic may also be destined for further processing, in which case the "consumer" is not the public but the processor who requires different and very likely more detailed information in connection with the irradiated product (e.g. information concerning the purpose of irradiation, the dose absorbed by the product, the keeping quality of the irradiated food, the identity of the irradiation plant, possible certificate of compliance, etc.). A simple declaration of the fact of irradiation, as in the case of consumer packaged foods, would not seem to be adequate to inform the processor about such foods. Nor would such a simple information appear to be adequate to inform the authorities concerned with the inspection of foods which had been subjected to ionizing radiation treatment.

The desire to distinguish between an irradiated food and the corresponding identical unirradiated food for the purposes of labelling creates certain technical problems especially in storage and transport. This is due to the fact that the irradiated and the unirradiated foods have to be kept physically segregated one from the other in order to enable the food processor to label the food product in a manner which is not misleading. In fact some regulations prescribe ways of transporting irradiated foods in containers provided with official seals in an attempt to take care of this problem. The problem still remains, however, of selecting an appropriate label declaration in relation to the fact of irradiation where both irradiated and unirradiated raw materials are used in the preparation of consumer packaged foods.

Before discussing the problems so far outlined it is thought to be useful to make a brief survey of the regulatory position of some countries in the matter of labelling of irradiated foodstuffs.

Survey of Regulatory Labelling Requirements of Irradiated Foods in Some Countries

In Europe, Danish legislation states that treatment of food by means of ionizing radiation must be declared. In France there is a similar obligation regarding irradiated foodstuffs, drinks and other products and this is extended to trading documents accompanying such products. Furthermore, these products must bear a reference mark granted by the competent Government Department for the identification of the installation where irradiation was carried out. In the Federal Republic of Germany an indication on the label of the fact of irradiation may be made compulsory, in conformity with regulations issued by the Minister for Health, Family and Youth. Under Spanish law competent authorities have the power to establish regulations on labelling and appropriate label information where authorization has been granted for

radiation treatment. In Belgium and the United Kingdom the law prohibits food irradiation, except where special exemptions have been granted in connection with given purposes, or subject to given circumstances, notifications and recordings. A somewhat similar situation exists in Luxembourg, the Netherlands, Portugal, Switzerland and Yugoslavia. However, no specific provisions may be found regarding the labelling of irradiated foods.

Outside Europe, food law in Brazil includes the general requirement that, at the time of sale or supply for consumption, labels of irradiated foodstuffs indicate clearly and adequately the fact of irradiation and state that the irradiation process was performed in establishments under the control of the National Nuclear Energy Commission. Similarly, Canadian legislation does not include specific requirements concerning the type of statement which must appear on the label of prepackaged foodstuffs such as onions or potatoes, although the label is required to indicate clearly that the food has been subjected to radiation treatment; provisions are more precise in the matter of wheat and flour irradiation, for which the exact type of labelling is stated. In the United States of America legislation is rather detailed concerning the type of radiation (gamma, electrons, X-rays) and absorbed dose (high or low), which must both be clearly indicated on the label, in some cases an additional label is prescribed (on packages ready for sale, on invoices, bills, etc.) stating that no further irradiation should be carried out.

It is thought opportune to deal with the Italian regulatory position (on the whole similar to that existing in Spain) in greater detail in order to point out certain interesting aspects of the specific provisions so far issued with regard to labelling of certain irradiated foods.

A general law promulgated in 1962 on health protection governing the production and sale of foodstuffs and drinks requires that the production and sale of foods treated with ionizing radiation be subject to authorization by the Minister of Health. The 1964 Radiation Protection Decree, on the other hand, regulates the "addition" of radioactive substances to foodstuffs by specifying the levels of radioactivity permitted by the competent authority. This Decree is nevertheless of relevance since it also deals with certain installations with large radioactive sources used, inter alia, for food irradiation, and whose construction and operation must be authorized by the Ministry of Industry and Commerce and Crafts. The technical requirements, radioactivity level and concentration for the granting of construction permits for such installations are specified in further implementing provisions issued by the same Minister. Regulations dealing more specifically with radiation treatment of foodstuffs originate from the above mentioned law of 1962. A Decree of 1973 issued by the Minister of Health, authorizes in fact - as a first step in this field - the production, storage and sale of potatoes, onions and garlic treated with ionizing gamma-radiation for the purpose of sprout inhibition, provided that such treatment is operated at the authorized installations referred to above.

Apart from other requirements which must be complied with in connection with radiation treatment such as providing containers with seals and labelling, the Decree states that each package must bear the following clear and indelible statement: "Potatoes (or onions or garlic) irradiated for anti-sprouting purposes". This appears to be a straightforward approach to an informative labelling of raw agricultural commodities the treatment of which with ionizing radiation has been authorized. However, the compulsory indication that the food was irradiated for the

purpose of inhibiting sprouting could be regarded as a limitation in law of the purpose of the application of ionizing radiation to these agricultural commodities and which would not be compatible, without amendment, with eventual general clearance of the irradiation process or the permission, under Italian law, of the application of the irradiation process for other anti-sprouting purposes.

At the international level, the Joint FAO/WHO Codex Alimentarius Commission at its 1979 Session, adopted a General Standard for Irradiated Foods. The Recommended Codex Standard provides for the labelling of irradiated foods, making a distinction between consumer packages and bulk packs as well as between irradiated foods sold loose to the consumer. It should be noted that the Codex Standard requires that the fact of irradiation be declared in connection with the name of the product using expressions such as "... treated by irradiation". Another feature of the labelling requirements of the Codex Standard is that accompanying documents of all irradiated foods (whether sold pre-packaged or in bulk) identify the registered facility where the food has been irradiated, the date of treatment and lot identification.

As regards the declaration of the fact of irradiation in relation to processed foods made from irradiated raw materials and in relation to irradiated ingredients of composite manufactured foods, this matter is under discussion within the framework of the Codex Alimentarius Commission.

Discussion and Conclusions

From the foregoing considerations and from the brief survey of the labelling requirements concerning irradiated foods in the countries examined and at the international level, it can be seen that the approach to the labelling of irradiated foods sold as such is not entirely consistent, although there seems to be wide agreement on the need to declare the fact of irradiation. As regards the labelling of processed foods made from irradiated raw materials or of manufactured foods containing irradiated components, an examination of the regulations in the various countries mentioned above suggest that this aspect requires more attention both at the national and international level.

