NUCLEAR LAW BULLETIN No. 42

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This Bulletin includes a supplement

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Nuclear Energy Agency
Organisation for Economic Co-operation and Development

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

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

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

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

The OECD Nuclear Energy Agency (NEA) was established in 1957 under the name of the OEEC European Nuclear Energy Agency. It received its present designation on 20th April 1972 when Japan became its first non-European full Member. NEA membership today consists of all European Member countries of OECD as well as Australia, Canada, Japan and the United States. The Commission of the European Communities takes part in the work of the Agency.

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

This is achieved by:

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

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

LEGAL NOTICE

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• France

RADIATION PROTECTION

Revision of the Radiation Protection Regulations (1988)*

Two new sets of regulations amending the French law on radiation protection have just been published. Decree No 88 521 of 16th April 1988 (Official Gazette-JORF of 6th May 1988) amending the Decree of 20th June 1966 on general principles for protection against ionizing radiation, and Decree No. 88 662 of 6th May 1988 (JORF of 8th May 1988) amending the Decree of 28th April 1975 on the protection of workers against the hazards of ionizing radiation in major nuclear installations

I. Introduction

In compliance with the Treaty signed in Rome on 25th March 1957, the European Atomic Energy Community (EURATOM) has formulated Directives for the radiation protection of the general public and of workers. Since the "basic standards" defined in these Directives are binding in nature, Member States are required to incorporate them in their domestic legislation

In addition to the main principles of dose limits based on publications of the International Commission on Radiological Protection (ICRP), the EURATOM Directives contain detailed rules on the operational protection of the population and of workers

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* This note has kindly been provided by the Legal Affairs Department of the Atomic Energy Commission

First enacted on 2nd February 1959, these rules have evolved in line with the ICRP principles and, after several revisions, were consolidated in a Directive adopted on 15th July 1980, itself amended on 3rd September 1984

On the basis of the 1959 Directives, France adopted a series of regulations on radiation protection

- The first, general in nature, was the Decree of 20th June 1966 (see Nuclear Law Bulletin No. 1), which lays down the basic radiation protection principles applying to workers and the population

- A second Decree, that of 15th March 1967 (see Nuclear Law Bulletin Nos 1 and 9), laid down the practical procedures for ensuring radiation protection for workers This Decree applied to work-places and establishments regulated by the Labour Code (Code du Travail), including private clinics and public hospitals, as well as medical and dental surgeries. Outside the medical sphere, it concerned more particularly industrial premises in which accessory use was made of radioactive sources and X-ray apparatus, and laboratories in which accessory use was made of sealed or unsealed sources. Large nuclear installations were excluded from its scope of application.

- It is a third Decree, that of 28th April 1975, on the protection of workers in major nuclear installations (see Nuclear Law Bulletin No 16), which is applicable in large or major nuclear installations (installations nucleaires de base), i e reactors, enrichment, reprocessing and nuclear fuel manufacturing plants, and large nuclear research laboratories

While the Decree of 15th March 1967 was completely changed by the Decree of 2nd October 1986 (see Nuclear Law Bulletin No 38), the method adopted for the revision of the 1966 and 1975 Decrees was simply to amend those Sections which had to be changed to bring them into line with the new standards The 1986 Decree in a sense played the role of a pilot regulation, as had the Decree of 20th June 1966. The advantage of this approach was to avoid calling into question a number of principles which had proved their worth.

In general terms, the reorganisation of the French regulations on radiation protection has not only introduced the new EURATOM Directive into French law but has also taken account of the changes in labour law since the Auroux legislation which, in 1982, amended the French Labour Code, and of developments in radiation protection techniques It should be emphasized that the French regulations on radiation protection were more detailed than the European Directives of 1959 French regulations in this sphere were, in a sense, more advanced, but had nevertheless to be amended to bring them into line with the new Directives. In the end, it proved wiser to wait since the 1980 Directive was substantially amended in 1984. What is more, the 1980 Directive made the point that rapid changes in national radiation protection law are to be avoided. Without undertaking a detailed scientific analysis of the new norms and technical measures, the main principles of French radiation protection regulations are described below.

II General Principles

Adoption of new units and limits - the principle of dose limits

The new French regulations adopt the new international units Thus, becquerels have replaced curies while sieverts are used as dose equivalent units instead of rems The thresholds at which activities involving a risk of exposure are exempt from the rules on reporting and licensing remain the same. However, instead of the three groups in the old regulations, radionuclides are now classified in four groups in accordance with their radiotoxicity (very high, high, moderate and low)

Part II of the Decree of 20th June 1966, as amended, deals with general principles and limits as regards controllable exposure. The limits established relate to occupationally exposed persons and to the general public These same limits for workers are adopted by the Decree of 20th October 1986 on the protection of workers The Decree of 28th April 1975, as amended by the Decree of 6th May 1988, refers back to the Decree of 2nd October 1986 both for exposure limits and the technical annexes. A special technical annex to the Decree of 28thApril 1975 lays down the relevant neutron quality factors

Dose limits, whether for workers or the general public, are established for external exposure (formerly external irradiation), and internal exposure (corresponding to the notion of internal contamination in the previous regulations), respectively These limits are calculated on the basis of a weighting of risk in the event of uniform exposure of the body Dose limits for intake by both inhalation and ingestion are given for workers, and these, reduced by a factor of ten, apply also to members of the public as in the old regulations

As concerns derived standards for internal exposure, the French regulations have replaced the maximum permissible concentrations of the old standards in the air and drinking water by annual incorporation limits by inhalation and ingestion, and derived limits of concentration in the air.

The concept of critical organ has been abandoned as has the rule allowing a dose equivalent of 12 rems provided that total exposure since the age of 18 years did not exceed an average of 5 rems per year.

All limits apply on an annual basis and must not be exceeded over any period of twelve consecutive months However, the reference to a three-monthly limit, which existed in the previous regulations for workers, has not been abandoned dose equivalents must not, over any period of three consecutive months, exceed 6/10ths of the previous annual limits

A single series of limits is laid down for exposed workers who continue to be classified in two categories, now described in the terms used in the EURATOM standards.

Category A These are workers working directly with radiation, i.e persons who, in normal working conditions, are liable to receive a dose greater than 3/10ths of one of the annual limits

Category B These are workers not directly working with radiation, i e persons whose normal working conditions are such that they are not generally liable to receive more than 3/10ths of an annual dose limit Apprentices aged 16 years may, if they are training for employment involving exposure to radiation, be included in this category There are special limits for pregnant women and women of reproductive capacity

As in the Directive, the limits defined above are applicable in regard to normal conditions of work. Higher limits, which may not in any given year exceed twice the annual limits, may be tolerated, but in abnormal work situations when other techniques cannot be used and after obtaining the opinion of the occupational medical practitioner and of the Committee for Health, Safety and Conditions of Work (Comite d'hygiene et de securite et des conditions de travail - a body provided for under the Labour Code and including staff representatives; these are called "planned special exposures"

In cases of emergency, the limits may also be exceeded but only in respect of voluntary workers included on a previously established list, the upper dose being fixed by the occupational medical practitioner In such cases, the Committee for Health, Safety and Conditions of Work must be informed immediately. The new regulations also define exposure accident as an accident giving rise to exposure of at least ten times the dose limits

Optimisation

The principle of optimisation, which appears in the EURATOM Directives, is very difficult to introduce into regulations It implies in theory a cost-benefit analysis designed to reduce doses well beyond the limits laid down in the regulations It constitutes an obligation of result Under the French regulations, it is up to the employer, in consultation with the above-mentiond Committee, to establish the appropriate procedures The approach is a pragmatic one, even if it sometimes requires methodology studies to reduce the doses workers receive during the time required to carry out a specific task That is why the regulations simply draw attention to this principle

Section 6 of the Decree of 20th June 1966 already stipulated that the exposure of persons should be as low as possible This Section remains unchanged although Section 4 of the Decree of 2nd October 1986 and Section 8 of the Decree of 28th April 1975, as amended in 1986, are drafted in more elaborate, and identical terms:

> "Work materials, procedures and organisation must be conceived in such a way that individual and collective doses are maintained as far as is reasonably achievable below the limits laid down in this Decree For this purpose, reviews shall be made, at intervals which depend on the level of exposure, of work involving exposure"

This provision thus imposes a particular obligation to analyse occupational exposure Such an analysis is necessary in order to classify workers in Category A or Category B, and also to limit the doses received It is not made on a once-and-for-all basis, but must be repeated at regular intervals Furthermore, it is not in itself sufficient, the limitation of

doses to exposed workers must be considered at the design stage of materials and installations Radiation protection concerns go hand in hand with those of nuclear safety

The overall effect of applying these principles must be to concentrate less on places where dosimetry statistics show the risks to be low or non existent, and to identify the critical spots so as to achieve the objective of reducing doses

