NUCLEAR LAW Bulletin

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Contents

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Nuclear Energy Agency
Organisation for Economic Co-operation and Development

The Organisation for Economic Co-operation and Development (OECD) was set up under a Convention signed in Paris on 14th December 1960 which provides that the OECD shall promote policies designed

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

The Members of OECD are Australia Austria, Belgium Canada, Denmark Finland France the Federal Republic of Germany Greece Iceland Ireland, Italy Japan Luxembourg the Netherlands New Zealand Norway Portugal, Spain Sweden Switzerland Turkey the United Kingdom and the United States

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

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

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

This is achieved by

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

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

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LEGISLATIVE AND REGULATORY ACTIVITIES

• *Austria*

NUCLEAR LEGISLATION

Status of procedure for reconsideration of the use of nuclear energy

Following the passing of the Act of 15th December 1978 forbidding the use of nuclear fission for the purposes of providing energy in Austria (Prohibition Act), a procedure was initiated to collect the required number of signatures to start a "Peoples' Initiative" to amend the Act and to remove the ban on nuclear power, the goal being the commissioning of the Zwentendorf nuclear power plant (see Nuclear Law Bulletin Nos 23 and 26)

This petition was opened for signature in November 1980 and some 440,000 signatures were collected Under the Constitution, Parliament must place on its agenda any petition containing at least 200,000 signatures (however, it should be noted that a three-quarters parliamentary majority is required to amend the 1978 Act) Therefore, an ad hoc Sub-Committee for Nuclear Energy was set up by Parliament and began study of the question in January 1982.

In the framework of its programme, the Committee compiled a list of fourteen questions in the field of safety, economy etc to be satisfied by means of the expertise of mostly independent institutions such as the Reactor Safety Commission, the Radiation Protection Commission etc One of the questions relates to the need for a new 'Reactor Safety Act" to replace the existing basis for the licensing of nuclear power plants the Radiation Protection Act of 1969. It is expected that the draft of such a Reactor Safety Act will be the final point of the discussions in Parliament Whether these discussions in Parliament, however, will lead to a positive result, has presently to be left to speculation. A parliamentary decision is not expected before the Federal elections (Spring 1983) Abolishment of the existing Prohibition Act would eventually be linked with the establishment of a Reactor Safety Act As the two major parliamentary parties (Socialists, Conservatives) have agreed that the 1978 Act should only be amended subject to a new referendum, a date for resumption of the licensing procedure for the Zwentendorf plant would be set for Autumn 1983 in the event of a favourable outcome

• *Brazil*

RADIATION PROTECTION

1982 Ordinance concerning safety at work in nuclear installations

Ordinance No 001 was issued by the Ministry of Labour on 8th January 1982 and published in the Official Gazette of 19th January 1982 The purpose of the Ordinance is to fix the conditions required to ensure the health and safety of workers in nuclear installations as defined by Decree No 85 565 of 18th November 1980 on the fields of activity within the scope of the Protection System for the Brazilian Nuclear Programme - SIPRON (see Nuclear Law Bulletin No 27)

The specialized services for industrial medicine and safety (Serviços Especializados em Engenharia de Segurança Medicina do Trabalho - SESMT) are competent for the radiation protection of workers The Ordinance provides that where the organisation of radiation protection services in nuclear installations is required, the SESMT is responsible for ensuring that the adequate measures to that effect are implemented Other provisions concern medical examinations, safety conditions, dosimeter monitoring and measures to be taken in technical emergency situations

REGIME OF RADIOACTIVE MATERIALS

1981 Resolution of the Nuclear Energy Commission concerning the licensing of laboratories supplying individual monitoring services

Resolution 12/81 was issued on an experimental basis by the Nuclear Energy Commission on 22nd October 1981 and published in the Official Gazette of 18th November 1981

The purpose of the Resolution is to lay down the licensing procedure for the construction and operation of laboratories which provide individual monitoring services in respect of external irradiation by X-rays and gamma rays

ENVIRONMENTAL PROTECTION

National Environmental Policy Act 1981

Act No 6.938 of 31st August 1981 (published in the Official Gazette of 2nd September 1981) lays down the environmental policy applicable in Brazil. The purpose of the Act is to preserve and improve the quality of the environment, with a view to ensuring the conditions required for social/economic development and in the interest of national safety.

The Act specifically excludes from its scope the licensing of nuclear installations which remains within the sole competence of the Federal Executive

• *Canada*

REGIME OF RADIOACTIVE MATERIALS

Proposed amendments to the Atomic Energy Control Regulations concerning industrial radiography and related safety requirements and responsibilities and draft Regulatory Guide (1982)

The purpose of the proposed amendments to the Atomic Energy Control Regulations is to consolidate and clarify the requirements which currently exist relating to the operation of radioisotope industrial radiography

The amendments concern the revocation of Section 18 of the *Regulations which deals with industrial radiography, and its replacement* by a new, more detailed Section. In fact, they involve no major departure from presently approved practices and policies. Some changes which may be of particular interest include a stronger emphasis put on complete record-keeping, the concept of an operator who will be competent to operate an exposure device safely but who will not necessarily be a qualified radiographer, a new method of specifying the extent of the exclusion area around a radiography job-site, and the requirement for audible alarm dosimeters for some members of staff.

A draft Regulatory Guide was issued at the same time for the purpose of clarifying the new Section 18 of the Atomic Energy Control Regulations and provides the interpretation of the proposed revision

TRANSPORT OF RADIOACTIVE MATERIALS

Proposed regulations for packaging of radioactive materials for transport (1982)

Since 1969 the regulations of the International Atomic Energy Agency (IAEA) have been used for the safe transport of radioactive materials in Canada. These requirements are specified in the current national rail, road, sea and air regulations.

The purpose of the proposed regulations is to ensure the continued safe transport of radioactive materials by consolidating into one text those regulations which govern the packaging aspects Some minor modifications from the 1973 Edition of the IAEA Regulations have been made to the requirements for individual packages containing low specific activity (LSA) material.

• *Finland*

NUCLEAR LEGISLATION

Status of Atomic Energy Bill (1982)*

The Committee on Nuclear Energy Legislation was set up in 1978 by the Ministry of Trade and Industry for the purpose of preparing a proposal for the complete revision of the Atomic Energy Act as well as new legislation on nuclear waste management (see Nuclear Law Bulletin Nos. 21 and 22)

The Committee prepared a Report divided into two parts. Part I, issued in 1980, included an Atomic Energy Bill, the Bill contained proposed provisions regarding the purpose and scope of the Act, the general principles to be applied to the use of nuclear energy, the licensing procedure, the competent authorities, control, etc An analysis of the Bill is reproduced in Nuclear Law Bulletin No 26 (December 1980)

The Committee also considered that the regulation of nuclear waste management, its administrative and financial organisation and competent authorities were so closely connected with the regulation of the use of nuclear energy that it would be appropriate for one legislative Act to cover both aspects Part I of the Report mentioned that Part II would contain provisions concerning the procedures to be followed for providing funds for the future management of nuclear waste and would also propose draft regulations for nuclear-related mining activities. Part II of the Report was submitted in 1982. The provisions proposed by the Committee partly supplement and modify the text of the Atomic Energy Bill as proposed in Part I of the Report. The following is a summary of Part II

Measures needed to prepare for meeting the costs of nuclear waste management

Starting points

The Committee took as its starting point the principle that responsibility for all measures to be taken for nuclear waste management as well as for the costs of such measures should be borne by those having produced the waste through their nuclear operations. Since part of the costs of nuclear waste management will be incurred in the distant future, even beyond the useful life of the nuclear installation, the waste producer should take anticipatory measures for meeting the costs of any future activities required by waste management

Alternative types of the above-mentioned anticipatory measures as discussed by the Committee have been a provision to be made for nuclear waste purposes in the books of the waste producing body, a similar provision combined with the obligation to provide an external fund based on the payment of fees by the waste producers and falling outside the sphere of individual assets of each waste producer

In judging the suitability of the various types of anticipatory measures for legislative purposes the Committee paid attention to several points of view The system should be perfectly reliable in that the means

* Note drafted on the basis of information communicated by the Finnish authorities.

pledged should definitely be available for use when actually required The obligation to meet costs must attach to the production of nuclear waste in full and in due time. Further merits in the system to be chosen should be its clarity and simplicity from the point of view of the waste producer as well as the State bodies concerned. In addition, the system should meet the fundamental concept that responsibility for nuclear waste should fully remain with its producers

The Committee came to the conclusion that the setting up of an external fund would be a proper means of preparing for meeting the costs of nuclear waste management. According to the system proposed, nuclear waste fees would be payable by waste producers to the State and the payments received would be put into a separate fund The Committee does not propose any special administrative machinery to be created for this fund

Nuclear waste fee - State nuclear waste fund

The nuclear waste producer should pay the State a nuclear waste fee to be used for financing the measures required for waste management The payments received would be channelled to a State fund created outside the budget of the State and managed by the Ministry of Trade and Industry

The payments collected into the fund should, at the end of each calendar year and upon termination of the useful operation of each nuclear installation, correspond to the estimated amount of the outstanding costs of the nuclear waste management measures fixed in each case In determining the actual amount to be paid, the costs (fixed ones) which are not associated with the annually accrued wastes, however, could be extended over several years of the useful life of each installation

Determination of the nuclear waste fee

The rate of the nuclear waste fee would be determined by the Ministry of Trade and Industry, following the opinion of the Institute of Radiation Protection on the matter. The rate of the fee would be normally determined once each year for the next calendar year If necessary, it could be determined more frequently

To enable determination of the rate of the nuclear waste fee, the licensee would have to provide the Ministry of Trade and Industry and the Institute of Radiation Protection annually and, if required, even at other times, with an account of its need for nuclear waste management and its plans for relevant measures as well as an estimate, based on the current price level, of all its future expenses on account of nuclear waste management

More detailed provisions concerning the rates and payment of the nuclear waste fee would be made by the Council of State

Place where contribution to the nuclear waste fund would be kept

Payments made into the nuclear waste fund would be deposited with the Bank of Finland (the central bank). The Bank of Finland would have to pay an interest on the deposits and this interest would be added to the fund. According to a stipulation in the Act, the minimum rate of interest payable on the deposits would be 1.5 percent less than that which the Bank of Finland charges on its loans to the banking institutions

Use of the contributions to the nuclear waste fund

Decisions on the use of the moneys in the fund would be taken by the Ministry of Trade and Industry in the light of the opinion, requested if necessary, of the Institute of Radiation Protection Decisions could not be taken until the Ministry has ascertained that the anticipatory waste management measures have been taken

As soon as all the measures provided for by nuclear waste management have been taken, any extra moneys outstanding in the fund would have to be reimbursed to those having paid nuclear waste fees. Should such a person have ceased to exist the State would obtain the amount in excess. More detailed regulations concerning the use of the moneys in the fund would be made by the Council of State

Anticipatory measures in the case of uncovered costs

To ascertain that moneys are available if required also for payment of fixed costs not covered by the fees already contributed by the licensee, the latter should provide the State with security sufficient for the coverage of such costs The security would have to be accepted by the Ministry of Trade and Industry More detailed criteria for the sufficiency and acceptability of such securities would be issued by the Council of State

Means of preparing for disasters

Disasters and similar events in which exceptional nuclear waste costs are incurred would fall outside the scope of the above anticipatory system The licensee would nevertheless be obliged to foresee even this type of expenditure in a manner acceptable and satisfactory to the Council of State.

Release from the obligation relating to anticipatory measures

In the case of a very limited need to prepare for meeting the costs of nuclear waste management, the Ministry of Trade and Industry would be authorized to release the licensee from the obligation to prepare for those costs

Regulation of mining activities in the field of nuclear energy

Starting points

Activities involving uranium mining are not yet governed by special legislation. The particular mining activities have, however, certain exceptional features Since uranium is mainly extracted for use in the manufacture of fuel for nuclear installations, the Committee considered that, when making decisions relating to uranium mining, attention should be paid to the attitudes of society towards the use of nuclear energy as a whole. Even from the point of view of occupational safety and environmental protection, uranium mining has certain special features The Committee feels that special regulations should ensure that the admissibility of uranium mining is considered from the point of view of the interest of society as a whole It is proposed that these regulations be incorporated in the new nuclear energy legislation.

Licensing of mining and dressing in the field of nuclear energy

According to the proposal of the Committee, the Atomic Energy Act would be applied to mining and dressing carried out for the purpose of producing uranium or thorium. Thus a licence would be required for such activities. According to the Atomic Energy Act, the granting of a licence would depend on the discretion of the licensing authority, whereby the general interest of society as a whole and all the other general principles governing the use of nuclear energy would have to be taken into account

Licensing procedure

Licences for mining and dressing to be carried out for the purpose of producing uranium or thorium would be granted by the Council of State. Prior to a decision being taken on a licence, the applicant should publish a general report on the project and the safety and expected effects of the mine and dressing plant on the environment and ensure that copies of the report are generally available The Ministry of Trade and Industry, which must approve the above-mentioned report before its publication, would have to provide the population and communities in the environs as well as the local authorities with the opportunity to express their opinion in writing on the application before a decision on the licence is taken The Ministry would also have to organise a public meeting in the place where the mine or dressing plant is to be operated at which oral and written opinions on the project can be expressed

Nuclear works management

The Committee considers that the radioactive waste produced by dressing carried out for the purpose of producing uranium or thorium should be treated on the same footing as other nuclear waste produced in connection with the use of nuclear energy. The provisions in the Atomic Energy Act which concern nuclear waste management should also apply to mining waste

Supervision and control

The control authority for the safety of mining and dressing carried out for the purpose of producing uranium or thorium would be the Institute of Radiation Protection, whereas the overall authority in the field of nuclear energy and in connection with the supervision of enforcement of the Atomic Energy Act would be the Ministry of Trade and Industry The provisions in the proposed Atomic Energy Act concerning control and supervision would extend to mining and dressing carried out for the purpose of producing uranium and thorium.