In dealing with the declaration of the fact of irradiation it is necessary to distinguish between the following circumstances:

- a) Irradiated food sold as such
 - 1) destined for further processing or packaging;
 - 11) destined for direct sale to the consumer,
 - loose
 - prepackaged
- b) Processed foods made from irradiated raw materials usually destined for direct sale to the consumer (normally pre-packaged), and
- c) Composite manufactured foods containing irradiated components or components made from irradiated raw materials

In considering the need or otherwise of declaring the fact of irradiation in connection with foods and components indicated under (b) and (c) above, the following aspects should be taken into account

- a) The original technological benefits derived from the irradiation process in relation to the raw material is no longer relevant and, hence, it is only a declaration of the fact of irradiation which would be meaningful,
- b) The desire to declare the fact of irradiation in connection with such foods and components creates difficulties in handling (transport, storage, etc.) of irradiated raw materials since they need to be kept segregated from the equivalent unirradiated raw materials for the purposes of proper labelling, and
- c) Chemical residues, contaminants, or food additives carried over from raw materials into processed foods are usually not declared on the label. This exemption from label declaration could be construed to represent a trade advantage over processed foods made from irradiated raw materials and composite foods containing irradiated ingredients if, on the label of such processed foods reference has to be made to the fact of irradiation.

While the introduction of regulations concerning the labelling of raw foods subjected to the irradiation process (irradiated foods) is a relatively simple matter, the same cannot be said for regulating the declaration of the fact of irradiation in relation to the large variety of processed foods which can be made from irradiated raw materials and in relation to manufactured foods containing irradiated ingredients. In any event, while it would seem more practical to deal with the former (i.e. irradiated food as such) under specific regulations governing the application of ionizing radiation to raw foods, the latter (i.e. processed foods made from irradiated raw materials and irradiated ingredients) would seem to be more appropriately dealt with under food labelling regulations relating to prepackaged foods generally (see Annex)

The authors believe that, while the special labelling of irradiated raw materials certainly appears to have merits from a point of view of consumer information (i.e. fact of irradiation, technological purpose, hygienic quality, etc.) the need for declaration of the fact of irradiation on the label of processed and composite foods should be given further consideration in relation to the meaning which a reference to irradiation carried out prior to the further processing of the food could have to the consumer and to health or food control authorities

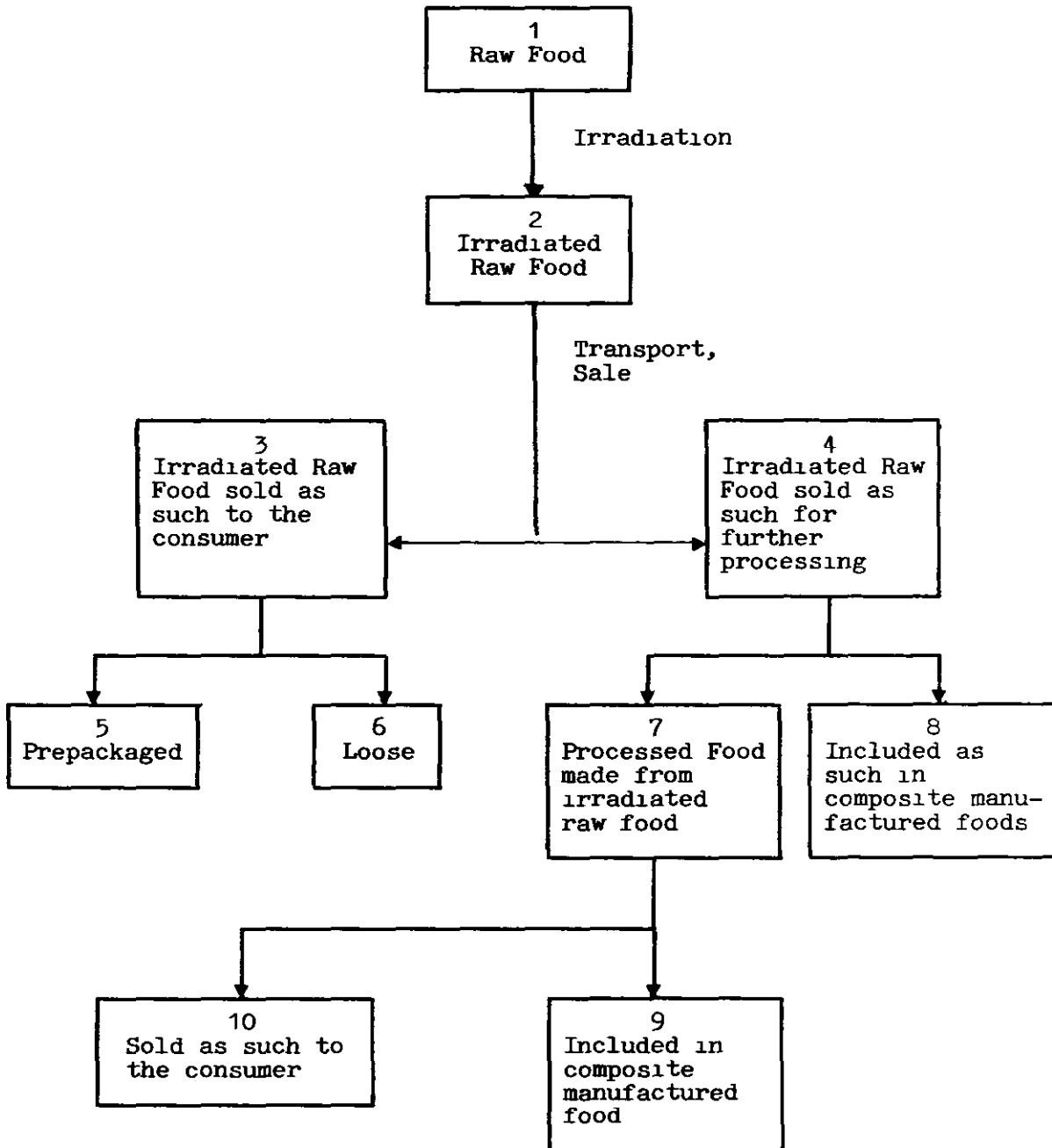
Bibliography

- Report of a Consultation Group on the Legal Aspects of Food Irradiation, Vienna, 20th-24th March 1972, IAEA, Vienna (1973)
- International Acceptance of Irradiated Food, Legal Aspects, Legal Series No. 11, IAEA, Vienna (1979)
- Law No. 94 of 31st March 1953 (Denmark) on the use etc., of radioactive substances