Responsibility for implementing rules regarding protection and surveillance

The principles in this sphere remain practically unchanged it is the operator who is responsible for ensuring that persons working inside his installation are protected from ionizing radiation As concerns responsibility towards members of the general public in the vicinity of the installation of which he is in charge, the operator must take all necessary steps to ensure that there is no breach of the radiation protection provisions

Two new Sections have been added to the Decree of 20th June 1966, concerning the role of the Central Service for Protection Against Ionizing Radiation (Service Central de Protection contre les Rayonnements Ionisants - SCPRI) This Service, answerable to the Minister for Public Health, was created on 13 November 1956, and is interministerial in nature The new provisions of the Decree of 20th June 1966 as amended specify its tasks

Under the new Section 29 of the Decree of 20th June 1966, SCPRI is responsible

- for measuring and analysing radioactivity levels in the various types of physical environment, whether in respect of the population at large or of workers,
- for supervising the application of the statutory radiation protection provisions,
- for proposing to the ministerial authorities any measures likely to improve radiation protection,
- for undertaking research on radiation protection in conjunction with the other competent official bodies,
- for organising permanent monitoring in the event of radioactive accidents and for preparing any medical and health measures which appear necessary

III Administrative and Technical Measures Concerning the Protection of Workers

It is not intended here to enter into detail about administrative measures, and all purely administrative obligations concerning reporting to the various administrations concerned, the Work Inspectorate, the Prevention Service of Social Security Funds and the SCPRI shall be left aside It should

be noted that these formalities are not sufficient in themselves and that licences are required, in the case of artificial radionuclides, for the possession of radioactive sources as provided in the Public Health Code, as well as the licences provided for under the legislation on classified installations for the protection of the environment and those relating specifically to major nuclear installations

Similarly, the relevant texts should be consulted for details on the technical protection rules consisting of the use of various types of shield, or to protect staff against radiation, or those imposing a specific design of premises, ventilation systems and individual protective devices (gasmasks, special clothing, etc.)

Responsibility

Before analysing the measures which must be applied inside premises in which radioactive sources or X-ray generating equipment are handled, note should be taken of who is responsible for their implementation

The classic principle on which regulations on the health and safety of workers are based is that of the responsibility of the employer

As indicated above, the Decree of 20th June 1966 on the general principles of protection refers to the operator, while the Decree of 2nd October 1986, like that of 15th March 1967 which it replaced, makes the employer responsible for these obligations

In the 1975 Decree concerning large nuclear installations, a distinction was made from the viewpoint of respective radiation protection responsibilities, between the nuclear operator and the employer For, in large installations, separate enterprises with activities which are not always complementary may coexist on a same site, and it appeared necessary to establish the authority, in matters of radiation protection, of the nuclear operator, represented by the head of the installation, over the other enterprises concerned The following drafting, very close to the previous text in the 1975 Decree, was therefore adopted

> "The operator of one or more major nuclear installations located on a single site is responsible for all general administrative and technical measures, especially with regard to the organisation of work, necessary to prevent employment accidents and occupational diseases liable to be caused by ionizing radiation The representative of the operator on-site is hereinafter referred to as the head of the installation"

In large nuclear installations, the head of the installation, representing the nuclear operator, therefore assumes responsibility for co-ordinating measures taken by employers and for joint measures involving the organisation of radiation protection The employer is responsible for measures concerning the protection and individual monitoring of workers (training, information and medical supervision).

There is one exception to this rule applying to large nuclear installations, namely when an outside enterprise uses its own radioactive sources this rule was introduced to cover the case of outside enterprises making use of gamma radiography to monitor nuclear installations In such an event, it is the Decree of 2nd October 1986 which applies, i e the employer is alone responsible for the way in which his sources are used

Role of the person or persons competent in radiation protection matters

The EURATOM Directive of 15th July 1980 defines qualified expert as "[a] person having the knowledge and training needed . to give advice in order to ensure effective protection of individuals and correct operation of protective installations whose capacity to act as a qualified expert is recognised by the competent authorities" The Directive adds that the creation of a specialised radiation protection unit is required for all establishments in which there is a serious risk of exposure or radioactive contamination

The French regulations have implemented this provision in the following manner

> In installations covered by the Decree of 2nd October 1986, which are of relatively minor importance, the employer must appoint a radiation protection expert In important installations - so-called major nuclear installations - the head of the installation must have under his authority members of staff or a service competent in radiation protection matters The person competent is appointed by the employer, and supervises the handling and use of radioactive sources and electric generators He must also be trained in radiation protection matters, as detailed in an Order of 25th November 1987 No diploma is given at the end of the course but a certificate of training is issued to successful examinees Training lasts between two and seven days, and varies depending on the sectors of activity in which the person concerned will have to use his skills and knowledge The training must be given by a body approved by Order, and refresher courses have to be followed every five years

Section 17 of the Decree of 2nd October 1986 specifies several aspects of the duties of the person concerned, who must

- make a regular check of workplaces to ensure that exposure is kept as low as possible and, in any event, below the prescribed limits,
- ensure that protective measures are complied with,
- note situations which could lead to the exceptional or accidental exposure of workers,
- draw up an emergency plan in case of accident.

The person competent therefore has an essentially advisory role He acts in liaison with the Health, Safety and Conditions of Work Committee, failing which with staff representatives, his role may be compared with that of the safety officer in traditional industries.

In large nuclear establishments containing one or more major nuclear installations, one single expert would not be enough. That is why, in implementation of the EURATOM standards, the Decree of 28th April 1975 provided that the head of the establishment should have, under his authority, a service or staff competent in radiation protection matters This service or staff has the same functions as the single expert, but naturally on a larger scale, in line with the importance of the nuclear installations in the establishment.

Special provision is also made in the 1975 Decree that any work involving a risk of exposure to radiation must be carried out under the supervision of a radiation protection expert appointed by the head of the installation or, if the head of the installation is not the employer, in agreement with him It is clear that the expert does not necessarily belong to the service or staff referred to in the above paragraph He may be a member of the operational staff serving at the installation or from an outside enterprise, but the head of the installation must agree to his appointment

It is not only the staff or person competent in radiation protection matters who must receive radiation protection training, but all exposed workers Under Section 19 of the 1986 Decree and Section 16 of the Decree of 28th April 1975, the employer is required, in liaison with the Committee for Health, Safety and Conditions of Work, to organise radiation protection training for exposed workers Such training must not consist simply of posting a written notice about the hazards of ionizing radiation Such a notice must still be posted but, since the amendment made by the 1986 Decree, there is an additional obligation to give effective training to exposed workers

Delimitation of areas and assessment of exposure

Among the technical measures imposed on the employer by the 1986 Decree and on the head of the installation by the 1975 Decree, mention should be made of the obligation, where necessary, to delineate a controlled area to which access is regulated. This area covers all locations where worker exposure is liable, in normal working conditions, to exceed 3/10ths of the annual exposure limits

Similarly, any area in which worker exposure is liable to exceed 1/10th of annual dose limits must be considered as a supervised area

Such areas are delineated after consultation with the Committee for Health, Safety and Conditions of Work.

As soon as a worker is assigned to a controlled area he must be given an individual exposure assessment, but assignment to a controlled area does not necessarily mean that workers will be classified in Category A, it all depends on the risk of exposure inherent in their work

Installations and sources are supervised, as appropriate, by the person or staff competent in radiation protection matters or by an approved body featuring on a list contained in an Order In large nuclear establishments, radiation protection services may themselves carry out the necessary controls without calling upon an approved body.

When exposed workers belong to Category A, doses must be measured on an individual basis, taking into account both external and internal exposure External exposure is measured by dosimeters which workers are obliged to wear and which are read every month These dosimeters make it possible to calculate the doses received by each individual concerned In the case of internal exposure, i e if there is a risk of contamination, the dose received is assessed with reference to the annual inhalation or ingestion limits, calculated on the basis of controls of ambient radioactivity carried out in those places where there is a risk of contamination or by biological analysis of excreta Results are recorded in the medical file of each worker

No individual assessment is made of workers belonging to Category B unless they work in a controlled area, but since their workplace is classified as a supervised area, an ambient control is carried out every six months to determine whether limits have been exceeded.

Should this in fact be the case, and no matter to which category the workers involved belong, the employer or head of establishment representing the nuclear operator, is obliged to ensure that the causal factors are removed as soon as possible and to have a study made of the reasons why limits were exceeded, either by the person or service competent in radiation protection matters or by an approved body Control and study results are communicated to the Committee for Health, Safety and Conditions of Work and the occupational medical officer and are held at the disposition of the work inspectorate and officials of the Prevention Service of the Social Security Fund.