• *France*

ORGANISATION AND STRUCTURE

1981 Decree on the organisation of the Ministry of Research and Technology

Decree No 81-1056 of 1st December 1981 (published in the Official Gazette of 2nd December 1981) determines the organisation and tasks of the Ministry of Research and Technology. The Ministry includes a scientific and technological development directorate and the interministerial commission for scientific and technical information

The duties of the General Policy Directorate include, in particular, the following tasks

- it is responsible for the allocation of the budgetary resources to bodies placed under its supervision or the joint supervision of the Minister and follows up their use,
- it collects and examines proposals concerning credits for research and development subject to the Ministry's co-ordination, allocates these funds and checks their use. This provision concerns the Atomic Energy Commission (CEA) whose budget for research is determined by the Minister of Research and Technology,
- it supervises on its own, or jointly, bodies under the Minister. This provision also concerns the CEA which is placed under the joint supervision of the Minister of Industry and the Minister of Research and Technology.

The Scientific and Technological Development Directorate is responsible for promoting scientific and technical research and, to this effect, it proposes and puts to use, together with the interested Ministries, the resources, in particular financial resources, to encourage development of these activities

This Decree repeals Chapter III of Decree No. 75-1002 of 29th October 1975, which was amended by Decree No. 78-659 of 23rd June 1978. As Chapter III only concerned the general delegation for scientific and technical research (DGRST) this body is therefore suppressed.

RADIOACTIVE WASTE MANAGEMENT

National Radioactive Waste Management Agency (ANDRA)

Publication of the Order of 7th November 1979 concerning the creation of a National Radioactive Waste Management Agency (French Official Gazette of 10th November 1979) was reported in an earlier issue (Nuclear Law Bulletin No 24). The present note, prepared by the French Commissariat à l'Energie Atomique, analyses the role and structure of the Agency in detail and also discusses current problems of industrial radioactive waste management in France

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Management in this context refers to all operations and measures relating to radioactive waste, from production to final elimination (and including processing and conditioning in solid form) which, by means of available technology and at reasonable cost, will provide satisfactory safeguards for workers and present and future generations against any risk such waste may present

This definition implies a need

(a) for *an integrated industrial policy that optimally combines technological, economic and safety considerations*, and hence for close permanent consultation at all stages between the various bodies responsible for successive waste management operations,

(b) for *a clear separation* between industrial activities and control and regulatory activies by the authorities, and a similar separation between responsibility for *upstream short-term industrial management operations* (production, recovery, sorting, processing, conditioning, storage) by waste producers, both private and public and *responsibility* for *downstream, long-term industrial management operations* or disposal (long-term or final storage) which can only be assigned to a permanent (and hence public) agency on account of the timespan involved, whatever the type of waste

For these reasons the French authorities have established a National Radioactive Waste Management Agency (ANDRA) within the Commissariat à l'Energie Atomique (CEA). The Agency is both

a body responsible for nationwide *concerted action* by all those involved in industrial waste management operations, and

a *public service* which ensures strict observance of safety standards, continuity of responsibility in the long-term, and economic operation in an industry whose turnover, estimated at a few per cent of the cost of electricity generated by nuclear *power, will amount to around ten billion French francs* by the year 2000

I. FUNCTIONS OF THE AGENCY

In accordance with the applicable law and regulations and with the general policy laid down by the Government, the Agency has responsibility throughout France for long-term radioactive waste management operations, and in particular for·

- management of long-term waste repositories, either directly or through third parties acting on its behalf,
- designing and establishing new long-term waste repositories, and conducting all studies required for that purpose, in particular as regards forecasts of waste production,
- preparing specifications, in conjunction with waste producers, for waste conditioning and storage prior to transfer to long-term repositories
- contributing to research, studies and practical work concerning long-term management of radioactive waste and its eventual disposal.

The Agency has to be consulted on R & D programmes and draft regulations on the management of radioactive waste

It has a Management Committee and a Scientific and Technical Council, whose membership and duties are defined in the Order

These structures underline the public authorities' intention

- that the most recent developments in science and technology should be applied to radioactive waste management (this is the role of the Agency's Scientific and Technical Council, chaired by the High Commissioner for Atomic Energy), and that

- leading scientists and the waste producers should be associated with the management of waste (this is the purpose of the Agency's Management Committee, chaired by the CEA Administrator-General)

A storage centre is an industrial facility in its own right, and since 1963 has in fact been classified as a large nuclear installation Its nuclear operator, the Agency, which may not delegate its responsibility, is accordingly subject to the rules concerning large nuclear installations, both for any application to establish a new storage centre, and in regard to inspection of the existing centre by the Central Service for the Safety of Nuclear Installations (SCSIN) on safety aspects and by the Central Service for Protection against Ionizing Radiations (SCPRI) to determine the absence of environmental impact The Agency puts forward policy proposals and solutions for industrial disposal, while the safety authorities give their opinions, and the supervisory authorities take the final decisions

II RADIOACTIVE WASTE

As an initial approximation, radioactive waste falls into three broad categories

- waste containing radioelements with a short or medium half-life (not more than 30 years) and a low content of radioelements with a long half-life (found in all material, including natural material) This waste, normally termed *waste with low or medium activity,* comes largely from the nuclear facilities run by Electricité de France (EDF), with the remainder coming from fuel cycle plants, large research laboratories and miscellaneous users of radioelements (hospitals, universities test laboratories and industry, representing about 10 per cent). It accounts for about 99 per cent of radioactive waste by volume, but contains less than 1 per cent of the total radioactivity of such waste Production of waste of this type, currently of the order of 20,000 cubic metres a year, or less than half a litre per inhabitant of France, will be 45,000 cubic metres annually by the year 2000,

- waste containing significant quantities of radioelements with a long half-life (over 30 years), generally termed *alpha waste* This comes chiefly from fuel cycle plants (fuel fabrication, shaping, reprocessing) and production, currently of the order of a few hundred cubic metres a year, will reach several thousand cubic metres annually by the year 2000,

- last, vitrified or very high activity waste, containing material with a long half-life and highly active radioelements Waste of this type comes chiefly from nuclear fuel reprocessing plants. By the year 2000, cumulative production will be of the order of 3,000 cubic metres It contains 99 per cent of the radioactivity generated by the nuclear electricity sector.

Additional waste will come from the future dismantling of nuclear power stations and other facilities.

III. INDUSTRIAL MANAGEMENT OF WASTE

The problems raised by the long-term industrial management of radioactive waste are not different, in essence, from the problems surrounding the management of the other types of waste governed by the July 1975 Act on waste disposal and retrieval

The basic principles of long-term waste management are to protect human life now and in the future, to safeguard man's environment and resources, and to limit the cost to future generations

- on the *preventive* side, this means limiting production of waste, and in particular its residual activity, to a strict minimum by sorting and reducing its volume where possible,
- as regards *protection,* it means interposing barriers between the environment and such waste, in order to ensure that it is confined throughout the period it takes for radioactivity to decay.

Methods of long-term management of radioactive waste accordingly have to be differentiated and adapted to the various kinds of waste, classified by risk potential and its change over time, and by volume

In industrial practice, after any effluent has been treated is generally rendered insoluble and embedded in a matrix (cement, bitumen, resin, glass), and packed in containers prior to disposal

Low and medium activity waste is stored on the surface or at a shallow depth (concrete trenches), and covered with clay and soil, at the Manche Repository which was set up on 19th June 1969 and is managed by the Agency.

Wastes containing longlived radioelements are provisionally stored at ground level at the point of production or at the Manche Repository They will subsequently be stored at medium depth on sites on land

For vitrified waste, provisionally stored on the surface at the point of production, the Agency is actively pursuing studies to determine the most appropriate method of disposal, in terms of both safety and economy, at depth in the most suitable geological formation.

IV. CURRENT STORAGE FACILITIES

The Agency has the Manche Repository, located close to the plant at La Hague, for the storage of low and medium activity waste This

Repository, with a residual capacity of 250,000 cubic metres of waste, would not on its own be capable of storing all the waste produced over the medium term It has accordingly become necessary to establish a second storage centre without delay in order not to saturate the Manche Repository too soon, in addition, it is desirable to extend the active life of that repository as much as possible so that it can take the low and medium-activity waste from the La Hague plant

Decisions concerning possible radioactive waste storage sites will be taken by the Government in the context of a general waste management programme established according to the nature of the waste and the development of storage techniques. They will take account of the technical and economic impact of the repositories on their environment

V COST OF DISPOSAL

What is the cost of disposal of radioactive waste? Is it likely to make nuclear power improfitable for electricity generation? The converging conclusions of the economic research that has been conducted are reassuring, the cost is not in excess of a few per cent of the cost price per nuclear kWh. This figure, low and reassuring as it is, should not disguise the fact that in absolute terms, on account of the predominant share of nuclear facilities in future energy production, the sums involved are considerable, amounting to several billion francs, when applied to the total cost of energy produced up to the year 2000 In addition, disposal expenditure represents only a part of the total cost of waste management (processing plus conditioning plus disposal), which indicates how urgent and important it is to develop disposal methods, which directly govern the design and cost of management upstream

VI FINANCING OF THE AGENCY's ACTIVITIES

The activities of the Agency, as a public service are financed by waste producers in the following way

- the operating costs of the repositories and the Agency's recurrent expenditure are invoiced directly to the bodies supplying waste,
- specific capital expenditure, i e expenditure concerning the storage of special waste with identified owners, is prefinanced by the latter,
- other capital expenditure, termed joint capital expenditure, is financed from the Agency's own resources and through loans, the annual service of which is borne by the waste originators under the disposal contracts

To give an order of size for this expenditure, the Agency's budget was 44 million francs in 1980 and 73 million francs in 1981. Capital expenditure will increase substantially with the establishment of the second repository for low and medium activity waste and the commencement of studies for geological storage

VII THE AGENCY's RESOURCES

To carry out its fairly diversified work, the Agency draws upon existing resources elsewhere, and fixes the objectives to be reached

It delegates management of its repositories, under its supervision, to an operating industrial company.

As far as studies are concerned, the Agency is assisted by the operational units of the Commissariat à l'Energie Atomique, in particular, the Institute for Protection and Nuclear Safety, the Metallurgy and Nuclear Fuel Studies Division and the Waste Processing and Applied Chemistry Studies Division This latter Division has set up a study group on conditioning and confinement for this purpose The Agency also calls on other services such as the Geological and Mining Research Bureau, the Ecole Polytechnique and the Ecole des Mines

The engineering and construction works are given to engineering offices and industrial concerns

TRANSPORT OF RADIOACTIVE MATERIALS

1982 Order on protection and control of nuclear materials in course of carriage

This Order of 26th March 1982, published in the Official Gazette of 2nd May 1982, was made in implementation of Act No 80-572 of 25th July 1980 on protection and control of nuclear materials and in particular, of Decree No 81-512 of 12th May 1981, which was itself made in pursuance of the Act (see Nuclear Law Bulletin Nos 26 and 28)

In accordance with the Decree of 12th May 1981, this Order determines the rules applicable to the protection and control of nuclear materials in course of carriage, especially in connection with the supervision of the conditions in which such transport is carried out and the authorities warned in case of an incident, accident or any occurrence whatsoever which is likely to delay or jeopardize execution of the planned transport operation or protection of the nuclear material concerned

The Order specifies that the Institute for Protection and Nuclear Safety (IPSN) in the Atomic Energy Commission (CEA) is the body responsible, under the authority of the Minister of Industry from the operational viewpoint for the management and follow-through of nuclear transport. The Institute is empowered to give carriers all technical and procedural instructions

A series of measures for the purpose of controlling and protecting such materials in course of carriage must now be taken by the carriers concerned. These provisions relate to the licensing procedure for such transport operations. immediate notification of occurrences likely to impede their execution, as well as the measures required for standing control of movements and execution of such operations

The carrier must notify in advance the IPSN (operational level) and the Minister of the Interior (National Police Directorate and Civil Safety Directorate) of the transport operation As regards the transport

of Category I materials, the carrier must say whether he plans to ask for a police escort and if not, he must specify the measures he intends to take for this purpose In any event, the Minister of the Interior may decide to send a police escort where necessary. Transport of Category I materials involves large quantities of fissile materials (more than 2 kg plutonium and 5 kg uranium enriched to more than 20 per cent), namely which can be used to manufacture weapons Category II covers the same materials, but in smaller quantities, as well as irradiated fuels

In connection with incidents, accidents or occurrences which could affect transport operations, the Order specifies the authorities to be notified immediately Transport of Categories I and II materials is subject to authorization by the IPSN, which is given following the notification sent by the carrier (itinerary selected etc) The Minister of the Interior and the Minister of Industry may, at any time, before or during a transport operation, modify its conditions of execution or reinforce the protection measures taken

Transport operations must be subject to standing control, in particular in connection with co-ordination and supervision The Order further provides that the escort for Category I transport operations has a duty to facilitate the proper conduct of such operations, to put a stop to and prevent any violent act aimed at the transport vehicle, at diverting the materials contained therein or at impeding execution of the transport, the escort must notify the police force in the vicinity and finally, it must guard the convoy The escort must be provided with one or more vehicles independently of the transport vehicle and must be able to communicate with the latter

Vehicles carrying Category I and II materials must have a crew of two at a minimum On short stops, vehicles must be constantly guarded by the staff, and by the escort when Category I materials are involved When vehicles are not running, they must be parked in approved premises which are locked and constantly guarded

The Order covers transport by road, rail, waterway, sea and air and also provides that measures should be taken to limit the storage of packages of radioactive materials in stations, ports or airports

NUCLEAR-POWERED SHIPS

1982 Decree in implementation of the 1965 Act on the third party liability of operators of nuclear ships

Decree No 82-5 of 5th January 1982 made in implementation of the Act of 12th November 1965 on the third party liability of operators of nuclear ships, amended by the Act of 29th November 1968 (see Nuclear Law Bulletin No 3), was published in the Official Gazette of 7th January 1982.