- Order No. 413 of 31st October 1967 (Denmark) of the Ministry of the Interior concerning the treatment of foodstuffs with ionizing radiations
- Decree No. 70-392 of 8th May 1970 (France) embodying public administrative regulations and laying down conditions for trade in irradiated merchandise
- The Food Act, dated 15th August 1974 (Federal Republic of Germany)
- Decree No. 2725 of 6th October 1966 (Spain) regulating the procedure for the approval of the radiation preservation of foodstuffs intended for human consumption
- Decree Law No. 986 of 21st October 1969 (Brazil) establishing basic standards for the irradiation of foodstuffs (implemented by Decree No. 72718 of 29th August 1973)
- Amendment E 13/24/1/66 of 14th July 1966 (Canada) to Food and Drug Regulations
- Amendment P.C.1699-384 of 25th February 1969 (Canada) as above
- Code of Federal Regulations (United States of America), Title 21, p.121.3002-3007, as amended
- Law 30th April 1962, No. 283 (Italy) Health protection in the production and sale of foodstuffs and drinks
- Presidential Decree 13th February 1964, No. 185 (Italy) Safety of plants and protection of workers and the population against the risk of ionizing radiations arising from the peaceful uses of nuclear energy
- Presidential Decree 5th December 1969, No. 1303 (Italy). Activity or concentration and exposure rates subject to the provisions under P.D. 13th February 1964, No. 185
- Ministerial Decree 30th August 1973 (Italy) authorizing gamma-rays treatment of potatoes, onions and garlic for anti-sprouting purposes
- Recommended International General Standard for Irradiated Foods (CAC/RS 114-1979)

ANNEX

IRRADIATED PRODUCTS IN THE FOOD CHAIN



AFTER THE REFERENDUM*

Sten G Sandstrom
Secretary General
Swedish Atomic Forum

Plebiscites are not an integral part of Swedish legislation. Each time a referendum is to be held the Swedish Parliament has to pass a new law on the proposal of the Government, and the outcome of any referendum is taken as advisory only. The last previous referendum was conducted in 1957.

A referendum on nuclear power was first proposed in 1975 in a Parliamentary motion proposed by the Communist Party. It was, however, rejected. Nuclear power was an important issue in the debate in the run-up to the general election in the autumn of 1976, the main point in the programme of the Swedish Centre Party was the abandonment of nuclear power, which contributed substantially towards making that party a winner in the election. The Social Democrat Government was replaced by a coalition formed by the Centre Party and the two pro-nuclear Moderate (conservative) and Liberal parties. After two years, co-operation between the parties in the Government broke down, however, owing to different opinions on nuclear energy policy, and a liberal minority government was formed.

In the summer of 1978 a so-called "People's Campaign Against Nuclear Power", a grouping of various environmental organisations, women's associations, field biologists and so on, began to collect names with the aim of abandoning nuclear power in Sweden as soon as possible and requesting a referendum on the matter. Several hundred thousand names had been collected when the accident at Three Mile Island occurred on 28th March 1979. A week later the Social Democrat leaders declared that they had changed their minds on the nuclear question because of the Harrisburg incident and proposed a referendum to be held after the general election in September 1979. The Liberals and soon afterwards the Moderates agreed to the proposal, which meant that it was now supported by all the political parties. The Social Democrats evidently acted under the pressure of the collection of names mentioned earlier and of a group of dissenters within the party, who could not be disregarded. The intention was to remove nuclear energy as a question in the election campaign. All the political parties declared that they would this time abide by the outcome of the referendum.

After the election, the coalition formed a government with a majority of only one vote in the Parliament.

* This Article has been reproduced from "Atom", July 1980, by kind permission of the Editor and the author. Responsibility for the views expressed and the facts given rests solely with the author.

The referendum

After much discussion and political turning-about the Parliament finally, in December 1979, passed a law on a referendum to be held on 23rd March 1980. The "no" alternative was drawn up jointly by the anti-nuclear groups, the Centre Party and the Communists. The other parties could not agree on a common text. The voters were therefore given three different options to choose between, beside a blank ballot which remitted the question to Parliament. The alternatives offered were:

- Line 1, supported by the Moderate Party, proposing that all 12 reactors in the Swedish nuclear programme (six of a total of 3.7 gigawatts operating, four of a total of 3.6 GW ready for fuel loading and two of a total of 2.1 GW under construction) be used during their service life, estimated at about 25 years.
- Line 2, supported by the Social Democrats and the Liberals, also proposing 12 reactors but also presenting a plan of gradually phasing them out up to the year 2010 and then replacing them with other energy sources, mainly renewable and domestic. Further public ownership of "large scale electricity production" was implied in this alternative.
- Line 3, supported by the Centre and Communist Parties, requesting phasing out of the presently operating six reactors within 10 years and an immediate cessation of work on the other six, which would never be brought into operation.

In practice the campaign on line 3 began during the autumn of 1979, but the other two "lines" could not start work until January 1980. A hectic and sometimes strident campaign dominated the media and public discussion until the voting day. As time went by the level of the arguments in the debate fell lower and lower - especially those from supporters of line 3, who in the end purveyed propaganda depicting all the perils to which the continued use of nuclear power would expose mankind. Beside environmentalists and politicians, a number of representatives of the "cultural elite" - pop stars and the like - participated in the "no" campaign. A desire to create a new, ecologically-sound and more human society was for many people in these groups determinant of their standpoint.

The main arguments of the other two groupings were the risk of shortage of energy and its consequences for employment and the Swedish economy, which were emphasized in a report entitled "Suppose we go non-nuclear....?", presented last November by a commission set up by the Government in June 1979 "to study the consequences of dispensing with nuclear power."

The result of the referendum was:

Line 1	18.9 per cent
Line 2	39.1 per cent
Line 3	38.7 per cent
Blank	3.3 per cent

There was a turnout of 74.5 per cent, or about 15 per cent lower than is normal for general elections. As it was agreed between the political parties before the referendum that the voters for line 1 and line 2 should be added, the result meant that the anti-nuclear initiative was defeated by a three-to-two majority.

Yet, from the "no"-side it was maintained that the votes for line 2 and line 3 should be counted together as both these lines marked a distinct intention to replace nuclear power with other energy sources, and presented plans to achieve this goal, and anyway due consideration should be given to the fact that 40 per cent of the voters wanted to abandon nuclear power as soon as possible. It was also pointed out that there would be a surplus of electricity in the latter part of the 1980s if all the reactors were to be completed, which would prevent the introduction of "alternative" energy sources to the energy system: therefore, the eleventh and at any rate the twelfth reactors should not be completed.

The Prime Minister, leader of the anti-nuclear Centre Party, however, declared that the public had now given its approval to the use of at most 12 reactors and that it was up to the utilities to decide whether they would finish the construction of numbers 11 and 12.

Repercussions of TMI

In May 1979 the Government set up a Commission on Nuclear Reactor Safety (RSU) to re-evaluate the risks associated with nuclear power in Sweden in the light of the TMI-2 accident and to suggest steps to be taken to increase the safety of reactors. The National Radiation Protection Institute (SSI) was also commissioned "to overhaul the organisation and the available resources as to preparedness against accidents in nuclear power plants". Reports from both commissions, presented at the end of 1979, were often referred to in the referendum campaign.