IV Medical Measures

The EURATOM basic standards contain very strict provisions concerning the medical surveillance of exposed workers These provisions are incorporated and developed in the French regulations. Any work with radiation constitutes work requiring special medical surveillance in pursuance of the regulations on occupational medicine

The main provisions regarding such surveillance are as follows:

- No worker may be exposed to ionizing radiation if he is medically unfit for such work. It is for the occupational medical officer to decide whether a worker is fit in this respect.

- Medical examinations may include supplementary tests, and the occupational medical officer may prescribe any examination he thinks necessary or ask for specialist advice An Order lays down the special recommendations to occupational medical officers concerning the surveillance of exposed workers.

After any accidental or emergency exposure, the occupational medical officer must immediately take the necessary steps to assess the doses received and the consequences for the workers concerned.

Biological tests must be carried out to check for any contamination The occupational medical officer may request the assistance of the SCPRI

Category A workers must be medically examined at least once every six months A special medical file is kept for each of them, including

- a record of high-risk work prepared by the person or service competent in radiation protection matters in conjunction with the occupational medical officer This record must be countersigned by the worker concerned,

- a record of exposure mentioning the dates and results of tests for equivalent doses received;

- the dates and results of medical examinations carried out

The special medical file and the ordinary medical record are kept in the archives for at least 30 years from the period of exposure, thereby constituting a guarantee for workers as regards any reimbursements under Table VI of occupational diseases.

Lastly, and this is a new and important point in the French regulations, Category A workers are now to be given a medical surveillance card, the form of which is to be defined by Order. It can in any event be assumed that this card will include dosimetry results and the date of medical examinations. The goal is to enable staff who are called upon to work in various nuclear sites to be kept under medical surveillance This card might possibly be recommended at European level

In conclusion, it can be said that, with the adoption of the Decrees of 2nd October 1986, 18th April 1988 and 6th May 1988, the new European Directives have been incorporated into French law, without causing any upheaval as regards the very detailed regulations already in force Technical implementation Orders are still to be promulgated with regard, in particular, to dosimetry and the medical surveillance of staff Lastly, a Decree is currently being prepared to define the radiation protection rules applicable to mining industries, i e to staff prospecting for and extracting radioactive substances in either underground or open-cast mines Such staff has, until now, been subject to statutory rules different from the Labour Code, and have been protected from ionizing radiation by Prefectorial Orders pursuant to the Mining Code. These Orders are therefore now to be replaced by national regulations based largely on the EURATOM Directives

REGULATIONS ON NUCLEAR TRADE

1988 Notice to exporters concerning products subject to stricter export controls (nuclear materials, equipment and large nuclear units)

In order to ensure that the policy to avoid the proliferation of nuclear weapons is complied with, the French Administration applies stricter controls over the export of certain sensitive products, materials and equipment To this effect, lists of such products, materials and equipment are published in the form of Notices to exporters and periodically revised.

The above Notice, published in the Official Gazette of 12th August 1988, repeals and replaces the previous Notice published in the Official Gazette of 21st January 1986; it supplements and brings up to date the provisions of the original Notice published on 24th November 1964

Annex I of the Notice contains the list of materials whose export is subject to nuclear non-proliferation controls Annex II lists the equipment whose export is subject to the same controls

The Notice (Annex III) also includes the list of large nuclear units for which an application for prior approval of export must be submitted to the Ministries concerned (Industry and Land Planning, Foreign Affairs, Defence, Economy External Relations)

Finally, information is given on the procedures to be followed for obtaining export licences and prior approval respectively.

• German Democratic Republic

REGIME OF RADIOACTIVE MATERIALS

1986 Order on Control of Nuclear Materials

The above Order of 31st October 1986 (published in Gesetzblatt der Deutschen Demokratischen Republik, Part I, 25th November 1986, N° 34) repeals an Order of 5th September 1973 on the same subject, it entered into force on 1st February 1987.

The Order provides for a system of control of nuclear materials by the competent authority in this respect, the State Office for Nuclear Safety and Radiation Protection

Directors of installations where nuclear materials are held must appoint an Officer responsible for ensuring compliance with the legislation and internal rules on control of nuclear materials. Such appointments must be approved by the State Office for Nuclear Safety and Radiation Protection

Applications regarding nuclear materials must be made to the State Office for permission to proceed at the various stages in the planning and construction of nuclear installations. The applications must, in particular, be accompanied by documents on the following· the basic requirements and initial parameters for control/monitoring of nuclear materials, internal rules for such monitoring and control; procedures for the safe handling of the materials, measures to prevent the impairment of seals and monitoring devices

The Order prescribes that records, accounts and inventories of nuclear materials in installations must be kept, as well as data on their type, quantity, processing and location. This information must be communicated to the State Office for Nuclear Safety and Radiation Protection which must also be notified of any changes in stocks, type, etc of the materials Also, provision is made for annual reporting of stocks of nuclear materials outside nuclear installations

It is also provided that the State Office and the International Atomic Energy Agency (IAEA), shall carry out inspections in nuclear installations, the conditions for the inspections, as well as the IAEA sealing and monitoring arrangements are detailed in the Order The Order furthermore specifies that not less than nine months before nuclear materials are brought into a nuclear installation, the State Office must be provided with the details of the particulars required under the Agreement between the German Democratic Republic and the IAEA on implementation of the inspections in connection with the Treaty on the Non-Proliferation of Nuclear Weapons.

All nuclear materials no longer subject to IAEA Safeguards remain subject to control by the State Office, also, nuclear waste disposal is subject to authorisation by the State Office.

Exceptional incidents such as for example, loss of nuclear materials inside a nuclear installation or during transport, violation of records or impairment or destruction of IAEA Seals must be dealt with in accordance with guidelines issued by the State Office for Nuclear Safety and Radiation Protection

Source materials for laboratory uses and in quantities less than 1 gramme and special fissionable materials in quantities less than 0 1 gramme are exempted from the scope of the Order

Finally, the Order also specifies the nuclear materials subject to control during national and international transport, the Annex to the Order prescribes the conditions for such transport.

• Italy

REGIME OF NUCLEAR INSTALLATIONS

1988 Decree on environmental impact assessments

This Decree of 10th August 1988 (published in the Official Gazette of 31st August 1988) concerns the compatibility of industrial installations and equipment - both public and private - with environmental protection. It takes into account Community Directive N° 85/337 of 27th June 1985 and was made under Act N° 349 of 8th July 1986 setting up the Ministry of the Environment and providing for an environmental impact procedure The Decree entered into force on the day following its publication

The Decree specifies the conditions for performing this assessment and the information to be provided at the planning stage of the installations involved. Those include nuclear power plants and other reactors Research facilities for the production and processing of fissile and fertile materials whose power is below 1 thermal kW are excluded from the scope of the Decree

It is provided that facilities for the final storage and disposal of radioactive waste also require an environmental impact assessment

• Mexico

RADIATION PROTECTION

1988 Regulation in implementation of the General Act on Health Protection

This Regulation was published in the Official Gazette of 18th January 1988 It was made in implementation of the General Act governing all establishments, activities and services from the viewpoint of health protection

The Regulation applies to nuclear establishments, to transport of radioactive materials and waste and to radiation sources generally. The Health Ministry (Secretaria de Salud) is the authority responsible for implementing the Order and for laying down the necessary radiation protection regulations and measures

No person may operate an establishment where radiation sources or radioactive materials are used or disposed of without a licence issued by the

Health Ministry, without prejudice to licences issued by other authorities Carriers of radiation sources, radioactive materials or waste must also obtain such a licence for their vehicles

Persons responsible for the above-mentioned establishments must ensure that workers and members of the public are protected against radiation and that a monitoring system is installed under the radiation protection regulations in force.