Under the Decree, the entry of a foreign nuclear ship in national waters and ports is subject to authorization by the French authorities, the application submitted by the Flag State should be accompanied by information on the security provided by that State and by the operator of the ship for compensation of nuclear damage

There is practically no change as compared to the former system laid down by Decree No 69-690 of 19th June 1969 which is now cancelled (see Nuclear Law Bulletin No 5) The requirement that a formal agreement be concluded between States is deleted

• *Federal Republic of Germany*

ORGANISATION AND STRUCTURE

Amendment of the Regulations concerning the Nuclear Engineering Commission (1981)

The Federal Minister of the Interior has amended the regulations concerning the setting up of a Nuclear Engineering Commission (Kerntechnischer Ausschuss, KTA), (*see Nuclear Law Bulletin Nos 10 and 15*) by a Notification of 1st December 1981 (Bundesanzeiger No 240 of 23rd December 1981). It is the task of the KTA to note the fields of nuclear technology in which safety standards have been established by continuous and recognized practice.

REGIME OF NUCLEAR INSTALLATIONS

First Amendment to the 1977 Ordinance on the Procedure for Licensing of Nuclear Installations (1982)

The Ordinance of 18th February 1977 concerning the Licensing Procedure for Nuclear Installations, made pursuant to Section 7 of the Atomic Energy Act (see Nuclear Law Bulletin Nos. 19 and 28) has been amended by an Ordinance (First Amendment) of 31st March 1982 (Bundesgesetzblatt 1981 I,p. 409). A consolidated new version of the Ordinance was published on the same date (Bundesgesetzblatt 1982 I,p 412).

This Ordinance is an essential part of German nuclear licensing law The amendment deals in particular with the procedural consequences of a substantial alteration of a nuclear installation in the course of the licensing procedure. Section 4, paragraph 2 of the amended Ordinance prescribes that in five special cases, which all are relevant to the safety of the installation, an additional procedure of public notification is to be started The same applies to substantial alterations to existing installations (paragraph 3).

The consolidated text of the new Ordinance will be published in a forthcoming issue of the Nuclear Law Bulletin

1981 Ordinance on Nuclear Costs

On 17th December 1981, the Federal Government published a new Ordinance concerning costs under the Atomic Energy Act (Bundesgestzblatt 1981 II, p 1457). This Ordinance repeals the Cost Ordinance of 1971 (see Nuclear Law Bulletin No. 8) and fixes new ceilings for administrative fees and expenses.

REGIME OF RADIOACTIVE MATERIALS

New version of the Export List of the Foreign Trade Ordinance (1981)

The Export List of the Foreign Trade Ordinance was amended by Ordinance of 10th November 1981 (Bundesanzeiger No 217 of 20th November 1981. Part I B of the list (Nuclear List) sets out the nuclear materials, installations, and equipment the export of which is submitted to special licensing requirements in accordance with the provisions of the Foreign Trade Ordinance

• *Italy*

ORGANISATION AND STRUCTURE

1982 Act creating the National Commission for Research and Development of Nuclear Energy and Alternative Energy Sources (ENEA)

Act No 84 of 5th March 1982 (published in the Official Gazette of 22nd March 1982) amended substantially Act No 1240 of 1971 restructuring the Comitato Nazionale per l'Energia Nucleare - CNEN (see Nuclear Law Bulletin Nos 1, 2 and 9). The amendments concern the reorganisation of the CNEN into a new body, the ENEA, which in addition to nuclear energy, will also be responsible for R and D in alternative energy sources, with the exception of hydrocarbons which remain within the competence of the National Agency for Hydrocarbons (ENI)

In order to facilitate the ENEA's tasks, the new Act gives it a great degree of flexibility and administrative autonomy ENEA will be entitled to hold shares, including majority interests in Italian and foreign companies engaged in industrial development of energy technology within its competence The staff of ENEA will also be granted a legal status closely related to that of the industrial sector It will also retain temporarily the previous CNEN's regulatory tasks in nuclear safety and radiation protection.

In connection with control over nuclear activities, the Act provides for the enforcement by ENEA of passive physical protection measures (active measures in that field being the responsibility of the Ministry of the Interior) This provision is intended to fill a gap which existed previously as regards physical protection.

The ENEA will also be responsible for carrying out and promoting studies, research on and development and demonstration of energy technologies within its competence, and energy conservation in the various stages of production, transport and use, including disposal of waste generated by the different processes

In accordance with the national policy concerning the Regions, ENEA may enter into agreements with the latter and local agencies and may also conclude contracts with universities and institutes to undertake work in implementation of its own scientific programme

The Act, which came into force fifteen days after its publication, provides that wherever mention is made of the CNEN in the laws and regulations in force, the name of ENEA must take its place

1982 Act on financing the ENEA five-year nuclear programme

Act No 85 of 18th March 1982 was published in the Official Gazette of 22nd March 1982 and came into force on the following day It provides for the financing of the ENEA's programme of work for the period 1980 - 1984

The Act further provides that within one year of its entry into force, the Directorate for Nuclear Safety and Health Protection - DISP (formerly within CNEN) will be set up as an independent, autonomous body, with tasks involving control over activities entailing major risks, including nuclear activities

The Director of DISP will be appointed by Decree of the Minister of Industry, Commerce and Crafts in collaboration with the Minister of Health.

1981 Decree-Law concerning the creation of local health centres

Decree-Law No 678 of 26th November 1981 (published in the Official Gazette of 28th November 1981) provides for direct employment of workers by the Regions in connection with the creation of adequate health *centres and radioactive decontamination centres, following nuclear emergencies* in areas where nuclear power plants are located

This Decree-Law was converted into *Act No 12 of 26th January 1982* and published in the Official Gazette of 27th January 1982

RADIATION PROTECTION

1981 Decree amending the list of insanitary industries under the Health Code

The Decree of 19th November 1981 issued by the Minister of Health (published in the Official Gazette of 9th December 1981) approves an amended list of insanitary industries which are subject to certain obligations under Section 216 of the Health Code of 1934 The amendments concern certain nuclear plants and laboratories

The 1981 Decree modifies a Decree of 1976 on the same subject (see Nuclear Law Bulletin No. 19)

REGIME OF NUCLEAR INSTALLATIONS

1982 Decree amending a 1965 Decree listing the facilities subject to fire prevention inspections

An Interministerial Decree of 16th February 1982, issued by the Ministers of the Interior and of Industry, Commerce and Crafts (published in the Official Gazette of 9th April 1982), amends a Decree of 27th September 1965 listing the facilities and activities, also in the nuclear sector, subject to fire prevention controls

The 1965 Decree already covered nuclear installations, institutes and laboratories working with radioisotopes, as well as trade in and transport of radioactive substances The new Decree expands the list to include facilities for the storage of nuclear substances, radioactive products or waste, and facilities where nuclear fuels are held In addition, facilities for the production, preparation and treatment of nuclear substances as well as for the separation of isotopes are covered by the 1982 Decree

TRANSPORT OF RADIOACTIVE MATERIALS

1982 Ministerial Circular amending a Circular of 1968 on the transport by air of radioactive and special fissile materials

Circular No 316597/32 1 of 1st August 1968 by the Ministry of Transport and Civil Aviation lays down provisions for the air transport of radioactive and special fissile materials in accordance with the IAEA Regulations for the Safe Transport of Radioactive Materials issued in 1967

This Circular was amended by Circular No 307391/30 of 26th March 1982, issued by the same Ministry, to take into account the 1973 Edition of the IAEA Regulations

• *Philippines*

REGIME OF NUCLEAR INSTALLATIONS

Amendment of the 1974 Regulations for the Licensing of Atomic Energy Facilities (1979)

The Regulations for the Licensing of Atomic Energy Facilities of 3rd June 1974 (see Nuclear Law Bulletin Nos 19, 22 and 23) were further amended on 1st February 1979 (Official Gazette, Volume 75 of 5th March 1979). The amendment provides that environmental protection matters, referred to in the provisions concerning the licensing procedures for such facilities, should be deleted, all questions relating to the environment now come within the scope of the Philippine Environmental Code

• *Sweden*

RADIOACTIVE WASTE MANAGEMENT

1981 Act on financing future expenditure for spent nuclear fuel etc

The above Act was issued on 18th June 1981 and came into force on 1st July 1981. Under the Act, a nuclear operator is responsible for the safe handling and disposal of the spent fuel and radioactive waste produced by the facility operated by him He must also ensure that such facility is decommissioned and dismantled safely. His responsibilities include the financing of costs arising from these activities.

In addition to assigning responsibility for waste management to the nuclear operator, the two other basic principles of the Act are the following

- expenditure for the necessary measures must be covered by income from the energy production giving rise to these costs,
- the State has overall responsibility for the long-term management and disposal of radioactive waste

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

• *Switzerland*

NUCLEAR LEGISLATION

New public initiatives*

On 11th December 1981, the representatives of more than 50 organisations and groups concerned with environmental protection and with combatting nuclear power plants deposited with the Federal Chancellery the signatures collected in favour of a public initiative *for a future without new atomic power plants* (137,453 valid signatures) and in favour of a public initiative *for an energy supply which is safe, economic and respectful of the environment* (115,191 valid signatures).

The purpose of the initiative *for a future without new atomic power plants* is to forbid, in the Federal Constitution, the commissioning of a new nuclear power plant after the Leibstadt nuclear power plant which will probably generate power in 1984. If the people and the Cantons approve

* This note and the following ones were sent by the national authorities

this public initiative, it will not be possible, in particular, to set up the Kaiseraugst nuclear power plant As the Government granted the general authorization for this project to the S A Kaiseraugst Nuclear Power Plant on 28th October 1981, it is now up to Parliament to approve or reject this Government decision According to the joint committee's intentions, the initiatives are "twins", while the popular initiative *for a future without new atomic power plants* states what should not be done (construct nuclear power plants), the initiative *for an energy supply which is safe, economic and respectful of the environment* states what should be done as regards energy policy. This latter initiative is practically a counter-project to the Government's energy policy set out in the Message of 25th March 1981 concerning energy policy principles, by which the Federal Council submitted to Parliament a draft Constitutional Article on energy

According to the Act of 23rd March 1962 on relations between the Councils, in the event of a public initiative requesting a partial revision of the Constitution and submitting a project to this effect, the Federal Assembly must decide whether it approves or rejects the initiative as formulated within four years of the deposit of the signatures The Federal Council must submit its report to the Chambers together with a proposal, at least one year before expiry of that period, namely within three years - in autumn 1984 At its meeting on 8th March 1982, the Federal Council took note of both public initiatives and instructed the Federal Department of Transport, Communications and Energy to prepare draft Messages concerning both initiatives.