The main conclusion of the RSU was that there was no basis for a major re-evaluation of the accident risks associated with nuclear power as they had been described in earlier Swedish studies. Considerably higher safety standards must, however, be maintained in the future in the nuclear industry on the part of the power companies, suppliers and the regulatory agencies. To increase further the safety of Swedish reactors, the RSU recommended measures to be taken on 49 items in various areas. Among other things the RSU recommended that reactor containments should be provided with additional filter systems to further reduce the risk of the release of radioactive substances in the event of a major accident.

SSI recommended in its report a number of steps to be taken to remove some deficiencies in the organisation for dealing with emergencies. It also painted a very alarming picture of what might happen in the event of a reactor core meltdown under the worst conceivable circumstances.

The nuclear authorities and the industry immediately started studies of measures to improve the safety of Swedish reactors recommended by the RSU. Thus, for instance, in February 1980 a joint project called "Modified Containment" was set up with a budget of about \$4 million (20 million Swedish Crowns) "to develop conceptual designs of vent-filtered containments". As a further step to promote nuclear safety the four Swedish power utilities have formed a Nuclear Safety Board which started its activities on 1st April 1980. The board is to sponsor safety R&D work and also to some extent perform assessment and analysis work. One of its main tasks will be to collect information about incidents and accidents in Swedish and foreign nuclear stations and to assess and analyse that information.

The SSI report has been sent for comment to a number of different organisations representing industry, authorities, research institutes and so on. On the whole it has received a positive response, but the risk assessment in the report has been criticised by many of the bodies which have commented.

Loading new reactors

The operating reactors in Sweden are Oskarshamn 1 and 2, Barsebäck 1 and 2 and Ringhals 1 and 2. Four days after the referendum the Government approved the loading of Ringhals 3 and Forsmark 1 with fuel (the so-called Respite Law of May 1979 prevented the start-up of any new reactor until after the referendum).^{*} Two weeks later the Government approved as well the loading of Ringhals 4 and Forsmark 2 with fuel but limited the permission to operate these reactors to the period up to and including 1986. This permission may, however, be prolonged if the reactor owners can, for example, present an extended reprocessing agreement or a plan for direct final disposal of used reactor fuel without reprocessing which is approved by the Government.

Fuel loading of Forsmark 1 started on 10th April and began at Ringhals on 1st July, pending a limited safety analysis to be approved by the Nuclear Power Inspectorate. Test operation at Forsmark 1 began in May. Forsmark 2 will be loaded with fuel at the end of 1980, and Ringhals 4 a year later.

Energy policy

One month after the referendum the Government presented an Energy Bill to the Parliament. The Minister of Energy declared that the long-term objective of the energy policy would be "to abandon nuclear power at a rate which may be possible considering the need for electric power to maintain employment and welfare". At most the 12 reactors in the programme were to be used during their technical lifetime, estimated at 25 years from the start of the operation. Measures to improve reactor safety such as venting filter systems were under study. The safety analysis of each reactor should be intensified; and the Nuclear Power Inspectorate would be reorganised and get increased personnel and economic resources.

To some extent, said the Minister, the reactors would be used to reduce the consumption of oil for heating, but coal would replace oil during the 1980s and 1990s. The use of domestic alternative fuels, such as peat and biofuels, would be promoted, and the Government would propose a fund to be set up to support investments in oil-replacing techniques. Steps were also to be taken to introduce natural gas for heating in the energy system from the autumn of 1985.

A more detailed and complete Energy Bill is to be presented at the beginning of 1981.

In a motion laid before the Parliament the Social Democrat Party has proposed among other things that the Government should elect a representative to negotiate with the owners of the Oskarshamn reactors (at present 55 per cent privately owned) on a takeover by the community, and that there should be a public representative on the board of each of the country's hydro-electric power plants and the like. The party also

^{*} See Nuclear Law Bulletin No. 24.

asks that the Government's intention to replace nuclear power with other energy sources should be expressed more clearly. In motions from the Centre Party and from the Communist Party concrete steps to develop domestic and renewable energy sources are requested.

The aftermath

The intense referendum campaign virtually wiped out all other activities of national interest in Sweden. All the media concentrated on matters concerning the referendum only. No major economic policy initiatives were taken by the Government, and central labour-contract negotiations were at a low level pending the outcome of the referendum. Soon after it was over it seemed, however, to be forgotten. Some editorial comments on the outcome were made in the media and in a few articles some social scientists tried to analyse the result; but after only a week there was no more public debate on the nuclear issue, and interest turned to other matters.

The attitude of the nuclear opposition after the referendum was that they did not consider themselves losers, as they had anyhow created the biggest national movement in the history of Sweden. They declared that their fight would continue until all reactors were shut down. Soon it became clear, however, that there were many different views within the opposition about how to continue the work. It was decided that a conference should be held at the end of April to discuss future activities, but this was called off because of strikes. The only action so far taken by the anti-nuclear groups at the time of writing has been to request an evacuation area of 80 kilometres around the nuclear power plants.

At the beginning of May the first scientific study of the outcome of the referendum was presented by a research team at the University of Lund. It showed that if the votes for lines 1 and 2 were added, the two "yes" lines had a majority in 228 municipalities and the remaining "no" line a majority in the remaining 49 only. To a large extent the result became a reflection of the party political picture of the general election in September 1979. With increasing nearness to the nuclear power plants, however, lines 1 and 2 improved their results. An interesting observation is that in housing areas dominated by universities and other academic institutes line 3 was very successful in the referendum.

Even if the nuclear debate seems to have disappeared from the public scene it is, however, by no means dead, and it can be expected to wake up again as soon as the anti-nuclear groups find a suitable starting point.

BIBLIOGRAPHY

• *Brazil*

Legislação Nuclear, 1. Direito Nuclear, Associação Brasileira de Direito Nuclear (ABDN), Rio de Janeiro, 1980, 139 pages

This book, the first in a series of three volumes, was issued by the Brazilian Nuclear Law Association which also publishes a periodical on nuclear law (see Nuclear Law Bulletin No. 24). The first volume contains the body of laws and decrees governing peaceful nuclear activities in Brazil and is prefaced by a summary of the Directives concerning the national nuclear energy policy, approved by the President of the Republic on 23rd December 1967.

The Directives lay down the scope of the national nuclear programme as well as its objectives. The President of the Republic is responsible for the general orientation of the national nuclear energy policy and the National Safety Council supervises and co-ordinates this policy. The Ministry of Mines and Energy is competent for the planning, carrying out and control of the policy; the National Nuclear Energy Commission is the body responsible for the preparation of the nuclear programme as well as for its legal, administrative and financial aspects.

The book contains decree-laws amending previous nuclear legislation, and inter alia, the Act on nuclear third party liability, the Act setting up the National Nuclear Energy Commission, decrees specifying the different powers and responsibilities of the National Nuclear Energy Commission, regulations on the mining regime, radiation protection, nuclear safety etc.