Also, when radiation sources are used for medical purposes, persons responsible for radiological safety in the establishments concerned must ensure that patients undergoing treatment are adequately protected, in accordance with the Health Ministry's Guidelines (see below)

The possession, use, import of, and trade in radiation sources for medical purposes requires a licence issued by the Health Ministry

Non-compliance with the provisions of the Regulation may, inter alia, be sanctioned by suspension or revocation of the licence

1988 Technical Guidelines on Radiological Safety in Establishments for Diagnosis and Treatment

These Technical Guidelines (N° 278) of 2nd February 1988 issued by the Health Ministry, entered into force on the day following their publication in the Official Gazette of 18th February 1988 and replace any previous regulations in that field

The purpose of these Guidelines is to lay down uniform rules on radiological safety for personnel using ionizing radiation for diagnosis or treatment in public or private establishments They concern radiation sources which emit more than 0.25 milliSieverts (0 025 rem) per hour and apply to occupationally exposed persons, to patients and to the working premises concerned

Occupationally exposed persons must, inter alia, carry personal dosimeters, wear protective clothing and gloves and undergo annual medical check-ups Also, their annual exposure dose must not exceed 50 milliSieverts (5 rems)

As regards patients, in particular, it is provided that areas of the body not undergoing irradiation must be shielded from the rays and that pregnant women must not be submitted to radiation

Radiation sources, which include particle accelerators, cobalt and cesium sources, X-ray apparatus, sealed and unsealed radioisotopes as well as radioactive waste, must be shielded and contained, they must also be marked so as to identify the type of radiation source. Also, any radioactive waste must be stored with a view to its decay to permissible levels

The doctor in charge of the establishment must keep records of personnel dosimetry and medical examinations, quality assurance of the

equipment, the radioactive materials on the premises and the waste, as well as its final destination; records must also be kept of incidents involving radioactive releases

Finally, the doctor must report annually to the health authorities on the records kept, and immediately on any loss or theft of radioactive sources and on incidents

ENVIRONMENTAL PROTECTION

1988 Act on Ecological Balance and Environmental Protection

The above Act, which was published in the Official Gazette of 28th January 1988, also applies to nuclear activities.

It is provided that the Ministry of Energy, Mines and Industry together with the National Nuclear Safety Commission and, where relevant, the Health Ministry, must ensure that all such activities are carried out in accordance with the nuclear safety and radiation protection regulations in force, so as to avoid any risk to human health and preserve the ecological balance

Nuclear activities referred to in the Act include exploration for and mining of radioactive ores, nuclear fuel supply, all uses of nuclear energy and the nuclear industry in general

The Ministry for Urban Development and Ecology is generally responsible for supervising the application of this Act and, in particular, for carrying out environmental impact assessments.

• *Sweden*

RADIATION PROTECTION

1988 Radiation Protection Act and Ordinance

The Radiation Protection Act (SFS 1988:220) and Ordinance (SFS 1988:293) were published on 25th May and 2nd June 1988 respectively. Both entered into force on 1st July 1988 and were reported in Nuclear Law Bulletin N° 41.

Translations of the Act and Ordinance are reproduced in the Supplement to this issue of the Bulletin.

THIRD PARTY LIABILITY

1988 Act to amend the 1968 Nuclear Liability Act

The Nuclear Liability Act of 8th March 1968 (1968 45) (the text of the Act is reproduced in the Supplement to Nuclear Law Bulletin N° 33) was again amended by an Act of 9th June 1988 (SFS 1988 875) This Act, which was published on 12th July 1988, provides that the nuclear operator's liability shall be raised from 500 million to 800 million Swedish Kronor It should be noted that, as regards unirradiated uranium, the lower amount of liability (100 million Kronor per incident) remains unchanged

The Act enters into force on 1st January 1989

• Switzerland

RADIATION PROTECTION

1988 Bill on radiation protection

It has been many years now since it appeared necessary to undertake a total revision of the Federal Act of 23rd December 1959 on the Peaceful Uses of Atomic Energy and Protection against Radiations (see Nuclear Law Bulletin N° 16). Based on reactions to a first Bill, the Federal Council (the Government) decided in 1982 to ask the Ministries concerned to draft two separate Bills, on the use of nuclear energy and radiation protection respectively (see Nuclear Law Bulletin N° 37)

As energy policy and, in particular, the use of nuclear energy is being debated in Switzerland at present, it was decided to propose to Parliament without delay a Bill on radiation protection, the Bill on the use of nuclear energy will be submitted at a later date.

The proposed Bill on radiation protection is based on Article 24 quinquies, sub-section 2 of the Constitution At present, radiation protection is governed by two sections of the 1959 Atomic Energy Act and by numerous provisions enacted by ordinances (in particular the Radiation Protection Ordinance of 30th June 1976 - See Nuclear Law Bulletin Nos 18 and 33 as well as below) The Bill on radiation protection covers all the field and also applies to the use of nuclear energy but does not cover activities subject to licensing under the Atomic Energy Act

The purpose of the Bill is to protect man and his environment against the hazards caused by ionizing radiation The principles on which it is based are that exposure to radiation must be justified, restricted to as low as reasonably achievable, with prescribed limits for certain persons

The first part of the Bill contains provisions on protection of exposed persons and the population as well as on radioactive waste The latter provisions concern principles applicable to all radioactive waste, including that arising from the use of nuclear energy The second part deals with the system of licensing and surveillance while the third covers third party liability and insurance, legal protection, fees and sanctions

As regards damage from radiation outside the scope of the Federal Act of 18th March 1983 on Nuclear Third Party Liability (the text of the Act is reproduced in the Supplement to Nuclear Law Bulletin N° 32), the time-limits for bringing actions are those under the "Code des obligations" one-year prescriptive period (prescription relative) and ten years absolute ban (prescription absolue), extended by the Bill to three and thirty years respectively as they were considered too short for the radiation protection field

1988 Amendment of the 1976 Radiation Protection Ordinance

On 26th September 1988, the Federal Council amended the above Ordinance of 30th June 1976 (see Nuclear Law Bulletin Nos 18 and 33) The amendment entered into force on 1st November 1988

The major point of this amendment is the new division of responsibilities for delivering licences for the use of radioactive substances and ionizing radiation. Until now, only the Federal Office of Public Health was competent for issuing such licences, henceforth, the Federal Energy Office may do so in three cases

- for activities performed in nuclear installations and the Paul-Scherrer Institute (for the latter, see Nuclear Law Bulletin N° 41), barring application of ionizing radiation or radioactive substances to mankind, as the Principal Nuclear Safety Division of the Federal Energy Office is already responsible for the surveillance of nuclear installations and the Paul-Scherrer Institute, it was decided that the Federal Energy Office should also deliver the relevant licences,

- for import and export of radioactive waste from such installations (until now, the Federal Office of Public Health was competent for certain types of waste),

- for tests with radioactive substances in the framework of measures with a view to establishing a radioactive waste storage facility (Federal Order of 6th October 1978 concerning the Atomic Energy Act, Section 10(2), the text of the Order is reproduced in Nuclear Law Bulletin N° 23 - see also Nuclear Law Bulletin N° 31). Since these measures are the responsibility of the Federal Department of

Transport, Communications and Energy and its Federal Energy Office, it was decided that the latter should also be competent for licensing such tests

• United Kingdom

RADIATION PROTECTION

Amendment to the Food Protection (Emergency Prohibitions) Order (1988)

On 1st August 1988, the Food Protection (Emergency Prohibitions) Amendment N° 2 Order 1988 came into force This Order updates the Food Protection (Emergency Prohibitions) Order 1988 (see Nuclear Law Bulletin N° 41) by revising the prohibitions concerning the movement and slaugter of certain sheep.

Guidance Notes for the Protection of Persons against Ionizing Radiations arising from Medical and Dental Use (1988)

This publication by the National Radiological Protection Board replaces the Code of Practice for the Protection of Persons against Ionizing Radiations arising from Medical and Dental Use 1957 (last revised in 1972 - see Nuclear Law Bulletin No. 10) It provides guidance on good radiation protection practice consistent with United Kingdom regulatory requirements It takes into account the latest recommendations of the International Commission on Radiological Protection and the relevant Directives of the Council of the European Communities

The guidance notes are intended for those who use ionizing radiation in medical and dental practice and in allied research involving human subjects They aim to protect such persons, patients, volunteers in research projects and members of the public The guidance notes cover irradiation for diagnostic, therapeutic and research purposes and ancillary activities such as the maintenance, testing and calibration of equipment and the storage and disposal of radioactive substances.

REGIME OF NUCLEAR INSTALLATIONS

Air Navigation (Restriction of Flying) (Nuclear Installations) Regulations (1988)

On 25th August 1988 the Air Navigation (Restriction of Flying) (Nuclear Installations) Regulations 1988 (SI 1988/1138 made pursuant to the Air Navigation Order 1985 (SI 1985/1643) came into force. The Regulations prohibit, subject to specified exceptions, aircraft from flying below prescribed heights over nuclear installations. They replace the Air Navigation (Restriction of Flying) (Atomic Energy Establishments) Regulations 1983 (SI 1983/640)

• United States

REGIME OF NUCLEAR INSTALLATIONS

Amendment to Rule governing the backfitting of nuclear power plants (1988)

The Nuclear Regulatory Commission (NRC) has revised, with effect from 6th July 1988, 10 CFR Part 50 in so far as it governs the backfitting of nuclear power plants for nuclear safety purposes This revision was made in the light of the decision of the United States Court of Appeals for the District of Columbia in Union of Concerned Scientists v NRC which had annulled the NRC backfitting rule (see Nuclear Law Bulletin N° 40) It is intended to clarify when economic costs may be considered in backfitting nuclear power plants in accordance with that decision

THIRD PARTY LIABILITY

Summary of the major provisions of the Price-Anderson Amendments Act of 1988

Overview

On 20th August 1988, President Reagan signed into law the Price-Anderson Amendments Act of 1988 (Public Law N° 100-408) The following paragraphs provide an insight into the salient provisions of the Act In addition, the "Articles" Chapter of this issue of the Bulletin contains an analysis of this new legislation.