Revision of the Atomic Energy Act (1982)

The Federal Act of 23rd December 1959 on the Peaceful Uses of Atomic Energy and Protection against Radiation has already been revised. The Federal Order of 6th October 1978 concerning the Atomic Energy Act amended the licensing procedure (see Nuclear Law Bulletins No 19, 20, 22, 23 and 28). However, this Federal Order is a transitional solution because it is valid only until entry into force of a new Atomic Energy Act and at the very latest until 31st December 1983 In July last year, the Federal Department of Transport, Communications and Energy submitted for consultation to the Cantons and interested circles a draft law on protection against radiation and the use of nuclear energy This was the result of the work of an expert commission and must not be considered as a Government bill The period given for comments expired on 31st December 1981. All the Cantons, the important political parties and more than 60 interested organisations and private individuals adopted a position. The Federal Office of Energy is in the process of assessing the results of the consultation procedure On the basis of these results, the Federal Department of Transport, Communications and Energy will submit proposals to the Council concerning a follow up

RADIATION PROTECTION

Ordinance of 11th November 1981 on the recognition and operation of individual dosimetry services (Dosimetry Ordinance)

The Federal Council has approved an Ordinance on the confirmation and operation of individual dosimetry services (RS 814.51). Dosimetry services are laboratories which assess dosimeters worn by persons

exposed to radiation when carrying on their work (in hospitals, clinics, research institutes, nuclear power plants and undertakings) At the end of 1980, 42,174 persons were considered as occupationally exposed to radiation in Switzerland

Dosimetry services are placed under the supervision of controlling bodies These are the Federal Office for Public Health (e g for hospitals, clinics and research institutes), the Federal Office of Energy for nuclear power plants and the Swiss National Insurance Office for industrial undertakings Doses which exceed the annual threshold value defined by the Ordinance of 30th June 1976 on Radiation Protection - RS 814 50 (see Nuclear Law Bulletin No 18) must be notified immediately to the controlling body The results of measurements for the whole of Switzerland are published each year in the Bulletin of the Federal Office for Public Health

REGIME OF NUCLEAR INSTALLATIONS

Federal Order of 6th October 1978 concerning the Atomic Energy Act

As mentioned above, the Federal Order (RS 732 01) expires upon the entry into force of a new Atomic Energy Act and at the very latest, on 31st December 1983 As it will not be possible to prepare the new Atomic Energy Act by the end of 1983, it is essential for the Federal Order to be extended for approximately five years. Therefore, the Federal Council must submit a Message to Parliament concerning extension of the Federal Order of 6th October 1978 The Federal Office of Energy is responsible for preparing a draft

THIRD PARTY LIABILITY

Act on Nuclear Third Party Liability (LRCN)

At its meeting on 18th December 1980, the Council of States (Chamber of Cantons) approved the Federal Council's Bill on the new LRCN with several amendments, but without affecting the principle of the operator's unlimited liability Following the decision of the Council of States, a commission from the National Council (Chamber of the people) considered the LRCN and formulated its proposals for the National Council The National Council will probably be in a position to consider the LRCN during its summer session, namely in June

Ordinance of 30th November 1981 on cover for third party liability resulting from nuclear power plant operation (RS 732.44)

Until the end of last year, the amount of insurance for third party liability resulting from operating a nuclear electricity generating plant was limited to 200 million Swiss francs. At its meeting of 30th November 1981, the Federal Council decided that, as from 1st January 1982, this amount would be raised to 300 million Swiss francs (see Nuclear Law Bulletin No. 28)

• *United Kingdom*

ORGANISATION AND STRUCTURE

The Atomic Energy (Miscellaneous Provisions) Act 1981

This Act extends the power of the Secretary of State for Energy to dispose of shares in any company whose activities include the development of atomic energy or research into matters connected therewith or the production, treatment, storage or disposal of radioactive substances, and the power of the United Kingdom Atomic Energy Authority (UKAEA) to dispose of shares it holds in any company

The Secretary of State's power was formerly limited by the duty imposed by the Atomic Energy Act 1946 to promote and control the development of atomic energy The Secretary of State may now dispose of shares if he considers it to be in the national interest even if to do so might conflict with the duty mentioned above

The UKAEA had no specific statutory power to dispose of shares though it has power *to do such things and enter into such transactions as are incidental or conducive to the performance of their functions* under the Atomic Energy Authority Act 1954 That gave the UKAEA a limited power to dispose of shares but the 1981 Act now provides that the UKAEA may dispose of shares in any company even if such disposal is not consistent with the exercise of their functions The Authority may do so only if the Secretary of State considers it to be in the national interest and has directed it to do so The Secretary of State's power of giving directions to the UKAEA under Section 3 of the 1954 Act is correspondingly extended

Section 11(3) of the Atomic Energy Authority Act 1971 requires that the Secretary of State and UKAEA must between them hold enough shares to carry more than half the voting rights in Amersham International Limited (formerly the Radiochemical Centre Ltd) and British Nuclear Fuels Ltd (BNFL)(see Nuclear Law Bulletins No. 5 and 7) The 1981 Act removes that requirement in relation to Amersham International Limited but not in relation to BNFL.

In accordance with the provisions of the 1981 Act, two Orders were made on 9th June 1981 and 19th June 1981 respectively, and transfer to the Secretary of State for Energy the shares in each company named held by the UKAEA on the date the Order came into force The Orders are *The Amersham International Limited (Transfer of Shares) Order 1981 (SI 1981 No 850)* which came into operation on 1st October 1981, and *The British Nuclear Fuels Limited (Transfer of Shares) Order 1981 (SI 1981 No 868)* which came into operation on 3rd August 1981 As a result the entire shareholding in both companies is directly at the disposition of the Secretary of State save (in the case of BNFL alone) for the restriction mentioned in the preceding paragraph

The Nuclear Industry (Finance) Act 1981

The purpose of the Act is to enable British Nuclear Fuels Limited to make borrowings backed by Government guarantees in order to finance its ten year investment programme. More specifically, the Act raises the financial limit applicable to British Nuclear Fuels Limited from £500 million to £1,000 million The latter sum may be raised to an increased amount not exceeding £1,500 million by an order in a statutory instrument made by the Secretary of State for Energy with Treasury approval

REGIME OF NUCLEAR INSTALLATIONS

The Electricity Generating Stations and Overhead Lines (Inquiries Procedure) Rules 1981

These Rules which were made 21st December 1981 (1981 No 1841), and came into operation on 1st February 1982, prescribe the procedure to be followed at public inquiries held under Section 34 of the Electricity Act, 1957.

They cover applications by the Central Electricity Generating Board (CEGB) or any Area Electricity Boards in England and Wales under Section 2 of the Electric Lighting Act, 1909, for consent to construct or extend an electricity generating station (whether nuclear or not), and applications by the CEGB or Area Electricity Boards under Section 10(b) of the Schedule to the Electric Lighting (Clauses) Act, 1899, for consent to place an overhead electric line.

The Rules will apply to the procedure to be followed at the Public Inquiry ordered by the Secretary of State for Energy to be held to inquire into the CEGB's application for consent to construct a pressurized water reactor at Sizewell (Suffolk) and due to start in January 1983.

The Rules are broadly similar to the procedural rules laid down for public inquiries set up under other legislation The main provisions of the Rules deal with the following topics. notification to be served before the Inquiry (Rule 5), appearances at the inquiry (Rule 6), representatives of Government Departments at the inquiry (Rule 7) procedure at the inquiry (Rule 8), site inspections (Rule 9), procedure after the inquiry (Rule 10), and notification of the Decision (Rule 11).

• *United States*

RADIOACTIVE WASTE MANAGEMENT

Rule on high level radioactive waste disposal in geologic repositories (1981)

This Rule, issued by the Nuclear Regulatory Commission (10 CFR Part 60, published in 46 Federal Register, Reg. 13971 of 25th February 1981) came into force on 27th March 1981

The Rule prescribes the requirements applicable to the Department of Energy (DOE) for submitting an application for a licence for disposal of high level radioactive waste in geologic formations (see Nuclear Law Bulletin No. 28) It also specifies the procedures which the NRC will follow in considering such applications and provides for consultation and participation in the licence review by State, local and Indian tribal governments.

CASE LAW

• *United States*

OWNERS OF THREE MILE ISLAND SUE THE NUCLEAR REGULATORY COMMISSION IN FEDERAL DISTRICT COURT

On 3rd December 1981 the owners of the Three Mile Island Nuclear Plant filed a 4.010 billion dollar suit against the Nuclear Regulatory Commission in the federal district court for the eastern district of Pennsylvania for property damage arising from the TMI accident The suit follows the Commission's denial of the claim at the agency level in June 1981, and is the next step in the claim process established by the Federal Tort Claims Act (see Nuclear Law Bulletin Nos 27 and 28)

The Government filed a motion to dismiss the suit on 5th March 1982 The Government takes the position that the complaint fails to state a claim under the Federal Tort Claims Act. Alternatively, the Government argues that even if the complaint states a claim. the alleged tortious act, or failure to act, falls within one or more of the statutory exclusions in the Tort Claims Act

The owners of Three Mile Island are expected to file an answer to the Government's motion to dismiss by 19th May 1982

COURT OF APPEALS UPHOLDS NRC URANIUM MILL LICENSING REQUIREMENTS

On 17th March 1982, the United States Court of Appeals for the Tenth Circuit, in a 2-1 decision, upheld the Nuclear Regulatory Commission's Uranium Mill Licensing Requirements which establish standards for the licensing of uranium mills and the disposal of uranium mill tailings at active milling sites (the NRC is prohibited by Act of Congress from spending money to implement or enforce the regulations in Fiscal Year 1982, however) The rules are codified in Appendix A to 10 C.F R Part 40 of the Commission's regulations.

The petitioners challenging the rules included owners and operators of uranium mills and domestic uranium producers They argued that the Uranium Mill Tailings Radiation Control Act (UMTRCA) of 1978, which provides the basic statutory authority for the regulations (see Nuclear Law Bulletin No. 23), required the NRC to delay promulgating the regulations until the Environemntal Protection Agency (EPA) had exercised its authority under UMTRCA to promulgate general standards for protecting the general environment from the radiological and non-radiological hazards associated with mill tailings The petitioners also argued that the NRC was required by UMTRCA to make a finding that mill tailings present a significant risk justifying the tailings control measures imposed by the rule and that a cost/benefit

analysis was required Third, the petitioners contended that the NRC's rule-making procedures violated the notice and comment requirements in the Administrative Procedure Act (APA) Finally, petitioners challenged a number of detailed provisions in the regulations, including the requirement that an earthen cover at least three metres thick be placed over tailings piles to reduce radon emanations from the pile to a level of $2pCi/m^2$ sec above natural background levels

The Tenth Circuit upheld the mill tailings regulations in their entirety The Court found that the UMTRCA clearly expressed "Congress's intent that the NRC should act before the EPA" to promulgate industry-wide standards for control of mill tailings hazards at active sites. The Court also held that the UMTRCA "may be construed to avoid any requirement of a preliminary finding of significant risk" as a basis for the regulations, but that in any case "the NRC's measured evaluation of the hazardous effects created by uncontrolled tailings piles is undoubtedly adequate to establish the significance of the risk in question" In addition, the Court concluded that the NRC was not required to perform a cost/benefit analysis to support the regulations, it found sufficient a showing by the Commission that compliance with the regulations would be economically feasible for the uranium milling industry The Court also determined that the Commission's rulemaking procedures satisfied APA requirements Finally, the Court sustained all the detailed aspects of the rule which were challenged

The dissent would have found the rules invalid because the NRC acted before EPA issued general standards

COURT OF APPEALS UPHOLDS NRC FIRE PROTECTION REGULATIONS

The United States Court of Appeals for the District of Columbia unanimously upheld the Commission's fire protection regulations for nuclear power plants operating prior to 1st January 1979 (10 C F R §50 48 and Appendix R to Part 50) in a decision rendered on 16th March 1982 The regulations codified improved fire protection standards at operating plants as a result of studies and fire protection guidelines developed since the 1975 fire at the Browns Ferry Nuclear Power Plant

The regulations were challenged by the petitioner, Connecticut Light and Power Company (Company), on several grounds First, the Company contended that the notice of proposed rule-making failed to comply with the Administrative Procedure Act (APA) because there was an inadequate indication of the technical basis on which the Commission had relied in formulating the proposed rules and because the rules as adopted differed in major respects from the rules as proposed The Court disagreed It found that while not all of the technical materials considered by the Commission were identified in the notice of proposed rule-making, the rule-making process took place against a background of five years in which the Commission explored fire protection safety proposals in a public forum and exposed the important technical studies to adversarial comment The Court also concluded that the final rules were a logical outgrowth of the rules as proposed and, therefore, a new notice of proposed rulemaking was not required by the APA, in the Court's view, the final rules were simply more stringent versions of the proposed rules

The Company also argued that the Commission did not provide an adequate technical justification for the rules which were finally adopted The Court believed that the Commission should have explained its rationale more fully and made more explicit reference to the technical materials it

relied upon to support certain aspects of the rule However, in upholding the rule, the Court focussed upon what it termed a critical element of flexibility in the final rule Specifically, the rule provided that within thirty days of its effective date, licensees were allowed to apply for exemptions to any aspect of the fire protection requirements Hence an exemption could be granted if a licensee could show that alternative measures would provide equivalent safety protection as the system chosen by the Commission in the rule.

Finally, the Court rejected the petitioner's contention that the NRC failed to follow its own backfit regulations in adopting the fire protection rule The pertinent regulation (10 C.F R §50 109) provides in essential part that while a licensee must comply with all regulations of the Commission, structural changes may not be required in operating reactors unless the Commission finds that the backfitting provides substantial, additional protection which is required for the public health and safety The petitioner argued that the Commission made no explicit "substantial, additional protection" finding in adopting the fire protection rule and therefore committed procedural error However, the Court agreed with the Commission's interpretation of the regulation, concluding that the regulation requires the additional safety finding only in cases when backfitting is not imposed through the rule-making process, such as when the NRC staff seeks to require backfitting informally

INTERNATIONAL ORGANISATIONS AND AGREEMENTS

INTERNATIONAL ORGANISATIONS

• *The OECD Nuclear Energy Agency*

STATEMENT BY OECD STEERING COMMITTEE FOR NUCLEAR ENERGY ON NUCLEAR ENERGY PROSPECTS

The OECD Nuclear Energy Agency in conjunction with the International Energy Agency organised a High Level Workshop in Paris on 11th - 12th February 1982 The Workshop reviewed current nuclear projections to the year 2000, national plans and attitudes and factors which influence the practical deployment of nuclear power.

The Workshop confirmed that nuclear energy is recognised in all the participating countries as a practical energy source which, in many situations, has a growing economic benefit over other electricity-generating means. However, recent projections have continued to reflect downward revisions in predicted nuclear growth, and programmes have suffered considerable delays in some countries The major factor was found to be the current economic weakness in most OECD countries, also, nuclear growth is constrained in many countries by public concern over radioactive waste management and perceived risks from nuclear operations as well as by the complexity of the regulatory process

A paper prepared for the Workshop, dealing with waste management regulatory issues, is reproduced in the "Studies and Articles" Chapter of this issue of the Bulletin.