The second and third volumes will deal respectively with international conventions, treaties and agreements and with other, marginal, legal texts, namely ministerial orders, instructions and rules in the nuclear field.

• *France*

Protection contre les rayonnements ionisants, No. 1420, Journal Officiel de la République Française, 1st April 1979, 362 pages

This publication is a compilation of national legislative and regulatory provisions on radiation protection in force on 1st April 1979. In addition to the in extenso texts on the subject, relevant provisions in laws and regulations with a wider scope have been reproduced. This compilation updates a previous publication of the Official Gazette of the French Republic dated 15th November 1978 (see Nuclear Law Bulletin No. 23).

• *Sweden*

Internationalization to Prevent the Spread of Nuclear Weapons, Stockholm International Peace Research Institute (SIPRI), published by Taylor and Francis Ltd., London, 1980, 223 pages

SIPRI is an independent institute for research into the problems of peace, especially those of disarmament and arms regulation. It has published a number of books on nuclear proliferation issues (see Nuclear Law Bulletin No. 16).

This book was intended to serve as background material for the preparation of the second Review Conference on the Non-Proliferation Treaty (NPT) scheduled in August/September 1980 in Geneva. The book reports that the recent International Nuclear Fuel Cycle Evaluation (INFCE) concluded that, in a world in which an increasing number of countries are using nuclear energy for peaceful purposes, no technical ways exist to prevent the spread of nuclear weapons, therefore, non-proliferation is a political problem and must consequently be solved by political means.

The book analyses some of the political, economic, technical and legal issues involved in internationalizing the nuclear fuel cycle and consists of two parts. Part I contains SIPRI's evaluation of the advantages, as well as the weaknesses, of the existing proposals for internationalization. Part II contains the papers contributed to the SIPRI Symposium on internationalization of the nuclear fuel cycle, which was held from 31st October to 2nd November 1979 in Stockholm.

The NPT - The Main Political Barrier to Nuclear Weapon Proliferation, Stockholm International Peace Research Institute (SIPRI), published by Taylor and Francis Ltd., London, 1980, 66 pages

This book contains a survey of the issues likely to be discussed at the second Review Conference of the Non-Proliferation Treaty (NPT) in Geneva in August/September 1980.

It reviews the major problems connected with the NPT in the 1980s. A critical assessment is made of the ways in which the NPT is being implemented and makes suggestions for strengthening the non-proliferation regime. The book's aim is to facilitate the task of those who work towards halting the spread of nuclear weapons. Finally, SIPRI also points out the need for the internationalization of the sensitive parts of the nuclear fuel cycle.

• *Switzerland*

Schweizerisches Atomenergierecht (Swiss Atomic Energy Law) by Heribert Rausch, Buchhandlung Schulthess Polygraphischer Verlag, AG, Zurich, 1980, 250 pages

The author first describes the emergence of nuclear energy legislation in Switzerland in the 40s and 50s, special mention being made of the Federal Act of 23rd December 1959, on the Peaceful Uses of Atomic Energy and Protection against Radiation, before going on to examine the development of this legislation in recent years as well as amendments to be brought into force in the near future.

A chapter is devoted to measures taken in Switzerland with regard to each of the following topics: the problems connected with the construction of nuclear power plants and with their operation, problems arising from the refusal or cancellation of a permit, in particular with regard to questions of compensation that might result therefrom, and the shut-down and demolition of nuclear power plants; problems connected with radioactive waste and questions relating to third party liability and insurance.

Finally, the proposal for "A future without more nuclear power plants", which has just been published, is included, together with the author's comments thereon, in an Appendix.

**SOME
NEW PUBLICATIONS
OF NEA**

**QUELQUES
NOUVELLES PUBLICATIONS
DE L'AEN**

ACTIVITY REPORTS

RAPPORTS D'ACTIVITÉ

**Activity Reports of the OECD Nuclear
Energy Agency (NEA)**

- 7th Activity Report (1978)
- 8th Activity Report (1979)

**Rapports d'activité de l'Agence de l'OCDE
pour l'Énergie Nucléaire (AEN)**

- 7^e Rapport d'Activité (1978)
- 8^e Rapport d'Activité (1979)

Free on request – Gratuits sur demande

**Annual Reports of the OECD HALDEN
Reactor Project**

- 18th Annual Report (1977)
- 19th Annual Report (1978)

**Rapports annuels du Projet OCDE de
réacteurs de HALDEN**

- 18^e Rapport annuel (1977)
- 19^e Rapport annuel (1978)

Free on request – Gratuits sur demande



NEA at a Glance

Free on request – Gratuit sur demande

Coup d'œil sur l'AEN

**OECD Nuclear Energy Agency
Functions and Main Activities**

Free on request – Gratuit sur demande

**Agence de l'OCDE pour l'Énergie
Nucléaire Rôle et principales
activités**

**Twentieth Anniversary of the OECD Nu-
clear Energy Agency**

- Proceedings on the NEA Symposium
on International Co-operation in the
Nuclear Field Perspectives and
Prospects

Free on request – Gratuit sur demande

**Vingtième Anniversaire de l'Agence de
l'OCDE pour l'Énergie Nucléaire**

- Compte rendu du Symposium de l'AEN
sur la coopération internationale dans
le domaine nucléaire bilan et pers-
pectives

**SCIENTIFIC AND
TECHNICAL
PUBLICATIONS**

**PUBLICATIONS
SCIENTIFIQUES
ET TECHNIQUES**

NUCLEAR FUEL CYCLE

**LE CYCLE DU COMBUSTIBLE
NUCLÉAIRE**

Reprocessing of Spent Nuclear Fuels in
OECD Countries (1977)

Retraitement du combustible nucléaire
dans les pays de l'OCDE (1977)

£2 50 US\$5 00 F20 00

Nuclear Fuel Cycle Requirements and
Supply Considerations Through the
Long-Term (1978)

Besoins liés au cycle du combustible nu-
cléaire et considérations sur l'approvision-
nement à long terme (1978)

£4 30 US\$8 75 F35 00

World Uranium Potential –
An International Evaluation (1978)

Potentiel mondial en uranium –
Une évaluation internationale (1978)

£7 80 US\$16 00 F64 00

Uranium – Resources Production and
Demand (1979)

Uranium – ressources production et
demande (1979)

£8 70 US\$19 50 F78 00

• • •

RADIATION PROTECTION

RADIOPROTECTION

Iodine-129
(Proceedings of an NEA Specialist Meet-
ing, Paris 1977)

Iode-129
(Compte rendu d'une réunion de spécia-
listes de l'AEN Paris, 1977)

£3 40 US\$7 00 F28 00

Recommendations for Ionization Chamber
Smoke Detectors in Implementation of
Radiation Protection Standards (1977)

Recommandations relatives aux détec-
teurs de fumée à chambre d'ionisation en
application des normes de radioprotec-
tion (1977)