The text of the Price-Anderson Act as amended is reproduced in the Supplement

The Price-Anderson Act, first enacted in 1957 as an amendment to the Atomic Energy Act of 1954, as amended, provides a system of financial protection for persons who may be injured by, and persons who may be liable for, a nuclear accident. The Price-Anderson Amendments Act of 1988 (PAAA) renews, until 1st August 2002, the authority of the Nuclear Regulatory Commission (NRC) to indemnify its licensees operating large nuclear power plants and the Department of Energy (DOE) to indemnify its contractors engaging in nuclear activities, for public liability arising from a nuclear incident

Definitions

The new Act incorporates the terms "high-level radioactive waste" and "spent nuclear fuel" into the definitions section with the meanings given these terms by the Nuclear Waste Policy Act of 1982 The Act also adds new definitions for the following terms "transuranic waste," "nuclear waste activities," "precautionary evacuation," "public liability action," and "legal costs."

Limitation of Liability

The PAAA raises the statutory limitation of liability for a nuclear incident to approximately $7 billion (Under prior law, the limitation was $720 million for NRC licensees and $500 million for DOE contractors) For NRC-licensed nuclear power plants, the funds would come from a primary layer of commercial insurance of $160 million and from a retrospective premium system whereby the operator of each nuclear reactor would be obligated to pay up to $63 million per nuclear reactor, but no more than $10 million in any one year To assure prompt payment of claims, the PAAA would give NRC borrowing authority against future receipts of retrospective premiums In addition, the retrospective premiums would be subject to inflation adjustments

For DOE contractors, payment would be made from Government funds For accidents resulting from activities conducted under the Nuclear Waste Policy Act of 1982 - NWPA (see Nuclear Law Bulletin Nos. 26, 31 and 35), the funds would come from the Nuclear Waste Fund

In all cases, if the aggregate liability of persons indemnified were to exceed the statutory limit of approximately $7 billion, the Congress would thoroughly review the particular incident and take whatever action is determined necessary to provide full and prompt compensation to the public The President would be required to submit a compensation plan to Congress not later than ninety days after a determination by a court that the liability limit may be exceeded This plan must "provide for full and prompt compensation for all valid claims"

Presidential commission on catastrophic nuclear accidents

The PAAA requires that the President establish, within ninety days of enactment, a commission to study appropriate means of fully compensating victims of a catastrophic nuclear accident that exceeds the limitation on liability.

Precautionary evacuations

The PAAA provides indemnity coverage for all reasonable additional costs incurred by a State or local government in the course of responding to a nuclear incident or a precautionary evacuation The definition of nuclear incident remains unchanged, meaning essentially any event resulting in injury or damage caused by the hazardous properties of source, special nuclear, or by-product material Coverage of a precautionary evacuation is new under the PAAA, and applies to an evacuation resulting from an event that is not a nuclear incident but poses an imminent danger of injury or damage from radiological properties of source, special nuclear, or by product material, or high-level radioactive waste or spent nuclear fuel as defined in the Nuclear Waste Policy Act, or transuranic waste (10 nanocuries per gram of transuranic contamination or as NRC prescribes), and is initiated by an authorized State or local official to protect the public health and safety.

Waiver of defences

In the event DOE or NRC, as appropriate, determines that a nuclear incident is an extraordinary nuclear occurrence (ENO) (a substantial off-site dispersal of radioactive material causing substantial damage or injury), the person indemnified must waive certain defences normally available under tort law any defence based on (1) conduct of the claimant or fault of the person indemnified, (2) charitable or governmental immunity, or (3) a statute of limitations if suit is brought within three years of discovering the injury The PAAA broadens the scope of this provision so that it applies to <u>any</u> ENO, including an ENO at a waste facility The PAAA also amends the statute of limitations provision by deleting the requirement that a suit be brought within twenty years of the incident

Punitive damages

No court may award punitive damages under the PAAA against a person, such as a DOE contractor, on behalf of whom the Government is obligated to make indemnity payments

Judicial review of claims

The PAAA provides that all claims for a nuclear incident shall be filed in a U S District Court (Under prior law, the Price-Anderson Act had provided for Federal jurisdiction only for an ENO, so that claims for a nuclear incident could be filed in several different State courts) This provision was made retroactive so that claims arising out of the Three Mile Island Unit 2 nuclear plant accident could be consolidated in one Federal district court

PAAA also authorizes the chief judge of the district court to appoint a special caseload management panel if the court determines that the limitation on liability is likely to be exceeded or the cases will have an unusual impact on the court's work These provisions build on and improve the streamlined legal procedures established by Price-Anderson

Legal costs

The PAAA establishes a new means for paying legal costs incurred under the Price-Anderson system. First, the court may authorize payment of legal costs only if such costs are demonstrated to be reasonable and equitable, and if the requestor has litigated in good faith, avoided unnecessary duplication, frivolous claims, and unreasonable delay. Furthermore, the PAAA clarifies that the limitation on liability includes authorized legal costs and the indemnity provided by DOE includes payment of authorized legal costs approved by the Secretary For NRC licensees, if the limitation on liability is exceeded, the licenses must pay up to an additional 5 per cent of the retrospective premium ($63 million) to cover legal costs.

International aspects

The PAAA does not change the territorial scope of Price-Anderson coverage. The PAAA coverage applies to incidents occurring within the United States, causing damage or injury within or outside the United States It only covers incidents outside the United States resulting from DOE contractor activities if the incident involves source, special nuclear or by-product material owned by and used by or under contract with the United States In such cases indemnity and liability are both limited to $100 million and the indemnity applies only to persons acting under a DOE contract or a sub-contract, purchase order or other tier under the DOE contract

Mandatory coverage of DOE nuclear contractors

DOE authority to provide Price-Anderson coverage is made mandatory by the PAAA for any contractor conducting activities for DOE that involve the risk of liability for a nuclear incident, without regard to how substantial that risk may be Therefore, DOE will be required to extend coverage for many activities not currently covered. The Price-Anderson indemnity shall be the exclusive means of indemnification for all such activities

Civil and criminal penalties for DOE

The PAAA would subject DOE contractors and their sub-contractors and suppliers to civil and criminal penalties for violation of applicable nuclear safety rules The Secretary could compromise, modify, or remit these civil penalties Certain current contractors operating specified facilities would be exempt from the civil penalty provision and the Secretary would be required to determine by rule whether non-profit educational institutions should receive automatic remission of civil penalties

Radiopharmaceutical licensees

NRC would be required to conduct a negotiated rulemaking to determine whether to indemnify radiopharmacies under existing authority

• Yugoslavia

REGIME OF NUCLEAR INSTALLATIONS

1988 Regulation on the licensing of nuclear installations

The above Regulation was issued by the Federal Committee of Energy and Industry on 11th May 1988 (published in the Federal Official Gazette N° 52 of 28th August 1988) It fixes the conditions governing the siting, construction, trial operation, commissioning and operation of nuclear installations and was made pursuant to Sections 28, 29, 33, 43 and 66 of the 1984 Act on Radiation Protection and Safe Use of Nuclear Energy (see Nuclear Law Bulletin Nos 35 and 36). The 1988 Regulation replaces the 1979 Regulation on the same subject (see Nuclear Law Bulletin N° 32)

This Regulation is based on international regulations in force and, in particular, on those of the IAEA relating to nuclear safety (NUSS Codes, IAEA Safety Series N° 50). These standards were adapted to take into account the national legal system

Sections 3 and 4 of the Regulation define the objectives to be attained in the nuclear safety field, to this effect, radiation protection regulations must be complied with during normal operating conditions In case of a nuclear incident, the radiological risk for an individual outside the nuclear installation site must be below 10 microsievert per year; however, this limit does not take into account a design basis incident whose probability of occurrence is below 10^{-7} per year It is further recommended that the radiological risk be kept as low as reasonably achievable, account being taken of economic and social factors (ALARA principle)

Another new facet of the 1988 Regulation is the importance given to the quality assurance of equipment for nuclear installations, also based on the IAEA relevant Code of Practice

As mentioned, the Regulation lays down the conditions to be complied with and the file to be submitted regarding the siting and construction of nuclear installations. Also, the Regulation lists the documentation to be provided at the trial operation stage to ensure that the safety conditions are met; it furthermore contains provisions on physical protection of nuclear installations and materials as well as on decommissioning of such installations