Following consideration of the conclusions of this High Level Workshop on Nuclear Energy Prospects, the OECD Steering Committee for Nuclear Energy adopted the following Statement at its meeting on 27th and 28th April 1982

> *Sustained economic growth is critically dependent on the availability of adequate energy supplies In particular, continued progress in assuring energy supplies for the OECD area requires further and prompt expansion of nuclear and coal capacities*

Investigations to date have concluded that there are no constraints on substantial further deployment of nuclear energy from technical, economic, safety or industrial factors, nor from shortage of uranium, but public acceptance is an important factor for the future prospects of nuclear energy Without further policy action, the nuclear contribution to meeting energy needs will be substantially lower than that which would be economically desirable for the OECD area taken as a whole

• *International Atomic Energy Agency*

EXPERTS' GROUP ON NUCLEAR SAFETY CO-OPERATION

The Board of Governors on 24th February 1982 approved a proposal submitted jointly by the Netherlands, Sweden and the United States of America to convene a group of experts to explore the most appropriate means of responding to the need for mutual assistance in connection with nuclear accidents and of facilitating appropriate international co-operation in the area of nuclear safety

As early as 1963 the Nordic Mutual Emergency Assistance Agreement in Connection with Radiation Accidents was concluded between the IAEA and the Governments of Denmark, Finland, Norway and Sweden In recent years, several bilateral agreements have been signed between neighbouring countries in Europe, providing for the exchange of information and radiation protection in case of emergency. There is however, no worldwide convention for the purpose of fostering nuclear emergency assistance, and the expert group to be convened by the IAEA from 28th June to 2nd July 1982 will also discuss the possibility of establishing such a convention In such a system the IAEA could be requested to co-ordinate assistance and establish a current list of national authorities having primary responsibility for nuclear safety matters, and maintain an inventory of the types and sources of assistance that can be made available.

Over the last few years the IAEA has already strengthened its programme in emergency preparedness and planning. A Safety Series publication on "Planning for Off-Site Response to Radiation Accidents in Nuclear Facilities" has recently been published (Safety Series No 55) Within its Nuclear Safety Standards programme two Safety Guides deal respectively with the preparedness of public authorities and of the operating organisation for emergencies at nuclear power plants A guide on emergency response planning for transport accidents involving radioactive materials has also been issued and a new handbook providing examples of exercises to test the major components of emergency plans is under preparation

In addition, training programmes and special IAEA assistance missions to Member States have been designed to improve emergency plans Such missions were sent to Brazil and Yugoslavia last year to review and advise on emergency planning arrangements in support of the Angra and Krsko nuclear power plants respectively.

ADVISORY SERVICES IN NUCLEAR LEGISLATION

Under the IAEA technical co-operation programme, advisory services in nuclear legislation and organisational matters connected with a nuclear power programme were provided to Portugal and Libya in March and April respectively An IAEA programming mission which visited Tunisia in January to advise the authorities on the formulation of multi-year technical co-operation projects also provided advisory services in regulatory matters concerning radiation protection

AGREEMENTS

• *Argentina-Brazil*

CO-OPERATION AGREEMENT ON THE PEACEFUL USES OF NUCLEAR ENERGY (1980)

Under this Agreement signed on 17th May 1980 between the Republic of Argentina and the Federative Republic of Brazil, both Parties undertake to co-operate in the development of the peaceful uses of nuclear energy, taking into account their respective nuclear programmes and their international commitments. This Agreement was promulgated in Argentina on 10th September 1981

It provides that co-operation between both countries should, in particular, be developed in the technology of nuclear reactors, the nuclear fuel cycle, the production of nuclear materials and equipment as well as radioisotopes, radiation protection and nuclear safety and, finally, physical protection of nuclear materials

This Agreement will enter into force on the date of the exchange of the instruments of ratification It was concluded for an initial period of ten years, renewable for successive periods of two years

• *Brazil-Iraq*

AGREEMENT FOR CO-OPERATION IN THE PEACEFUL USES OF NUCLEAR ENERGY (1980)

The Agreement for co-operation in the peaceful uses of nuclear energy concluded between Brazil and Iraq on 5th January 1980 was promulgated in Brazil on 27th October 1981 (Official Gazette of 30th October 1981)

The Agreement covers, inter alia, studies and research on uranium availability, uranium prospection, nuclear materials and equipment, exchange of know-how and visits, training, etc.

Both Parties undertake to apply the IAEA safeguards, the Agreement is valid for a period of ten years and may be renewed for one-year periods

• *F.R. of Germany-France-United Kingdom*

ADDITIONAL PROTOCOL TO THE CONVENTION ON THE CONSTRUCTION AND OPERATION OF A VERY HIGH FLUX REACTOR

The Tripartite Convention concluded between the Federal Republic of Germany, France and the United Kingdom on the very high flux reactor at Grenoble has already been amended several times (see Nuclear Law Bulletin Nos. 1, 9, 19 and 20); the Convention has again been amended by an Additional Protocol of 9th December 1981. This new Protocol concerns the long-term operation of the reactor. In accordance with Article 7(2) of the Convention, as amended, the latter will expire on 31st December 1992

The Protocol entered into force on 9th December 1981 (published in the Federal Republic of Germany in BGBl, 1982, II, p 263).

AGREEMENT BETWEEN AUSTRIA AND THE IAEA REGARDING THE LABORATORIES AT SEIBERSDORF

In accordance with Section 5 of the Headquarters Agreement of 11th December 1957 between Austria and the IAEA, *the IAEA may establish and operate research and other technical facilities of any type* Section 6 of that Agreement provides that *the appropriate Austrian authorities shall, at the request of the IAEA, make arrangements, on such terms and in such manner as may be agreed upon by supplemental agreement, for the acquisition or use by the IAEA of appropriate premises for such purposes and for the inclusion of such premises in the headquarters seat*

Laboratory facilities used by the Agency since 1961 have been, in part, built on land owned by the Austrian Research Centre at Seibersdorf and, in part, rented from the Centre The construction and use of these facilities have been regulated by ad hoc arrangements between the Agency and the Centre, which is a non-profit-making private law entity The premises were not formally included in the headquarters seat under a supplemental agreement as envisaged in the Headquarters Agreement and the arrangements made for the safe operation of the facilities remained provisional

At the time of transfer to Seibersdorf, in 1978, of some laboratories previously housed at the temporary headquarters seat located at the Kaerntner Ring, the Agency and the Austrian Government started negotiating a supplemental agreement. The resultant agreement, which was approved by the Board of Governors in February 1982, was signed in Vienna on 1st March 1982. It will enter into effect after ratification by the Austrian Parliament. The conclusion of this Agreement will not affect the existing contractual arrangements between the Agency and the Austrian Research Centre for the maintenance and operation of the facilities.

The provisions of the Agreement may be summarized as follows

(a) The laboratories operated by the Agency at Seibersdorf constitute part of the seat of the Agency and therefore enjoy the same legal status as the premises of the Vienna International Centre.

(b) Safety measures appropriate for the operation of each laboratory will be defined in technical agreements to be concluded between the Agency and competent Austrian Ministries.

(c) The operation of the laboratories will be conducted in such a manner that handled amounts of radioactive material and waste of such material are kept to the minimum possible, with regard to radioactivity and radiotoxicity, taking into account the objectives of the laboratories Should accumulation of waste containing nuclear material occur which, from the point of view of either quality or quantity, might be considered a matter of concern, consultations will be entered into at any time at the request of either Party with a view to agreeing upon appropriate measures to be taken

(d) In addition to regular inspections which are carried out by the Agency in accordance with its own rules and procedures and in which Austrian experts may participate, joint inspection will be conducted by representatives of the competent Austrian authorities and officials of the Agency at the request of either Party with a view to ensuring that the relevant safeguards are duly implemented

(e) The Parties will co-operate in the event of incidents requiring emergency measures to be taken

(f) Claims of compensation for nuclear damage may be brought directly against the Agency's insurer Austrian law and jurisdiction will apply Should the insurer not pay, the Republic of Austria will assume financial responsibility for compensation for nuclear damage and will be entitled to claim indemnification directly from the Agency The settlement of disputes clause of the Headquarters Agreement - which provides for settlement by an arbitral tribunal - will apply to any disagreement between the Parties over a claim

(g) The Agreement will cease to be in force, should the Headquarters Agreement cease to be in effect, or should the Parties agree to terminate it independently from the Headquarters Agreement

• *Euratom-Canada*

1981 AGREEMENT ON NUCLEAR MATERIALS

An Agreement was signed on 18th December 1981 in Brussels by an exchange of letters between the European Atomic Energy Community (Euratom) and the Government of Canada This Agreement concerns the reprocessing of nuclear materials of Canadian origin, plutonium storage, and enrichment above 20% The Agreement replaces the interim agreement on enrichment, reprocessing and subsequent storage of nuclear materials in the Community and Canada, which was Annex C of the Agreement concluded by an exchange of letters date 16th January 1978 between Euratom and the Government of Canada

This Agreement, which came into force on 18th December 1981, fixes the conditions whereby the nuclear materials referred to in the Canada/Euratom Agreement will be enriched above 20% or reprocessed, as well as the conditions in which the plutonium extracted from these materials will be stored The reprocessing and storage of plutonium from materials of Canadian origin will no longer be subject to notification and consultation on a case by case basis In the exchange of letters of 18th December 1981, Canada gives a general authorization for both operations, subject to compliance with the following conditions

- the Community will keep to its non-proliferation commitment as stated in the exchange of letters of 1978 /paragraph (c)/,

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- the Community will continue to consult the Canadian Government as provided for in the Agreement of 1959 on the updating of the Community programmes in the field of nuclear energy as well as in the present Agreement, similarly, the Community will continue to inform the Canadian Government of any significant changes

In connection with enrichment above 20% of the materials of Canadian origin as well as storage of the uranium thus enriched, it is provided that Euratom and the Canadian Government will consult each other within 40 days of receipt of a request for consideration of proposals, made by either party, with a view to concluding an agreement on these conditions for storage and enrichment

MULTILATERAL AGREEMENTS

• *International Atomic Energy Agency*

SAFEGUARDS AGREEMENTS

On 24th February the Board of Governors approved a safeguards agreement between the People's Republic of Bangladesh and the IAEA in connection with the Treaty on the Non-Proliferation of Nuclear Weapons to which Bangladesh acceded on 27th September 1979

The Board also approved an agreement between the Federal Republic of Germany, Spain and the IAEA for the application of safeguards in connection with the Agreement of 5th December 1978 between the two Governments for co-operation in the peaceful utilization of nuclear energy The latter Agreement covers the following areas. scientific and technological research and development, the technology of nuclear energy, the safety of nuclear installations and radiation protection, and the design, construction and operation of nuclear power plants and research centres

IMPLEMENTATION OF SAFEGUARDS - PRESENT STATUS*

Non Nuclear Weapon States Party to NPT with NPT Safeguards Agreements in Force

Afghanistan	Iceland	Netherlands
Australia	Indonesia	(including Neth Antilles)
Austria	Iran	New Zealand
Bangladesh	Iraq	Nicaragua
Belgium	Ireland	Norway
Bulgaria	Italy	Paraguay
Canada	Jamaica	Peru
Costa Rica	Japan	Philippines
Cyprus	Jordan	Poland
Czechoslovakia	Korea Republic of	Portugal
Denmark	Lebanon	Romania
Dominican Republic	Lesotho	Samoa
Ecuador	Libyan Arab Jamahiriya	Senegal
El Salvador	Liechtenstein	Singapore
Ethiopia	Luxembourg	Sudan
Fiji	Madagascar	Suriname
Finland	Malaysia	Swaziland
Gambia	Maldives	Sweden
German Democratic Republic	Mauritius	Switzerland
Germany Federal Republic of	Mexico	Thailand
Ghana	Mongolia	Turkey
Greece	Morocco	Uruguay
Holy See	Nepal	Yugoslavia
Honduras		Zaire
Hungary		

Non-Nuclear Weapon States Party to NPT for which NPT Safeguards Agreements Are Not Yet in Force

Bahamas	Liberia
Barbados	Mali
Benin	Malta
Bolivia	Nigeria
Botswana	Panama
Burundi	Rwanda
Central African Republic	St. Lucia
Chad	San Marino
Congo	Sierra Leone
Democratic Kampuchea	Somalia
Democratic Yemen	Sri Lanka
Egypt	Syrian Arab Republic
Gabon	Togo
Guinea-Bissau	Tonga
Grenada	Tunisia
Guatemala	Tuvalu
Haiti	United Republic of Cameroon
Ivory Coast	Upper Volta
Kenya	Venezuela
Lao People s Democratic Republic	[Taiwan]

* This Table illustrates the present scope of IAEA Safeguards and is extracted from the IAEA Bulletin, Volume 23, No. 4, December 1981, with the addition of Bangladesh among the States having since concluded a safeguards agreement.