Free on request – Gratuit sur demande

Radon Monitoring
(Proceedings of the NEA Specialist Meet-
ing Paris 1978)

Surveillance du radon
(Compte rendu d'une réunion de spécia-
listes de l'AEN Paris 1978)

£8 00 US\$16 50 F66 00

Management Stabilisation and Environ-
mental Impact of Uranium Mill Tailings
(Proceedings of the Albuquerque Seminar
United States 1978)

Gestion stabilisation et incidence sur l'en-
vironnement des résidus de traitement de
l'uranium
(Compte rendu du Séminaire d'Albuquer-
que États-Unis, 1978)

£9 80 US\$20 00 F80 00

Exposure to Radiation from the Natural Radioactivity in Building Materials
(Report by an NEA Group of Experts, 1979)

Exposition aux rayonnements due à la radioactivité naturelle des matériaux de construction
(Rapport établi par un Groupe d'experts de l'AEN 1979)

Free on request – Gratuit sur demande

Marine Radioecology
(Proceedings of the Tokyo Seminar 1979)

Radioécologie marine
(Compte rendu du Colloque de Tokyo 1979)

£9 60 US\$21 50 F86 00

Radiological Significance and Management of Tritium, Carbon-14, Krypton-85 and Iodine-129 arising from the Nuclear Fuel Cycle
(Report by an NEA Group of Experts, 1980)

Importance radiologique et gestion des radionucléides tritium, carbone-14, krypton-85 et iode-129, produits au cours du cycle du combustible nucléaire
(Rapport établi par un Groupe d'experts de l'AEN, 1980)

£8 40 US\$19 00 F76 00

● ● ●

RADIOACTIVE WASTE MANAGEMENT

Objectives Concepts and Strategies for the Management of Radioactive Waste Arising from Nuclear Power Programmes
(Report by an NEA Group of Experts 1977)

£8 50 US\$17 50 F70 00

Treatment Conditioning and Storage of Solid Alpha-Bearing Waste and Cladding Hulls
(Proceedings of the NEA/IAEA Technical Seminar Paris 1977)

£7 30 US\$15 00 F60 00

Storage of Spent Fuel Elements
(Proceedings of the Madrid Seminar, 1978)

£7 30 US\$15 00 F60 00

In Situ Heating Experiments in Geological Formations
(Proceedings of the Ludvika Seminar, Sweden 1978)

£8 00 US\$16 50 F66 00

GESTION DES DÉCHETS RADIOACTIFS

Objectifs, concepts et stratégies en matière de gestion des déchets radioactifs résultant des programmes nucléaires de puissance
(Rapport établi par un Groupe d'experts de l'AEN 1977)

Traitement conditionnement et stockage des déchets solides alpha et des coques de dégainage
(Compte rendu du Séminaire technique AEN/AIEA Paris 1977)

Stockage des éléments combustibles irradiés
(Compte rendu du Séminaire de Madrid 1978)

Expériences de dégagement de chaleur in situ dans les formations géologiques
(Compte rendu du Séminaire de Ludvika Suède, 1978)

Migration of Long-lived Radionuclides in the Geosphere (Proceedings of the Brussels Workshop 1979)	Migration des radionucléides à vie longue dans la géosphère (Compte rendu de la réunion de travail de Bruxelles 1979)
£ 8 30	US\$17 00 F 68 00
Low-Flow Low-Permeability Measurements in Largely Impermeable Rocks (Proceedings of the Paris Workshop 1979)	Mesures des faibles écoulements et des faibles perméabilités dans des roches relativement imperméables (Compte rendu de la réunion de travail de Paris 1979)
£ 7 80	US\$16 00 64 00
On-Site Management of Power Reactor Wastes (Proceedings of the Zurich Symposium 1979)	Gestion des déchets en provenance des réacteurs de puissance sur le site de la centrale (Compte rendu du Colloque de Zurich 1979)
£ 11 00	US\$22 50 F90 00
Recommended Operational Procedures for Sea Dumping of Radioactive Waste (1979)	Recommandations relatives aux procédures d'exécution des opérations d'immersion de déchets radioactifs en mer (1979)
Free on request — Gratuit sur demande	
Guidelines for Sea Dumping Packages of Radioactive Waste (Revised version, 1979)	Guide relatif aux conteneurs de déchets radioactifs destinés au rejet en mer (Version révisée 1979)
Free on request — Gratuit sur demande	
Use of Argillaceous Materials for the Isolation of Radioactive Waste (Proceedings of the Paris Workshop 1979)	Utilisation des matériaux argileux pour l'isolement des déchets radioactifs (Compte rendu de la Réunion de travail de Paris 1979)
£ 7 60	US\$17 00 F 68 00
Review of the Continued Suitability of the Dumping Site for Radioactive Waste in the North-East Atlantic (1980)	Réévaluation de la validité du site d'immersion de déchets radioactifs dans la région nord-est de l'Atlantique (1980)
Free on request — Gratuit sur demande	
Decommissioning Requirements in the Design of Nuclear Facilities (Proceedings of the NEA Specialist Meeting Paris, 1980)	Déclassement des installations nucléaires exigences à prendre en compte au stade de la conception (Compte rendu d'une réunion de spécialistes de l'AEN, Paris, 1980)
£ 7 80	\$17 50 F70 00
Borehole and Shaft Plugging (Proceedings of the Columbus Workshop, United States, 1980)	Colmatage des forages et des puits (Compte rendu de la réunion de travail de Columbus, États-Unis, 1980)
£ 12.00	US\$ 30.00 F 120,00

SAFETY**SÛRETÉ**

Safety of Nuclear Ships
(Proceedings of the Hamburg Symposium
1977)

Sûreté des navires nucléaires
(Compte rendu du Symposium de
Hambourg 1977)

£17 00 US\$35 00 F140 00

Nuclear Aerosols in Reactor Safety
(A State-of-the-Art Report by a Group of
Experts 1979)

Les aérosols nucléaires dans la sûreté
des réacteurs
(Rapport sur l'état des connaissances
établi par un Groupe d Experts 1979)

£8 30 US\$18 75 F75 00

Plate Inspection Programme
(Report from the Plate Inspection
Steering Committee - PISC - on the
Ultrasonic Examination of Three
Test Plates) 1980

Programme d inspection des tôles
(Rapport du Comité de Direction sur
l'inspection des tôles - PISC - sur l'examen
par ultrasons de trois tôles d'essai au moyen
de la procédure «PISC» basée sur le code
ASME XI), 1980

£3 30 US\$7 50 F30 00

Reference Seismic Ground Motions
in Nuclear Safety Assessments
(A State-of-the-Art Report by a
Group of Experts, 1980)