CASE LAW AND ADMINISTRATIVE DECISIONS

• European Communities

1988 DECISION OF THE EUROPEAN COMMUNITIES COURT OF JUSTICE CONCERNING THE CATTENOM NUCLEAR POWER PLANT

On 22nd September 1988, the European Communities' Court of Justice handed down its judgment on a question concerning the "Cattenom" power plant The matter had been referred to the Court, under Article 150 of the EURATOM Treaty, by the Administrative Tribunal of Strasbourg which had before it an action by the Land of Sarre, a number of German municipal authorities, some French and Luxembourgian environmental protection associations and some individuals seeking the annulment of French ministerial Orders made on 21st February 1986 authorising the disposal of radioactive effluents from the Cattenom nuclear power plant (see Nuclear Law Bulletin No 38)

The matter before the Court of Justice concerned the interpretation of Article 37 of the Euratom Treaty. In particular, the Court was called upon to determine whether the obligation to provide the Commission of the European Communities with general data on all planned discharges of effluents had to be satisfied by the responsible Member State before the disposal was carried out (the interpretation proposed by France) or before the disposal was authorised (the interpretation proposed by plaintiffs in the action before the Administrative Tribunal of Strasbourg) The Commission of the European Communities, for its part, had supported an interpretation very similar to the latter It reasoned that, for the opinion which it is required to give under Article 37 to serve any useful purpose, the data must be referred by the relevant Member State to the Commission in sufficient time to enable its opinion to be taken into account before the implementation of the project and in all cases, at least six months before its implementation

The Court, broadly following the opinion of its Advocate General, Sir Gordon Slynn, held, applying the doctrine of "effet utile", that Article 37 had to be interpreted in such a way that the opinion of the Commission could be thoroughly examined by the Member State concerned so as to be taken into consideration by that State, "even if it is not legally bound to comply with it"

Following this judgment, on 21st October 1988, the French Government made Orders on the one hand, to withdraw the authorisations granted by the contested Orders of 21st February 1986 and, on the other, to grant new authorisations for the disposal of radioactive liquid and gaseous wastes by the Cattenom power plant (JORF of 25th October 1988)

The opinion of the Advocate General, delivered on 8th June 1988, is set out below

Opinion of the Advocate General in Case 187/87 Land de Sarre and Others v Minister for Industry, Posts and Telecommunications and Others

This reference under Article 150 of the Treaty establishing the European Atomic Energy Community raises an important question as to the interpretation of Article 37 of the Treaty * The question has arisen in proceedings brought to challenge the legality of certain decrees made, and authorisations given, by the French Government in respect of a nuclear power station to be operated by Electricite de France (EDF) at Cattenom - one of the largest in Western Europe and situated near to the Moselle in northern France, a short distance from the Luxembourg and the German frontiers. The applicants in those proceedings are the Land de Sarre, communes, municipal authorities, associations and individuals in the region, the Governments of Luxembourg, Portugal and Ireland have intervened to support the case of the applicants on this reference

To design, obtain approval for and construct a nuclear power station of this size - ultimately four blocks each consisting of a pressurised water reactor with a rated power generation of 1300 megawatts - takes a long time The construction is of concern not only to national authorities of the State where the station is to be built, but, where the station is close to national frontiers, to neighbouring States and to the Community as a whole, the Treaty both empowers the Community to lay down basic standards for the protection of workers and the general public (Article 30) and requires that the Commission shall be consulted or notified in respect of specific matters.

In the present case, after a preliminary feasibility study and the lodging of plans with the French authorities, the building of Cattenom was declared to be a work of public utility by French decree dated 11th October 1978 On 29th November 1978 the Commission was supplied, in accordance with Article 41 of the Treaty, with information relating to the investment project for Cattenom In reply, in its statement of position dated 6th September 1979, the Commission regretted the absence of important information relating to safety aspects and expressed the hope that the project would be developed in close collaboration with the neighbouring Member States Between 1979 and

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* Article 37 of the Euratom Treaty provides as follows: "Each Member State shall submit to the Commission such general data concerning any plan for the disposal of any kind of radioactive waste as will enable the Commission to determine whether the implementation of such a plan is likely to involve radioactive contamination of the water, soil or airspace of another Member State.

The Commission, after consulting the group of experts referred to in Article 31, shall give its opinion thereon within a period of six months". (Note by the Secretariat)

1982, building permits were granted by the French authorities for the various blocks and by decrees of 24th June 1982 and 29th February 1984, the "creation" of the four blocks was authorised by the French authorities

The generation of nuclear energy, which in turn produces electricity to be supplied to the national grid, is accompanied by the emission of radioactive waste in gaseous, liquid and solid form once the nuclear chain reaction commences. The disposal of this radioactive effluent is, for the safety of neighbouring communities, a vital aspect of the operation of the plant

On 31st July 1984, EDF asked the French authorities for authorisation to dispose of liquid and gaseous radioactive effluent from each of the four blocks On 21st February 1986, two Orders were issued by the responsible Ministers authorising the disposal respectively of gaseous and liquid waste Annual radiation limits were prescribed· 60 curies in total, (i e 15 curies per block) for all radioelements in liquid waste other than tritium, 4 kilocuries for tritium, and 90 kilocuries for gases generally from the four blocks, with 3 curies for gaseous halogens and aerosols The orders laid down detailed conditions governing the treatment and discharge of such waste, provided for the monitoring of the level of radiation in the surrounding environment and required there to be a round-the-clock watch to check for any departure from normal operating procedures which might lead to an increase in radioactive emissions and further required that in such a case appropriate measures should be taken (JORF 11th March 1986, pp. 3724 and 3726)

On 28th April 1986 proceedings were brought in the Administrative Court at Strasbourg challenging the validity of those Orders, both under national law and on the basis that Article 37 of the Treaty had not been complied with

On the next day, the French Government sent to the Commission "general data" about radioactive waste disposal from Cattenom "in accordance with" Article 37 of the Treaty. By letters of 11th July and 14th August 1986, the responsible Ministry authorised the loading of fuel and the holding of precritical cold and hot tests (i e. those held before and after the various circuits are under pressure)

On 22nd October 1986 (within the six-month period provided for in Article 37 of the Euratom Treaty), the Commission issued its Opinion [C(86)1954 final]. In general terms, that Opinion was favourable, but in it the Commission made two specific recommendations - firstly that the responsible authorities in the neighbouring Member States be linked in to the automatic alarm system and be given access to control data automatically and on a permanent basis, and secondly that a re-examination be made of existing procedure, in particular as to the time recommended between the giving of the opinion and the power station's entry into service The following day, on 23rd October 1986, the responsible Ministry wrote to the Director General of EDF authorising nuclear power generation to start in the first block of Cattenom, together with progressive testing up to 90% of nominal kilowattage On 25th October 1986, the first nuclear chain reaction began in Block 1 of Cattenom.

By judgment dated 11th June 1987, the Administrative Court declared void the orders in question, on national law grounds, in so far as they related to Blocks 3 and 4 of the power station, and stayed the proceedings in respect of the remaining claims (in respect of Blocks 1 and 2)

> "until the Court of Justice of the European Communities has given a preliminary ruling on the question whether Article 37 of the Treaty of 25th March 1957 establishing the European Atomic Energy Community requires the Commission of the European Communities to be notified before the disposal of radioactive effluent by nuclear power stations is authorized by the competent authorities of the Member States, where a procedure for prior authorization is set in motion, or before such disposal is effected by nuclear power stations "

Article 37 comes in Chapter III of the Treaty, headed "Health and Safety", adopted to give effect to the fourth recital thereto that the Member States (whilst resolved to create the conditions necessary for the development of a powerful nuclear industry) were "anxious to create the conditions of safety necessary to eliminate hazards to the life and health of the public" Thus Member States were, by Article 33, required to ensure compliance with the basic standards laid down by the Commission under Articles 30 to 32. Council Directive 80/836/Euratom of 15th July 1980 (OJ 1980 L 246, p 1) (made under Articles 31 and 32 of the Euratom Treaty) amends earlier Directives laying down the basic safety standards for the health protection of the general public and workers against the dangers of ionizing radiation

By Article 34, Member States are required to obtain the opinion of the Commission as to additional health and safety measures to be taken where particularly dangerous experiments are to take place where the effects of such experiments are likely to affect the territories of other Member States, not only the opinion but the assent of the Commission must be obtained By Articles 35 and 36, Member States are required to establish the facilities necessary to carry out continuous monitoring of the level of radioactivity in the air, water and soil and to ensure compliance with the basic standards, to keep the Commission informed and to give the Commission access to such facilities to verify their operation and efficiency

Article 38 requires the Commission to make recommendations to Member States with regard to the level of radioactivity in the air, water and soil and empowers the Commission in case of urgency to issue a directive requiring the Member State to take, within a period laid down by the Commission, "all necessary measures to prevent infringements of the basic standards and to comply with regulations". If a Member State fails to comply the Commission or any Member State may "forthwith" bring the matter before this Court