Non-Nuclear Weapon States not Party to NPT in which IAEA Safeguards Agreements Are in Force on All Operating and Planned Nuclear Activities

Argentina	Cuba
Brazil	Democratic People s Republic of Korea
Chile	Spain
Colombia	Viet Nam

Non Nuclear Weapon States not Party to NPT having No Significant Nuclear Activities

Albania	Guinea	Sao Tome and Principe
Algeria	Guyana	Saudi Arabia
Andorra	Kuwait	Seychelles
Angola	Malawi	Trinidad and Tobago
Bahrain	Mauritania	Uganda
Belize	Monaco	United Arab Emirates
Bhutan	Mozambique	United Republic of Tanzania
Burma	Nauru	Yemen Arab Republic
Cape Verde	Niger	Zambia
Comoros	Oman	Zimbabwe
Djibouti	Papua New Guinea	
Equatorial Guinea	Qatar	

Non Nuclear Weapon States not Party to NPT in which Certain Nuclear Activities are Not under IAEA Safeguards

India
Israel
Pakistan
South Africa

Nuclear Weapon States Party to NPT

Union of Soviet Socialist Republics
United Kingdom
United States of America

Nuclear Weapon States not Party to NPT

China
France

• *Latin America*

TREATY FOR THE PROHIBITION OF NUCLEAR WEAPONS IN LATIN AMERICA

The above so-called Tlatelolco Treaty of 14th February 1967 is the first international agreement which bans nuclear weapons from a vast inhabited area It is a fairly complex legal instrument consisting of the Treaty itself and two Protocols which refer to States other than those party to the Treaty

Protocol No I concerns extracontinental States nevertheless *having de jure or de facto responsibility for territories within the geo-*graphical limits established by the Treaty Under this Protocol such States undertake to apply the provisions of the Treaty to the territories concerned Protocol No II concerns the nuclear powers which are invited, on ratification, to observe the denuclearized status of Latin America and to withhold from using nuclear weapons against parties to the Treaty (see Nuclear Law Bulletin Nos 6 and 14)

The United States of America ratified Protocol II to the Treaty on 12th May 1971 and signed Protocol I on 26th May 1977, Protocol I was ratified on 19th November 1981. With this ratification, the United States therefore undertook not to test, use, produce or deploy nuclear weapons anywhere within the zone of the Tlatelolco Treaty

• *Sweden*

ACT OF 18TH JUNE 1981 CONCERNING THE FINANCING OF FUTURE EXPENDITURE FOR SPENT NUCLEAR FUEL, ETC *

Pursuant to a Resolution by Parliament, it is hereby promulgated as follows

Section 1

The holder of a licence pursuant to the Nuclear Energy Act (1956 306) to own or operate a nuclear reactor for power generation (the reactor owner) shall be responsible for ensuring that

1 nuclear fuel irradiated in the reactor and radioactive waste deriving therefrom is handled and disposed of in a safe manner,

2 the reactor facility will be shut down and dismantled in a safe manner, and

3 such research and development activities are conducted and other measures taken as are required to ensure compliance with the provisions under paragraphs 1 and 2 above

Section 2

In addition to the costs resulting from its obligations pursuant to Section 1, the reactor owner shall also be liable in respect of costs incurred by the State for

1 research and development activities supplementary to those referred to in Section 1, paragraph 3,

2 review of the matters referred to in the second paragraph of Section 5 and in Section 10, and

3 surveillance and inspection of final repositories.

* Unofficial translation by the Swedish authorities

Section 3

In consultation with other reactor owners, the reactor owner shall establish a programme for such research and development activities and other measures as are referred to in Section 1 The programme shall contain an outline of all measures which may become necessary and shall specify in more detail the measures intended to be implemented within a period of at least the next five years. The programme shall be annually updated.

The programme shall be submitted annually to the Government or to the authority designated by it

Section 4

The authority designated by the Government shall establish a programme of the activities referred to in Section 2, paragraphs 1 and 3

Section 5

In order to ensure the availability of funds to cover the costs resulting from the reactor owner's obligations pursuant to Section 1 and the costs referred to in Section 2, an annual fee shall be payable by the reactor owner to the State for such time as the reactor is in operation As far as the costs for the handling and final disposal of spent nuclear fuel are concerned, the obligation to pay the annual fee shall relate to such costs attributable to the fuel after its removal from the reactor facility The fee shall be proportionate to the energy delivered by the reactor facility

The amount of the fee shall be established annually in respect of the succeeding calendar year by the Government or the authority designated by it.

The annual fee shall be established such that the aggregate amount of fees paid during the operating life of the reactor shall cover the costs referred to in the first paragraph of this Section 5

Section 6

The annual fee shall be established on the basis of the programme referred to in Sections 3 and 4 and the estimated expenditure in respect of the measures referred to in Sections 1 and 2. With regard to measures referred to in Section 1, consideration shall be given to measures previously adopted for the disposal of spent nuclear fuel and radioactive waste deriving therefrom, to the characteristics of the reactor, and to other circumstances which may influence the calculation of the fee

If the basis for the calculation of the fee is lacking or inadequate, the fee shall be established at a reasonable amount

Section 7

The fee shall be paid to the authority designated by the Government Collected fees shall be deposited by it in an interest-bearing account with the National Bank of Sweden. Accrued interest shall be capitalized

Section 8

Loans may be granted to a reactor owner out of the fees paid in by it against the provision of collateral

Such loans shall carry interest at a rate no less than that given by the National Bank of Sweden on the collected fees deposited with it Interest paid shall be deposited in the account referred to in Section 7 and shall be capitalized

Loans shall otherwise be subject to such terms and conditions as are required to ensure the availability of funds for the purposes referred to in Section 9

Section 9

Fees paid by a reactor owner may be used in reimbursement of the costs incurred by the reactor owner in respect of measures referred to in Section 1, subject to the limitation resulting from the provision in the second sentence of the first paragraph of Section 5, and further to defray the costs incurred by the State in respect of measures referred to in Sections 1 and 2 which are attributable to the reactor or to fuel utilized in the reactor

Section 10

Matters relative to supplementary research and development activities, surveillance and inspection of final repositories, loans to reactor owners out of remitted fees and the terms and conditions of such loans, as well as the application of collected fees shall be reviewed by the Government or the authority designated by it.

Section 11

Upon request, the reactor owner shall provide such information and such documents as are necessary for the Government or the authority designated by it to establish the fee in accordance with the second paragraph of Section 5 and to review the matters referred to in Section 10. To the extent required for the aforementioned purposes, the reactor owner upon request shall further grant access to facilities or sites where spent nuclear fuel or radioactive waste deriving therefrom is stored or handled.

Section 12

Anyone who, intentionally or through gross negligence, provides incorrect information or otherwise disregards his obligations pursuant to Section 11 shall be liable to a fine, unless the deed is punishable under the Criminal Code

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This Act shall come into effect on 1st July 1981, provided that the provisions of the first paragraph of Section 5 shall apply as from calendar year 1982.

STUDIES AND ARTICLES

STUDIES

SPENT FUEL AND RADIOACTIVE WASTE MANAGEMENT ISSUES*

Today, the nuclear industry is producing increasing volumes of radioactive waste, principally at nuclear power plants, but also significant amounts at supporting fuel cycle facilities The management of this industrial by-product has become an issue that has given rise to emotional debate, notably at government levels and in the general public In addition, the production of large quantities of spent fuel assemblies from nuclear power plants (which are not generally considered as waste in the classical sense) presents management problems similar to those of high level waste from fuel reprocessing This short review is intended to put the underlying current issues into perspective and to highlight some of the more important questions facing government authorities in their efforts to implement nuclear power programmes

Perception of the problem

Much of the public anxiety concerning radioactive waste is founded on misconceptions about the character or nature of waste materials and on a widely held view that the technology of disposal is largely unresolved For example, because attention is often focussed on the long term nature of the hazards identified with some waste types, there is the mistaken belief that for all radioactive waste forms, elaborate and costly measures have to be applied continuously to protect man and his environment for many hundreds or thousands of years, sometimes even misquoted as being for geologic time periods In addition, since no system for disposing of the most hazardous high level waste has been implemented, it is often interpreted as meaning that no solutions exist

The existence of different categories of wastes and of specifically adapted management strategies required for each makes it difficult to present a clear picture of the global problem The fact that radioactive wastes are both hazardous and useless materials and that no benefit

*This Note is taken from a paper distributed for the High Level Workshop on Nuclear Energy Prospects organised by NEA in conjunction with IEA in Paris on 11th and 12th February 1982.

is associated to their management is another negative aspect with regard to public acceptance, notably at the local level

Risk Associated with Radioactive Waste

Some nuclear wastes contain long lived radionuclides, such as plutonium, which retain their radioactivity for thousands of years, but even these should not be considered as constituting a significant hazard on that timescale, the risk is not the mere existence of radioactivity but the likelihood of exposure of man to it When properly conditioned and isolated from man's environment, using man-made and natural barriers which prevent the return of the radioactivity to the biosphere, these wastes do not represent significant hazards in view of both radiation protection criteria and consideration of natural radiation background levels To determine the magnitude of the actual risk, it is necessary to analyse not only the physical and chemical forms and concentrations in which the particular radionuclides exist, but also the probability and the extent of their possible migration through the various man-made and natural barriers to the biosphere This analysis traditionally considers the potential level of exposure in the most unfavourable situation

An example of this is plutonium, where public attention has been focussed on its slow rate of decay rather than the nature of its biological behaviour and significance Plutonium is an alpha emitter and it presents no significant external hazard as it will not penetrate the external layers of the skin In addition, the uptake of plutonium into the body by ingestion, for example through the food chain, is low and is not believed to be an important pathway in terms of radiation exposure Studies have shown that by far the most sensitive pathway into the human body is by inhalation, and for this to occur, the plutonium has to be in the form of an aerosol which can be inhaled. This factor therefore determines the waste form and subsequent disposal prerequisites for waste containing plutonium

In the case of wastes containing only fission products the problems are of a different nature Most fission products are beta/gamma emitters and are characterised by short half-lives and sometimes intense radioactivity requiring shielding for man against external radiation In fact, since most of them decay within years, they do not remain radioactive for long times as does plutonium and other actinides, hence a different management strategy may be followed

Waste Management Operations

The consideration of all characteristics of radioactive waste, including the inherent particularities of each category, is necessary for the development of waste management strategies Waste management has as its ultimate objective the safe disposal of wastes, but also includes storage of properly treated and conditioned waste for interim periods of several years to several decades, pending disposal Conditioning and storage technologies are at present well understood and there are many industrially proven methods which give acceptable waste forms for storage and which also meet present day disposal standards The progress which remains to be made in this last area is to select and perfect cost effective methods which comply with established radiological protection and environmental principles All management schemes must balance the cost of protection involved against corresponding reduction in the detriment, bearing in mind disposal options available now or in the future However, it is the problem of disposal which is the centre of controversy regarding radioactive waste

Disposal of Low and Intermediate Level Waste

For certain categories of waste, namely low and intermediate level, proven disposal alternatives are available. The options include shallow land burial, emplacement in deep cavities or sea disposal, or in the case of uranium milling and mining wastes, disposal at the surface under appropriate soil coverage. Some categories of intermediate level waste which are difficult to handle at the time of production due to their radiation levels may be stored for radioactive decay purposes before they can be conveniently disposed of.

Radioactive waste disposal by shallow land burial in pits or trenches, either unlined or lined with concrete or asphalt, is a common practice in several OECD Member countries. This method is based on the concept of technical containment supplemented by a simple form of institutional control. The radiation hazard associated with the waste disposed of by this method must not last beyond the time for which continuous efficiency of institutional surveillance can be reasonably guaranteed without excessive burden to future generations. While containment is provided by the geological medium itself, artificial barriers such as trench covers, geomorphological stabilisation of the burial site and restrictions to waste form placed there can be incorporated for added protection as appropriate. Shallow land burial has been used since the inception of the nuclear industry and it remains as a technically viable disposal alternative, provided satisfactory sites can be identified and sound management is applied in their operation. The disposal of uranium mill tailings is similar in many respects to shallow land burial although the discussion at regulatory level is less advanced.

Another variant of ground disposal is the use of geologic formations at intermediate depth. Existing dry underground cavities such as abandoned or depleted mines, and caves, can be adapted for waste disposal. An inhibiting factor of this disposal mode would be the expense if underground facilities were to be excavated expressly for disposing of the relatively large volumes of these wastes. This option may offer greater protection from radiation and possible return of radionuclides to man. There are countries which have used it in the past and others which are now considering it. The mining technology plus waste transport and handling systems are readily available to implement this type of disposal system.