Les mouvements sismiques de référence
du sol dans l'évaluation de la sûreté
des installations nucléaires
(Rapport sur l'état des connaissances
établi par un Groupe d experts, 1980)

£7 00 \$16 00 F64,00

• • •

SCIENTIFIC INFORMATION**INFORMATION SCIENTIFIQUE**

Neutron Physics and Nuclear Data for
Reactors and other Applied Purposes
(Proceedings of the Harwell International
Conference 1978)

La physique neutronique et les données
nucléaires pour les réacteurs et autres
applications
(Compte rendu de la Conférence Inter-
nationale de Harwell 1978)

£26 80 US\$55 00 F220,00

Calculation of 3-Dimensional
Rating Distributions in Operating
Reactors
(Proceedings of the Paris Specialists
Meeting, 1979)

Calcul des distributions tri-
dimensionnelles de densité de puissance
dans les réacteurs en cours d'exploitation
(Compte rendu de la Réunion de spécia-
listes de Paris 1979)

£9 60 US\$21 50 F86 00

LEGAL PUBLICATIONS

PUBLICATIONS JURIDIQUES

Convention on Third Party Liability in the Field of Nuclear Energy — incorporating the provisions of Additional Protocol of January 1964

Convention sur la responsabilité civile dans le domaine de l'énergie nucléaire — Texte incluant les dispositions du Protocole additionnel de janvier 1964

Nuclear Legislation, Analytical Study
Nuclear Third Party Liability (revised version, 1976)

Législations nucléaires, étude analytique
Responsabilité civile nucléaire (version révisée, 1976)

£ 6 00 US\$ 12 50 F 50 00

Nuclear Law Bulletin
(Annual Subscription — two issues and supplements)

Bulletin de Droit Nucléaire
(Abonnement annuel — deux numéros et suppléments)

£ 5 60 US\$ 12 50 F 50,00

Index of the first twenty five issues of the Nuclear Law Bulletin

Index des vingt-cinq premiers numéros du Bulletin de Droit Nucléaire

Free on request — Gratuit sur demande

Licensing Systems and Inspection of Nuclear Installations in NEA Member Countries (1980)

Régime d'autorisation et d'inspection des installations nucléaires dans les pays de l'AEN (1980)

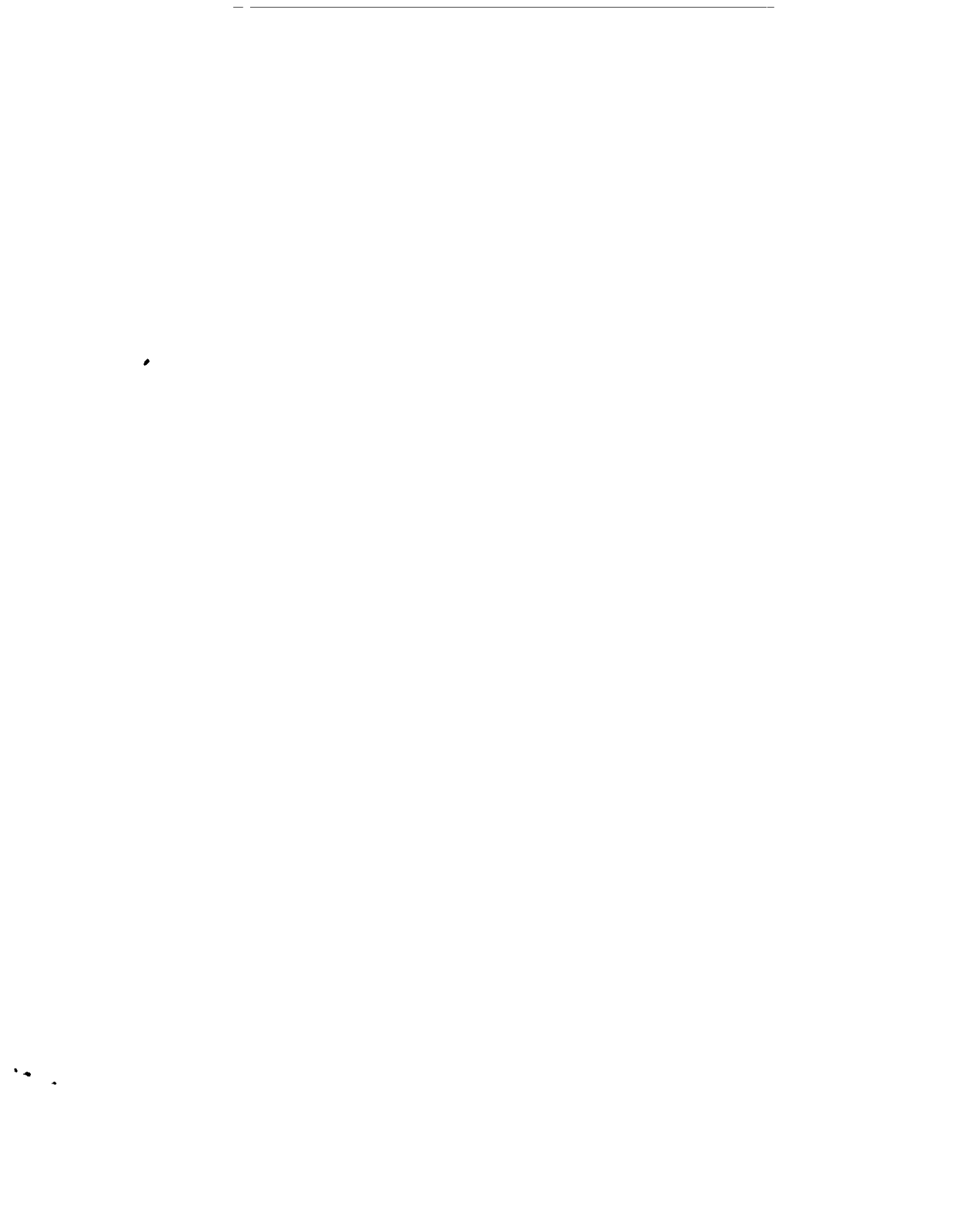
£ 7.60 US\$ 19.00 F 76,00

NEA Statute

Statuts de l'AEN

Free on request — Gratuit sur demande





**OECD SALES AGENTS
DÉPOSITAIRES DES PUBLICATIONS DE L'OCDE**

ARGENTINA – ARGENTINE
Carlos Hirsch S R L Florida 165 4 Piso (Galería Guemes)
1333 BUENOS AIRES Tel 33 1787 2391 y 30 7122

AUSTRALIA – AUSTRALIE
Australia & New Zealand Book Company Pty Ltd
23 Cross Street (P O B 459)
BROOKVALE NSW 2100 Tel 938 2244

AUSTRIA – AUTRICHE
OECD Publications and Information Center
4 Simrockstrasse 5300 BONN Tel (0228) 21 60 45
Local Agent/Agent local
Gerold and Co. Graben 31 WIEN 1 Tel 52 22 35