It is plain that the effects of building a nuclear power station cannot be seen simply in the context of one Member State or one national territory. Where a power station is built near to a frontier, the interests of neighbouring States are as great as those of the State in which the power station is built

The Commission has had this in mind As long ago as 1976, the Commission presented to the Council a proposal for a Council regulation concerning the introduction of a Community consultation procedure in respect of power stations likely to affect the territory of another Member State (OJ 1977 C 31, p.3) That draft regulation, based on Article 235 of the EEC Treaty and Article 203 of the Euratom Treaty, refers (sixth recital) to Community-wide consultation existing "only in respect of plans for the discharge of radioactive effluents likely to cause radioactive contamination of the water, soil or air space of another Member State" and, inter alia, would require a Member State, where the consultation procedure has been invoked, to provide data enabling an assessment to be made of the likely environmental effects and potential risks "at the latest when the competent national authorities receive a request for permission to build or extend a power station" [Article 3(2)] So far, however, the Council has not adopted the draft regulation

More recently, Council Directive 85/337/EEC of 27th June 1985 (OJ 1985 L 175, p 40), which comes into full effect on 3rd July 1988, provides for a detailed assessment of the environmental effects of certain projects For nuclear power stations this assessment is obligatory for Member States

The Commission has specifically taken two steps in respect of Article 37 of the Euratom Treaty Commission Recommendation of 16th November 1960 (OJ of 21st December 1960, p 1893/60) ("the 1960 Recommendation"), which defined the concept of radioactive effluents (paragraph 1) and the activities likely to lead to their generation (paragraph 3), set out the nature of the general data to be communicated to the Commission (Annex I) and recommended that plans for the disposal of radioactive waste be communicated to the Commission at least six months before the planned date for the execution of the waste disposal (paragraph 6).

Whether that period was sufficient was considered doubtful and on 20th November 1980, The European Parliament adopted a resolution relating to the construction of nuclear power plants in frontier zones (OJ 1980 C 327, p 34) It called on the Commission to urge Member States to comply fully with Articles 37 and 41 of the Euratom Treaty and to operate within time scales sufficiently great to make the procedure there provided for an effective one It stressed the pre-eminent role of the Commission in ensuring the correct application of those Treaty articles

Subsequently, Commission Recommendation 82/181/Euratom of 3rd February 1982 (OJ 1982 L 83, p 15) ("the 1982 Recommendation") replaced the 1960 Recommendation with more detailed listings Recital 5 to that Recommendation observes that,

> "plans for the disposal of radioactive wastes from nuclear reactors and nuclear fuel reprocessing plants necessitate particular attention in the context of Article 37 prior to construction beginning "

Paragraph 3 recommends that, "for plans involving category 1 and category 2 operations" (which include Cattenom), "the relevant parts of the 'general data' be submitted to the Commission whenever possible one year

but not less than six months before the planned date of commencement of disposal of radioactive waste" (underlining added)

Paragraph 7 recommends that,

"the Commission be notified, before authorisation is granted, of any modification of a plan for disposal of radioactive waste, which has already been submitted for its opinion, if such modification could cause any appreciable increase in the effect of such disposal on the exposure of the population "

Against this background I turn to the precise question asked - does Article 37 require the Commission to be notified (a) before disposal of radioactive effluent is authorised where a procedure for prior authorisation is set in motion or (b) before such disposal is effected, i e begins?

The question thus turns on whether there has to be notification (rather than whether the Commission's opinion has to be received) before the authorisation or the commencement of disposal That formulation by the national court is justified by the wording of Article 37 which itself has no express provision that the opinion must be received before anything further is done (whether authorisation or the commencement of disposal).

At the very least it seems to me, however, despite its wording, that the intendment of the Article must be that the opinion is to be received, after consultation of the experts, before the waste disposal begins. If it is not so interpreted the whole process could be nugatory and disposal could begin immediately the data has been supplied

Beyond that it seems to me that the express wording of the Article is neutral between the two positions contended for - notification prior to authorisation and prior to actual disposal. There is no express indication either way and there are arguments in each direction

Thus it is said, on the one hand, that if the opinion was meant to be received before authorisation, the Article could have said so easily That seems to me to be an argument of little or no weight It could equally well have specified "before disposal began" if that was intended

Then it is said that in both the 1960 and the 1982 Recommendations, the Commission recommended that plans be communicated a period before "the planned date for the execution of the waste disposal" (1960) or "the planned date of commencement of disposal of radioactive waste" (1982) There is no reference, in paragraph 3, to the data being given before the authorisation of the plan On the other hand, in paragraph 4, for plans involving category 1 operations the preliminary "general data" listed in Annex 2 have to be submitted to the Commission before permission for construction is granted by the competent authorities Therefore, the argument runs, the first disposal of the waste must be the key date

There is more force in this textual argument than in the first argument though it is to be noted that, under paragraph 7 of the 1982 Recommendation, modifications to a plan which could cause any appreciable increase in the effect of such disposal on the exposure of the population must be notified

before authorisation Despite the emphasis there on the greater risk, it seems to me curious, since an original unmodified plan may have equal risk, that the Recommendation did not specify a period prior to authorisation in both cases It is curious that is, unless the underlying intention was that the "disposal" referred to in paragraph 3 should have been a disposal which took account of the Commission's opinion. Moreover, it does not seem to me that it can possibly be said that the preliminary general data referred to in *paragraph 4, which have to be submitted before authorisation, are sufficient* to allow the Commission an adequate overview of plans for the discharge of effluent so that future notification is not necessary before authorisation Annex 2 makes it clear that the data are both very preliminary and very general The existence of this provision does not seem to me to affect the question in this reference

The Commission apparently adopted the period of six months as the minimum period of notice because of the provision in Article 37 that it should have six months to deliver its opinion In other words the recommendation was that disposal should not begin until the opinion was given That seems to me to be running together two different periods which relate to different purposes - i e the giving of the Commission's opinion on the one hand and the consideration of the opinion, coupled with putting into effect any modifications proposed in the interests inter alia of neighbouring States and the Community as a whole, on the other

In any event, despite the weight of the Commission's view as to how the Treaty should be applied, it does not seem to me that the statements in the Recommendations can govern the proper interpretation of the Article

Reliance is then placed on Article 38 to justify the narrower interpretation of Article 37 (that it is sufficient to give the data before disposal begins) I accept the argument that, if the Commission knows that disposal measures have been or are about to be put into effect which infringe the basic standards or the relevant regulations, it may issue a directive under Article 38 and, if necessary, apply to this Court Such a situation could constitute "a case of urgency" within the meaning of Article 38 That, however, is not in my view a conclusive answer against the more extensive interpretation of Article 37 The purpose of Article 37 is to seek to avoid situations of urgency arising with possibly great risk to neighbouring communities The Commission with its overview of Community developments, aided by the view of the group of experts, is in a position to give guidance so as to prevent situations of urgency, as distinct from dealing with them as they arise under Article 38.

On the other side much emphasis is laid on the words "any plan" in Article 37. It is said that a "plan" is in effect no more than a proposal, and that a proposal once authorised ceases to be a "plan" if definitive measures for its implementation have been taken, it is no longer a plan For my part, I am not persuaded by this argument. I am not satisfied that as a matter of ordinary language a plan once approved ceases to be a plan. To turn to the language of planning authorities a "town plan" even when adopted is still properly described as a plan.