Another concept of low-level waste disposal relies on temporary isolation and delayed dilution of the radioactivity. The deep sea is suitable for the disposal of wastes which have been solidified and placed in special handling containers of either steel or concrete. Only limited reliance is placed on the integrity of the containment once the waste package has reached the ocean floor, the ultimate protection being provided by the great dilution potential of the ocean. Sea dumping of solid, low-level radioactive waste has been practiced since 1946, first on a national basis and, from 1967, under international arrangements supervised by the OECD Nuclear Energy Agency (NEA). Since 1972, the London Convention for the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, the IAEA's Definition and Recommendations for the application of the Convention, and the OECD's Multilateral Consultation and Surveillance Mechanism for Sea Dumping of Radioactive Waste, have been progressively put in place to provide strict internationally agreed standards and norms as well as international surveillance of sea disposal operations. Within this legal framework, it is the responsibility of the national authorities to plan, carry out and control their own sea disposal operations. It must be stressed that the decisions to start or terminate sea dumping operations for low-level waste are always made on the basis of specific national situations.

and are clearly related to the availability or unavailability of land based alternatives Presently four European countries use the sea disposal option for their low level waste and others are considering it

Selection by a country of any of these viable disposal alternatives will be made on the basis of such factors as the volume and type of waste to be disposed of, site availability, safety, costs and public opinion In this respect, mention should be made of the decommissioning of obsolete facilities as it involves the production of significant amounts of waste which are candidates for such disposal modes

Disposal of High Level and Alpha Bearing Waste

The disposal of high-level and other long lived alpha waste requires a high degree of long-term isolation from the biosphere At present, in OECD Member countries, there are no operational disposal facilities for this category of waste, due partly to the lack of a real need for any Relatively small amounts of high-level conditioned wastes resulting from reprocessing operations have been produced so far by the nuclear industry In the last 25 years, efforts have been concentrated on developing solidification techniques, mainly calcination or vitrification Experience is now being gained in the application of the processes on fully industrialised scales, notably the AVM process in France The solidified waste is in turn being temporarily stored under safe conditions pending the availability of an appropriate final disposal repository

The fact that there is no operational repository for high-level waste and alpha waste yet does not however mean that no disposal scheme could be implemented With present technology, disposal facilities can be constructed and operated with a high degree of safety Research work in most OECD Member countries, in particular in Sweden, USA and CEC countries, has produced a great deal of evidence in this respect

At present two main approaches are being considered for disposal of high-level solidified waste these are deep natural geologic formations under land areas or under the deep ocean floor The latter represents a relatively small part of the overall disposal research effort The feasibility of this approach is complicated by the international status of the high seas, but it would combine the advantages of containment within geologic media and remoteness from man with those of the enormous dilution capacity of the sea for any radioactive materials which might eventually migrate from below

The greatest portion of research effort for finding acceptable means for high-level, long-lived radioactive waste is being directed towards deep geologic formations on land The concept of disposal in geologic formations involves a complex process of isolating the waste far from the biosphere, with the aim to ensure that radioactive materials will in practice never present a hazard to man's environment To accomplish this, the multi-barrier concept has evolved combining the physical and chemical properties of the geologic site, the nuclide migration, and others Furthermore, the safety criteria for waste repositories are designed in such a way as not to require any long-term institutional control following closing of the facility the repository should be inherently safe after it has been filled and sealed off and can be then left unattended, even if good administrative practice makes maintenance of records desirable Therefore, there should be no resulting burden for future generations

Of the above, the siting of repositories is widely identified as one factor inhibiting nuclear power development The search for suitable sites includes consideration of a number of requirements, most of which are concerned with isolation of the waste from circulating groundwater Other site specific selection factors include topography tectonic stability, depth, the nature of adjoining geologic strata, water content, sorption capacity, preservation of natural resources, and others With these considerations in mind, investigations are now underway in various countries to determine the suitability of hard rocks, salt formations, clays and shales Contrary to a widely held opinion, it seems that many geological formations have the potential to safely host deep long term repositories, each one having to be assessed on the basis of site specific considerations Consequently, most government authorities support field research work such as site characterization, construction of exploratory shafts and design of test and evaluation facilities so that operational repositories could be made available when needed, probably in the 1990s or at the beginning of the next century

However, in view of the difficulties caused by public opposition to geological field and test programmes, serious consideration is being given in various countries to put off preparatory field work for an indefinite period Instead, high-level waste can be stored as a glass compound in engineered storage facilities on the surface Although interim storage is technically feasible and can be pursued for many decades, this would not appear to justify the postponement of field investigations, since such a decision could be interpreted as an attempt to transfer the problem of disposal to future generations

Spent Fuel Management

Spent fuel assemblies, if not reprocessed for recovery of valuable materials, have to be stored pending later decision concerning either their reprocessing or their disposal as spent fuel The storage of LWR* and HWR* spent fuel under water is a well-developed technolgoy which in the last few years has made significant progress to enable more compact storage of fuel assemblies within the existing facilities Present experience has shown that storage of spent fuel in water basins could be extended for several decades without significant safety difficulties Dry storage alternatives are presently being developed which might be more attractive from the point of view of safety and cost, after a sufficient cooling period of wet storage Technically therefore, the storage of spent fuel assemblies need not raise significant licensing, construction or operational difficulties It provides flexibility in the selection and use of future fuel cycle operations and should not be construed as a technical constraint to nuclear power growth

Concluding Remarks

This short analysis shows that for the vast majority of the wastes arising in the nuclear industry and for the spent fuel, satisfactory methods for their interim or final management exist already In this respect, the role of national authorities is to select a cost effective and appropriate method to deal with each particular category of waste from the several options available, to actively promote continuation of R and D programmes and to plan for new storage or disposal facilities required by the production of increased quantities of waste and spent fuel

For the small volume of high-level waste produced by reprocessing, satisfactory conditioning techniques exist but as it is necessary to

*LWR Light Water Reactor, HWR Heavy Water Reactor

demonstrate the practical feasibility and safety of disposal in the geologic formations, research and development work must continue to select and qualify specific sites for in-depth investigations and actual waste disposal operations In this respect, international co-operation will greatly facilitate evaluation of the results of such work without unnecessary duplication as well as agreement on acceptable technical options and criteria, therefore providing a credible support to national disposal programmes In the case of delays in implementing disposal schemes, which may be acceptable from the technical point of view, it must be emphasized that interim storage can be relied upon and that care is taken of the legitimate claim by the public and political authorities to develop and implement long-term solutions

Under these conditions and keeping in mind the results from current research efforts, there is no technically justifiable reason why problems of radioactive waste and spent fuel should inhibit the continued development of nuclear power programmes This conclusion is certainly supported by the many evaluations done at international level of the safety and feasibility of disposal concepts

ARTICLES

THE NEW TERMS OF INSURANCE COVER IN FRANCE FOR LOSS OR DAMAGE TO THIRD PARTIES CAUSED BY RADIOACTIVITY

Jacques Deprimoz
Director,
Association Générale des Sociétés d'Assurances contre les Accidents
and the Pool Français d'Assurance des Risques Atomiques

The special rules governing compensation for nuclear damage to third parties - especially those which have established the principle of absolute liability channelled on the operator of a nuclear installation - are designed to cover a catastrophe which would strike many victims and paralyse a vast area for a more or less lengthy period

The first paragraph of the "Exposé des Motifs" of the Paris Convention of 29th July 1960, is quite clear on this point "however slight the probability /of a catastrophic nuclear incident/, the possibility remains, and enormous losses could fall /upon the public, etc .1/"

That is why this legislation, which departs, in the interests of the victims, from the rules of the ordinary law, is amplified by provisions designed to encompass the risks presumed to be the heaviest. In order to do so, it referred, first, to the notion of a *nuclear installation*, types of which are listed in Article 1(11) of the Paris Convention, and secondly, to the notion of *nuclear fuel* and *nuclear substances*, with the possibility of excluding those which, owing to their low uranium^{235} content or - in the case of radioisotopes - owing to their low total activity per gramme of substance, seem less dangerous. Such exclusion was in any case already decided on 22nd October 1977 by the Steering Committee of the OECD Nuclear Energy Agency and became part of French law by virtue of the Decree of 13th July 1979.

However, well before the introduction of this exceptional régime, which in France derives from the 1960 Paris Convention and Act No 68-943 of 30th October 1968, insurers had been asked to take a stand on loss or damage due accidentally to radioactivity. This request came both from the nuclear operators of that time and from hospitals venturing into curietherapy (cobalt bomb) and the first users of gamma or beta emitters designed for various kinds of industrial tests in factories. The insurers were all cautious about the mysterious phenomena of irradiation and contamination, regarding which all they knew was that they could produce cumulative long-term or deferred effects on man and his property and that these effects were not adequately dealt with by insurance techniques applied to almost immediate risks In 1957, they therefore decided

- to mention in all their contracts, whoever the policyholder might be (with the sole exception of life insurance), the exclusion of "all loss or damage due to the effects . of irradiation caused by the transmutation of atomic nuclei or radioactivity",

- to confine to special contracts, examined case by case both with nuclear operators and with industrial or medical users of radioisotopes, cover for loss or damage due to ionizing radiation, such special contracts being in any event fully reinsured by a pool called the French Atomic Risk Insurance Pool (Pool Français des Risques Atomiques) (1)

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Twenty years went by, gradually building up the experience of insurers in all countries where the specific uses of energy, analytical and even remedial properties of radioactive substances have constantly developed at various levels of risk However, French insurers have unanimously maintained their general exclusion clause of 1957, albeit in the total absence of any pressure from their clientele to change this state of affairs Admittedly, apart from experts in nuclear law, the general public who constitute the bulk of the insured are still ignorant even of the principle of channelling absolute liability on to the operators of reactors and other installations integrated in the uranium cycle - just as they are equally ignorant that the behaviour of the possessors of radioisotopes is still judged according to the rules of the ordinary law.

In December 1980, a representative of the OECD Nuclear Energy Agency pointed out that the continuing systematic exclusion helped to keep the public under the illusion that nuclear activities present such dangers that they are somehow instrinsically not insurable. This observation from on high was passed on to the General Association of Accident Insurance Companies (Association Générale des Sociétés d'Assurances contre les Accidents) as a body representing most companies operating in France in the "industrial risk", 'personal liability", "third party motor insurance", and "carriers' liability" classes

In point of fact, this reproach also applied to what is called the insurance of objects (fire - machinery breakdown) in connection with damage or loss which might be aggravated by sources of ionizing radiation and also to personal insurance policies providing benefits in the event of accident or sickness But in order not to overburden the present paper, we shall not speak of the reforms currently planned in classes of insurance other than third party liability.

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(1) This pool is the facility accepted by nearly all French insurance companies and foreign insurers operating in France for the financial distribution of premiums and claims concerning contracts issued individually by member companies A solidarity rule imposed on the 130 or so member companies still further strengthens the solvency of this support structure Similar structures have been set up in most "nuclearized" countries.

The insurers of third party liability risks therefore felt obliged to take up the challenge and to review the problem Their concern was twofold

- First, they had to respond appropriately to the insurance cover needs of their customers, who consisted mainly of non-nuclear policyholders and only a handful of nuclear policyholders

- Secondly, apart from the system of joint security and cover set up within the Atomic Pool, a mismanaged relaxation of the 1957 exclusion clause must not expose this country's insurers to impossible claims under ordinary insurance and reinsurance policies

Without giving way to the absurdly Manichean distinction between the "evil" risks of fissile materials (fuels and fission products) and the "benign" risks of industrial or medical radioisotopes, it seemed normal that the dividing line drawn since the 1968 Act between special nuclear law and the ordinary law should also serve as a dividing line between the risks still covered by special clauses in ordinary contracts

1 Absolute exclusion of the loss or damage covered by the Act of 30th October 1968 still applies

In fact, the whole of France does not contain more than about fifty nuclear installations producing, using or storing fuels or radioactive products or waste which are subject to the 1968 Act Their operators, who are even fewer in number, are fully aware that they are obliged under Section 7 of the Act of 30th October 1968 to take out special contracts based on a model approved by the Ministry of the Economy and Finance to cover their liability up to Frs 50 million for each nuclear incident They do not therefore fail to demand such special contracts, which are naturally included among the transactions covered since 1957 by the French Atomic Risk Insurance Pool.

The various suppliers and contractual partners of these operators, for their part, are released under the "channelling" principle from any liability with a nuclear incident affecting third parties which might be attributed to the poor quality of their supplies or services They therefore have no need for cover under their personal "operating liability", "after-sales liability" or, more usually, "professional indemnity" insurance policies.

With even greater reason, this channelling principle means that an ordinary citizen involved through a blunder committed in the course of his private or professional life (for example, when driving his car) in an incident which releases ionizing radiation from nuclear fuels or radioactive products or waste whose container or recipient he may have broken will not be personally liable. In other words, he will never have to pay his part of the damage

All these considerations have therefore led the General Association of Accident Insurance Companies to propose a new standard-form exclusion clause which applies specifically to circumstances in which the exclusive liability of the operator of a nuclear installation is involved For evident reasons of public policy, the same text had to refuse cover for loss or damage resulting from the possession or use of military devices, even for purely experimental purposes

The new clause A approved on 15th March 1982 by the Insurance Directorate of the Ministry of the Economy and Finance therefore reads as follows.