BELGIUM – BELGIQUE
LCLS
44 rue Orlet B 1070 BRUXELLES Tel 02 521 28 13

BRAZIL – BRÉSIL
Mestre Jou S A Rua Guaipa 518
Caixa Postal 24090 05089 SAO PAULO 10 Tel 261 1920
Rua Senador Dantas 19 s/205-6 RIO DE JANEIRO GB
Tel 232 07 32

CANADA
Renouf Publishing Company Limited
2182 St Catherine Street West,
MONTREAL Quebec H3H 1M7 Tel (514) 937 3519

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 HÉLSINKI 10 Tel 65 11 22

FRANCE
Bureau des Publications de l'OCDE,
2 rue André-Pascal 75775 PARIS CEDEX 16 Tel (1) 524 81 67
Principal correspondant
13602 AIX EN PROVENCE Librairie de l'Université
Tel 26 18 08

GERMANY – ALLEMAGNE
OECD Publications and Information Center
4 Simrockstrasse 5300 BONN Tel (0228) 21 60 45

GREECE – GRÈCE
Librairie Kauffmann 28 rue du Stade,
ATHÈNES 132 Tel 322.21 60

HONG-KONG
Government Information Services
Sales and Publications Office, Baskerville House 2nd floor
13 Duddell Street, Central Tel 5 214375

ICELAND – ISLANDE
Snaebjörn Jónsson and Co b f
Hafnarstræti 4 and 9 P O B. 1131 REYKJAVIK
Tel 13133/14281/11936

INDIA – INDE
Oxford Book and Stationery Co
NEW DELHI Scindia House Tel 45896
CALCUTTA, 17 Park Street Tel 240832

INDONESIA – INDONÉSIE
PDIN 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
Via Bartolini 29 20155 MILANO Tel 365083
Sub-depositari
Editrice e Libreria Herder
Piazza Montecitorio 120 00186 ROMA Tel 6794628
Libreria Hoepli, Via Hoepli 5 20121 MILANO Tel 865446
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 Center
Landic Akasaka Bldg. 2 3-4 Akasaka
Minato-ku TOKYO 107 Tel 586 2016

KOREA – CORÉE
Pan Korea Book Corporation
P O Box n° 101 Kwangwhamun SÉOUL Tel. 72 7369

LEBANON – LIBAN
Documenta Scientifica/Redico,
Edison Building, Blas Street, P O Box 5641 BEIRUT
Tel 354429 – 344425

MALAYSIA – MALAISIE
and/et SINGAPORE SINGAPOUR
University of Malaysia Co-operative Bookshop Ltd.
P O Box 1127 Jalan Pantai Baru
KUALA LUMPUR Tel 51425 54058 54361

THE NETHERLANDS – PAYS-BAS
Staatsuitgeverij
Verzendboekhandel Chr Plantijnstraat
S-GRAVENAGE Tel nr 070 789911
Voor bestellingen Tel 070 789208

NEW ZEALAND – NOUVELLE-ZÉLANDE
Publications Section
Government Printing Office,
WELLINGTON Walter Street Tel 847 679
Mulgrave Street, Private Bag, Tel 737 320
World Trade Building Cubacade Cuba Street, Tel 849 572
AUCKLAND Hannaford Burton Building,
Rutland Street, Private Bag, Tel 32 919
CHRISTCHURCH 159 Hereford Street, Private Bag, Tel 797 142
HAMILTON Alexandra Street, P O Box 857 Tel 80 103
DUNEDIN T & G Building, Princes Street, P O Box 1104
Tel 778 294

NORWAY – NORVÈGE
J G TANUM A/S Karl Johansgate 43
P O Box 1177 Sentrum OSLO 1 Tel (02) 80 12 60

PAKISTAN
Murza Book Agency 65 Shahrah Quaid E Azam LAHORE 3
Tel 66839

PHILIPPINES
National Book Store Inc
Library Services Division P O Box 1934 MANILA
Tel Nos 49 43 06 to 09 40 53 45 49 45 12

PORTUGAL
Livraria Portugal Rua do Carmo 70-74
1117 LISBOA CODEX Tel 360582/3

SPAIN – ESPAGNE
Mundi-Prensa Libros, S A
Castello 37 Apartado 1223 MADRID-1 Tel 275 46 55
Libreria Bastinos, Pelayo 52, BARCELONA 1 Tel 222.06 00

SWEDEN – SUÈDE
AB CE Fritzes Kungl Hovbokhandel,
Box 16 356 S 103 27 STH Regeringsgatan 12,
DS STOCKHOLM Tel 08/23 89 00

SWITZERLAND – SUISSE
OECD Publications and Information Center
4 Simrockstrasse 5300 BONN Tel (0228) 21 60 45
Local Agents/Agents locaux
Librairie Payot, 6 rue Grenus, 1211 GENÈVE 11 Tel 022.31 89 50
Freihofer A G Wembergstr 109 CH-8006 ZÜRICH
Tel 01 3624282

TAIWAN – FORMOSE
National Book Company
84-5 Sing Sung South Rd, Sec. 3 TAIPEI 107 Tel 321 0698

THAILAND – THAILANDE
Sukset Siam Co. Ltd 1715 Rama IV Rd,
Samyan BANGKOK 5 Tel 2511630

UNITED KINGDOM – ROYAUME-UNI
H M Stationery Office, P O B. 569
LONDON SE1 9NH Tel 01 928 6977 Ext. 410 or
49 High Holborn LONDON WC1V 6 HB (personal callers)
Branches at, EDINBURGH BIRMINGHAM BRISTOL,
MANCHESTER CARDIFF BELFAST

UNITED STATES OF AMERICA – ÉTATS-UNIS
OECD Publications and Information Center Suite 1207
1750 Pennsylvania Ave N W WASHINGTON D C 20006
Tel (202) 724 1857

VENEZUELA
Libreria del Este, Avda F Miranda 52, Edificio Galpan,
CARACAS 106 Tel 32 23 01/33 26 04/33 24 73

YUGOSLAVIA – YOUGOSLAVIE
Jugoslovenska Knjiga, Terazije 27 P O B. 36, BEOGRAD
Tel 621 992

Les commandes provenant de pays où l'OCDE n'a pas encore désigné de dépositaire peuvent être adressées à
OCDE, Bureau des Publications, 2, rue André-Pascal, 75775 PARIS CEDEX 16.

Orders and inquiries from countries where sales agents have not yet been appointed may be sent to:
OECD Publications Office, 2 rue André-Pascal 75775 PARIS CEDEX 16

OECD PUBLICATIONS 2 rue André Pascal 75775 PARIS CEDEX 16 No 41 767 1980
PRINTED IN FRANCE

(67 80 26 1) ISSN 0304 3428