A - INSURANCE COVER SHALL EXCLUDE LOSS OR DAMAGE OR THE AGGRAVATION OF LOSS OR DAMAGE CAUSED BY

- *WEAPONS OR DEVICES* DESIGNED TO EXPLODE THROUGH A MODIFICATION OF THE STRUCTURE OF THE NUCLEUS OF THE ATOM,

- ANY NUCLEAR FUEL OR RADIOACTIVE PRODUCT OR WASTE, OR ANY OTHER SOURCE OF IONIZING RADIATION, WHICH INVOLVES THE *EXCLUSIVE LIABILITY OF THE OPERATOR* OF A NUCLEAR INSTALLATION

This wording will soon be found in the general conditions of all third party liability insurance policies, whether they cover professional indemnity or personal risks (including sports, hunting, yachting, etc) or even, and especially, motor traffic risks

However, the reference, in the above frame, to the *exclusive liability of the operator* may fall short in connection with nuclear incidents which do present the technical characteristics defined in Article 1(a)(i) of the Paris Convention but which, because of the location in which they occur, are not covered by the principle of channelling of liability This question particularly concerns French industrialists who supply technical assistance, engineering services and equipment for foreign power plants, constructed in countries where domestic law authorizes either victims to bring an action directly against them or the operator to exercise recourse

In these circumstances, should it then be considered that such a supply of services and equipment can without question benefit from ordinary insurance policy coverage? French insurers cannot take such risks almost unknowingly If research firms and the main foreign market suppliers are few, this is not the case on the other hand as regards their sub-contractors which are scattered on the market. This is why insurers should do well to guard against what may be called *nuclear incidents outside the Paris Convention scope* by completing the above-mentioned exclusion as follows

" OR ORIGINATE FROM THE SUPPLY OF GOODS OR SERVICES CONCERNING A NUCLEAR INSTALLATION IN A FOREIGN COUNTRY "

Insurance cover for such cases can only be sought by negotiating a special contract

In addition, it should also be clear to all suppliers or sub-contractors of a nuclear operator that their liability *outside the Paris Convention scope* for any harm to the installation attributed to their faulty supplies or services - irrespective of the legal basis for such liability - cannot be covered in the framework of their ordinary industrial risk policies Hence, a second addition to the above exclusion

".. OR DIRECTLY AFFECT A NUCLEAR INSTALLATION "

2 Exclusion of loss or damage not covered by the Act of 30th October 1968 may be the subject of a special buyback agreement at the request of the possessors of sources of ionizing radiation

Who are these possessors? They are certainly scattered all over the country and are much more numerous than the operators of nuclear installations. A few figures will give an idea of their number In 1980, the Interministerial Committee for Artificial Radioisotopes - the CIREA - issued about 1,600 permits for the possession and use of radioisotopes in sealed or unsealed sources to unclassified industrial establishments and 2,000 permits to classified industrial establishments In the medical and hospitals sector, some 200 establishments use gamma-ray teletherapy equipment

Institutions which carry out on-site gammagraphy tests on metallic structures must also be regarded as possessors of such sources

The ordinary liability rules still apply to all these professional possessors of sources in the event of radioactive contamination damage being caused by the sources they stock or handle, while insurance of their liability remains optional in such cases.

It would therefore seem advisable in future to insert a clause in the printed general conditions of policies stating that it is possible to sign a special exclusion clause buyback agreement This clause protects the insurer of "operating liability" or "professional indemnity" risks from having to meet claims without prior examination and at the same time enables any "possessor" of sources to negotiate the terms of the buyback with his insurer

Let us for a moment consider the word "possessor" since it does not necessarily mean the same thing as "owner' Indeed, according to their use and lifetime (half-life), certain sources must eventually be returned to their suppliers While in certain cases we can really speak of sales contracts comprising the transfer of ownership, in others they are more like rental agreements

In order to define the insurers' attitude towards this category of customer, the General Association of Accident Insurance Companies has therefore drafted a second clause intended to be coupled with the absolute exclusion clause analysed above This clause B, which was approved by the Insurance Directorate at the same time as clause A, i e on 15th March 1982 - reads as follows

B - Unless covered by special agreement, LOSS OR DAMAGE OR AGGRAVATION OF LOSS OR DAMAGE CAUSED BY ANY SOURCE OF IONIZING RADIATION (ESPECIALLY ANY RADIOISOTOPE) USED OR DESIGNED TO BE USED ELSEWHERE THAN IN A NUCLEAR INSTALLATION AND OF WHICH THE INSURED OR ANY PERSON FOR WHOM HE IS RESPONSIBLE IS THE *OWNER*, *CARETAKER* OR *USER*, SHALL ALSO BE EXCLUDED

The offer of a *special agreement* should act as a kind of warning signal which is either sounded by the insurer himself or heard spontaneously by a businessman or medical institution when reading the contract

Whereas at present some 400 users of radioisotopes already hold policies of this type, it is to be hoped that - apart from public institutions which are always traditionally self-insured - the warning signal will reach a similar number of enterprises which hitherto have neglected to obtain cover for any loss or damage which might be caused by the sources in their possession

The agreement will take the shape of an endorsement to the main contract giving additional cover or a special policy.

To complete this subject, it should be noted that the Group of policy holders in trade and industry - the GACI (Groupement des Assurés du Commerce et de l'Industrie) - has recently expressed the hope that insurers will propose buyback procedures which are as simple as possible. In particular, it stressed that signature of the *special agreement* should no longer be subject to prior declaration of the corrected total activity (in curies or millicuries) of the sources of ionizing radiation present in any one establishment Insurers operating on the French market now seem prepared to drop this far too subtle and even controversial question and to confine themselves to criteria of compliance or otherwise with the system of classified installations listed under No 385 bis in the Nomenclature annexed to the Decree of 20th May 1953 This step forward should be appreciated by all firms concerned, they will concede in return that the special cover cannot be given automatically. It is in the public interest that so-called "isotopic" risks be classified by insurers, if only to improve their rating system

Special case of suppliers of radiation sources or equipment for housing them

Clearly there are few such suppliers Their cover for liability after delivery of faulty sources or protective linings requires the *special agreement* referred to in the frame However, here again the agreement will only be sought by the manufacturer if he sees it is needed when reading the exclusion clause in his ordinary policy This is why this exclusion should be completed as follows

" /OR USER/ OR FOR WHICH HE MAY BE HELD LIABLE DUE TO ITS DESIGN, MANUFACTURE OR CONDITIONING /SHALL ALSO BE EXCLUDED/"

Special case of loss or damage during the transport by road of sources of ionizing radiation not covered by the Act of 30th October 1968

Tens of thousands of packages containing small radioactive sources are carried by lorry or even by private car every year It is quite conceivable that the vehicle concerned may hit a parapet or another vehicle and that the containers may be broken in the collision

Hitherto, risks of contaminating third parties during the transport of radioisotopes or substances of low specific activity which are outside the scope of the Paris Convention have been covered by ad hoc policies taken out, if they so wish, by carriers or by consigning firms Such policies - which scarcely number more than 20 in all - give cover which is usually between Frs 5 and 10 million per incident and are accepted for full reinsurance by the French Atomic Risk Insurance Pool

This state of affairs should shortly change appreciably as a result of an amendment to Section 10 of the Decree of 7th January 1959 implementing the Compulsory Motor Insurance Act The amendment has been drafted in consultation with the General Association of Insurance Companies and concerns Article R 111-11 of the Insurance Code, it stipulates that

"*While the person subject to the obligation of compulsory insurance shall not be exempt from such obligation in the following cases,* clauses in contracts shall be valid whose purpose is to exclude cover for liability incurred by the insured for loss or damage caused by the vehicle when carrying sources of ionizing radiation intended to be used elsewhere than in a nuclear installation and where such sources have caused or aggravated the incident."

In consequence, the buyback agreement provided for by the new clause B quoted above will no longer be merely optional It will now apply to carriers of radioisotopes in the context of and in compliance with the rules of compulsory motor insurance. Insurers must be prepared for this and, in particular, they must be prepared to fix maximum cover per incident in the light of the rules, which depend on the category of vehicle licence required for the driver. Naturally, the Atomic Pool is prepared to offer full reinsurance for loss or damage covered by the buyback agreement This agreement will moreover not necessarily be confined to traffic accident risks alone. It could also include incidents occurring during loading or unloading operations if the policyholder wishes and allow for the possibility of transhipment in the event of combined road-rail or road-air transport (2)

(2) The present account deliberately disregards cover for the air or sea transport risks of radioactive sources.

On the other hand, it must be pointed out that loss or damage caused by nuclear substances (fuels, radioactive products or waste) during road transport which, under the Act of 30th October 1968, involves the exclusive liability of the operator of a nuclear installation will continue to be the subject of an absolute exclusion in all motor insurances contracts. A second amendment to the Decree of 7th January 1959 will confirm the legality of this exclusion as expressed in clause A. Cover for the loss or damage in question will therefore continue to be given under special policies taken out either directly by nuclear operators or on their behalf by carriers and reinsured by the Atomic Pool As in the past, these policies, whose general conditions were endorsed by the Insurance Directorate on 27th April 1973, will tacitly cover traffic risks proper, in association if necessary with loading and unloading risks, up to Frs 50 million per nuclear incident

3 Loss or damage not covered by the Act of 30th October 1968 is no longer excluded from policies issued to persons who do not possess sources of ionizing radiation

Persons who do not possess such sources and whose liability might be involved as a result of an incident resulting in the emission of radiation from the container will be all private persons, but more specifically, and in most cases in practice, any motorist who collides with a van delivering radioisotopes It is on behalf of all such persons - who are assumed to be neither the owners, custodians or users of radiation sources - that the new clause B, by what it does not exclude, by definition extends automatic cover

For many a reader, this will be unexpected good news and will reward him for having read so far

He may well not have known that, up to now, his motor insurer was entitled to refuse him cover for radioactive contamination of third parties (or even of the roadway) for which he was liable owing to e g. failure to observe priority or some other unlawful manoeuvre Yet this was the perfectly lawful consequence of the absolute exclusion recognised by Section 8 of the Decree of 7th January 1959, which became Article R 211-8-3° of the Insurance Code From now on, no such lack of cover can be held against him and we might venture to assert that he can now drive on our roads in all weathers without worrying about the clover-leaf label on packages or containers that might get damaged through his fault in a collision

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Of course, nuclear energy is not the only area in which insurers have fallen into step with advanced technology From the microprocessor to the offshore platform and from chemotherapy to cybernetics, they have usually managed to adjust their technical resources and financial capacity to circumstances so as to cover the third party liability of the pioneers in all these fields They must still distinguish, however, as far as they can, between the high risk and the low risk Loss or damage due to ionizing radiation cannot avoid this distinction and it is this which has led to the

new selective exclusion clause. Some insurers will continue for a time to regret the completely closed door of previous years, but we hope that their number is diminishing. Far-seeing insurers will then have dispersed the mythology surrounding the dangers of radioactivity, responding to Guilllaume Apollinaire's prophetic cry *There exist new fires with colours none have seen, a thousand vague dreams which we must now make real"*

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Karl-Heinz Mannhardt, Fachworterbuch zur Energiewirtschaft, Vols 1 to 3, Carl Heymanns Verlag KG, Koln, 1981, Vol 1, 166 pages, Vol 2, 43 pages, Vol 3, 81 pages

This technical dictionary of the energy-producing industry in three volumes has been compiled in German, English, French and Spanish The compilation covers the entire vocabulary and phraseology of a modern technical language

Science, technology, economics, law and politics are interwoven in a variety of ways and the main areas dealt with are nuclear energy, reactor technology, nuclear fusion engineering, solar energy, wind and tidal power, radiation protection, nuclear safety research, safeguards technology and reliability engineering, coal gasification and liquefaction, co-operative agreements and scientific managerial problems Other aspects of the energy-producing industry have also been taken into consideration

• *United Kingdom*

Summary of the law relating to atomic energy and radioactive substances, revised as at 31st March 1982, D F Sim and K.J S. Ritchie, 20 pages

This Summary is an updated version of a previous revision of the Summary of the United Kingdom's legislation on atomic energy (see Nuclear Law Bulletin Nos. 24 and 25) and reviews the main texts in that field Reference is made to the regulations on atomic energy, nuclear installations, radioactive substances, transport of such substances, radiation protection etc It is intended to be a signpost to the relevant law, but does not cover any aspect in detail.

The Summary also refers to international agreements in the nuclear field conventions and regulations on the transport of radioactive substances and nuclear material, nuclear third party liability, radiation protection and environmental protection

• *INLA*

Nuclear Inter Jura '81 Proceedings, Palma de Mallorca 1981, 425 pages

The International Nuclear Law Association (INLA) which held its Fifth Congress in Palma de Mallorca from 28th September to 1st October 1981 has just published the Proceedings of the meeting They include the addresses and papers presented, in English or French, as well as the discussions of the concluding session

The Congress, which was held under the sponsorship of the OECD Nuclear Energy Agency, brought together some 170 participants The six general topics in the programme were the subject of papers which were discussed by the participants The main lines and conclusions are summarized below

The procedures applicable to *site selection and licensing of nuclear installations* clearly vary according to each country's legal system However, all the participants acknowledged that public consultation should be preceded by appropriate information

It was further agreed that *safety and operating rules* paired with *emergency plans* after serious incidents still suffer from too many people giving instructions Since technical standards necessarily evolve, checks and simulated emergency situations should be organised more systematically Another point worth considering is the question of the imperative safe operation of a nuclear power plant and the right to go on strike.

Thirdly, the finer clauses in *fresh fuel supply contracts*, which are governed by private law, show that this matter concerns supplier/customer relationships and cannot be placed in a standard framework

Similarly, it appeared that *irradiated fuel reprocessing contracts* for supplies and services do not imply an absolute obligation on the part of the supplier and therefore, part of the risk is borne by the customer

The regulatory aspects of *physical protection of nuclear installations and equipment against malevolent acts* were dealt with Some countries have already passed legislation to

prevent diversion of nuclear materials and to punish authors of such acts and their accomplices Gaps in the existing texts were noted as well as their interference with those defining the limits of self-defence or the duty of the police Rules governing indemnification of damage caused by diverted materials come within the absolute liability channelled to operators as the creators of risks, and insurers of such liability take account of this possible charge

The sixth and last topic covered *new laws on compensation of nuclear damage* and presentations were made concerning the Brazilian Act of 17th October 1977, the amendments to the Price Anderson Act envisaged in the United States and the planned revision of the Swiss Act of 23rd December 1959

Persons wishing to obtain a copy of the Proceedings may contact

Miss Luz Corretjer,
Junta de Energia Nuclear
Ciudad Universitaria
Avenida Complutense 28
Madrid 3, Spain

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