At the end of the day it seems to me that, in the absence of clear express guidance, one must ask what is the fundamental object and purpose of the procedure prescribed in Article 37 The answer in my view clearly is that it is to give the Commission, after consulting its experts, and in the light of its experience in the Community and its knowledge of the building of nuclear power stations, actual or projected, a real opportunity to comment on the plans submitted to it and to make proposals primarily with the health and safety of people who may be affected by the disposal of radioactive effluent, but also with the effect on the environment, in mind

That answer is not to be qualified by the fact that the Commission can only issue an opinion, which under Article 161 of the Treaty is said not to have binding force or that in Article 34 by contrast the Commission's assent rather than its opinion is required where the effects of particularly dangerous experiments are likely to affect the territories of other Member States It seems to me inconceivable in a matter with such potentially serious consequences that a Member State would not give the fullest and most careful consideration to the Commission's opinion even if in the end it decided not wholly to comply with it In my view it has a duty to do so Indeed counsel for France, as I understood him, whilst reserving a right to depart from the opinion, accepted, as one would have expected, that either pursuant to Article 192 of the Euratom Treaty or under its general obligations as a Member of the Community, France would comply with its obligations and would give full consideration to the opinion of the Commission before continuing

In my opinion the interpretation, which achieves that object and purpose of Article 37 in the most useful and satisfactory way, is that which requires the Commission's opinion to be obtained and considered before the plan for disposal of radioactive effluent is finally authorised Counsel for France stressed that in this sort of area neither the Commission nor the Member States are infallible - the more necessary and useful is it, in my view, for the Commission's opinion to be considered before authorisation, since, after authorisation, (a) there may well be a possibility of those who gave the authorisation taking entrenched positions and (b) those to whom the authorisation is given may have acquired rights at law, and others may have, by reason of the intervening time period, lost any right to challenge the authorisation In an area of such potential risk this should be avoided: the opinion should be seen and considered before the final legislative or administrative measure concerning the disposal of radioactive effluent is adopted

There is, it seems to me, force in the argument that the authorisation should come after the opinion has been given, the authorisation being the last act which can be challenged in a national court For the authorisation to come after the opinion is likely also to give the Commission a more realistic period in which to consider measures under Article 38 and, if necessary, to apply to this Court

I am not persuaded by the argument that if the general data have to be notified before authorisation they may be so general as to be of limited value The disposal of waste is an essential part of the planning of a nuclear power station and data relating to the disposal of such waste seem likely to be available in adequate time for the procedures contemplated fully

to be carried out - not least when regard is had to the time scale in this case, and the Commission's evidence that from first plan to the first nuclear chain reaction a period of eight years is not unusual

Nor do I accept that because in some Member States different authorisation procedures may be adopted in relation to the disposal of radioactive waste the result is discriminatory Whatever form the authorisation takes - whether as part of the general authorisation to set up a nuclear power station or, as here, as a separate matter (and a requirement of authorisation in some form seems virtually inevitable) - the Commission's opinion must be obtained and considered before final authorisation is given

In considering these questions, I have left out of account the particular facts of this case The construction of Article 37 cannot be affected by the consideration that in this case the Commission's opinion was largely favourable It is, however, to be noted, post hoc,

(1) that the practice of Member States in the absence of a clear ruling has been varied - out of twenty notifications to the Commission under Article 37, six were made less than six months before the power station was linked to the national electricity grid, nine were notified between six months and a year before entry into service and five more than a year in advance,

(2) that in this case no real explanation has been given as to why notice was not possible within twelve months rather than six months of the commencement of disposal,

(3) that, although the final building permit was given on 31st March 1982, i e. after the 1982 Recommendation had come into effect, France does not appear to have notified preliminary 'general data' to the Commission, in accordance with paragraph 4 of the Recommendation, before granting that final building permit,

(4) that there has been divergence between what were considered to be acceptable levels of discharge of liquid radioactive waste from Cattenom: the order authorising discharge specified 15 curies per block for all radioactive elements other than tritium, the Convention between France and Luxembourg of 12th March 1986 specified not more than 3 curies per block and in the Decision of the Commission of the Moselle of 27th March 1986, France undertook not to exceed this level, the group of experts, in their report, considered that the higher limits were acceptable but "noted with satisfaction" the lower limit adopted in the Convention and in the Decision of the Commission of the Moselle· yet the Order authorising the discharge was not amended

These factors seem to me to indicate the need for a clear and firm rule to be followed under Article 37.

The principles of "effet utile" (accepted in Community law - e.g Case 9/70 Grad v Finanzamt Traunstein [(1970)] ECR 825 at p 837, para 5, Case 22/70 Commission v. Council [(1971)] ECR 263 at pp. 274-5 (paras 15 and 28), p 280 (para. 72) and p. 281 (para. 77), Case 804/79 Commission v United Kingdom [(1981)] ECR 1045 at p. 1074, para 23) and of Community

solidarity (e g Joined Cases 6 and 11/69 Commission v. France [(1969)] ECR 523 at p 540, para 16 and Case 39/72 Commission v Italy [(1973)] ECR 101 at p 116, para 25) seem to me to require in the interests of health and safety, efficiently and the protection of the environment, whilst not unduly encroaching on national procedures, that the question referred be answered on the lines that.

> "Article 37 of the Treaty of 25th March 1957 establishing the European Atomic Energy Community requires that the Commission be notified and its opinion be given and considered before the competent authorities of the Member States authorise the disposal of radioactive effluent by a nuclear installation "

The costs of the parties to the main proceedings are a matter for the national court The costs of the Commission and of the Irish, Luxembourg and Portuguese Governments, which have submitted observations in these proceedings, are not recoverable

INTERNATIONAL ORGANISATIONS AND AGREEMENTS

INTERNATIONAL ORGANISATIONS

• *International Atomic Energy Agency*

INTERNATIONAL LIABILITY FOR NUCLEAR INCIDENTS

In June 1987, the Board of Governors had discussed a paper by the Secretariat proposing the establishment of an open-ended working group to study the question of international liability for damage arising from a nuclear accident; this paper was then circulated for comment by the Member States (see Nuclear Law Bulletin No. 41)

At its meeting in June 1988, the Board again considered this question, in the light of comments by 31 Member States It was clear from the discussion that there was no consensus on the establishment of the proposed working group within the Agency, and given the divergent views expressed, the Board considered that the time was not ripe for setting up that group

However, at its thirty-second session in September 1988, the IAEA General Conference adopted a draft Resolution on liability for nuclear damage submitted by Argentina, Austria, Canada, Egypt, the German Democratic Republic, Hungary, Italy and Poland.

In this Resolution, the General Conference "requests the Board of Governors to continue, as a matter of priority, consideration of the question of liability for damage arising from a nuclear accident, taking into account the above-mentioned discussions and views and the relevant documents prepared by the Secretariat; further requests the Board of Governors to convene in 1989 an open-ended working group to study all aspects of liability for nuclear damage; and requests the Board of Governors to submit to the General Conference at its thirty-third regular session a report on the progress made in this regard".

This Resolution will be considered by the Board of Governors at its next meeting in February 1989

• European Communities

STATEMENT BY THE COMMISSION OF THE EUROPEAN COMMUNITIES ON THE EXCHANGE OF OBLIGATIONS ON SAFEGUARDING NUCLEAR MATERIALS

Reproduced below are extracts from a statement by Mr. Commissioner Mosar regarding the exchange of obligations (flag swaps) for safeguards of nuclear materials, to the European Parliament's Committee of Enquiry on the handling and transport of nuclear materials on 26th April 1988

«2. .. The exchange of obligations practised in connection with the supply and management of nuclear materials is a long-standing perfectly legal practice which no-one has ever sought to cover up On the contrary, it is a well-known method of ensuring optimum management of the nuclear fuel cycle on the international market Such operations are not exceptional, have been practised for almost 15 years and go beyond the community"s jurisdiction.

Naturally, they have become more frequent in recent years, as the nuclear fuel cycle industry has grown.

3 Now let us get to the crux of the matter What do we mean when we speak of "flag-swaps" or, more correctly, the exchange of obligations?

They are essentially a book-keeping device for interchanging the safeguards applicable to two equivalent consignments of nuclear material. Neither the ownership nor the origin of the consignments is affected. This operation is carried out case-by-case and only with the express prior approval of the Euratom Safeguards Directorate

It must be remembered that the general Euratom safeguards regime laid down in Chapter VII of the Treaty has given rise to specific safeguards regimes identified by codes or obligations for nuclear materials. These specific obligations arise from the commitments given in the international agreements concluded by the Community (with the USA, Canada and Australia) or in the contracts concluded by the Supply Agency

4 Before explaining the reasons for "flag-swaps" and describing how the procedures work, I must, from the start, make clear the distinction between "exchanges of obligations" (flag-swaps) and "ownership swaps". Ownership swaps are an actual exchange of title over two consignments of nuclear material. They in no way affect the safeguards applicable to each consignment nor their physical location. Consequently, this type of swap, governed by Chapter VI of

the Euratom Treaty, raises no problems in connection with either Euratom safeguards or in relation to the international agreements concluded by the Community. It makes no difference which operator owns the materials provided the relevant rules, which apply to the physical holder of the materials, are observed

Ownership swaps therefore pose no problems from safeguards viewpoint

5 Having cleared up this point, let us return to the subject of "exchange of obligations". In some ways obligation exchanges are a logical scientific consequence of the fungibility of nuclear materials As to the operators in the nuclear sector, such swaps are justified on economic grounds, for example, in terms of savings on transport costs. There are also management and operational reasons for swaps as a means of placing the entire reactor charge under the same obligations. Finally, the "exchange of obligations" has definite advantages for the responsible public authorities concerned with physical protection, since they reduce the number of movements of nuclear materials

6. Each of these reasons needs to be examined in closer detail I am therefore going to expand this point a little by describing examples supporting each of the reasons I have just given

7. The swap principle can be accepted very simply on the basis of the fungibility of nuclear materials of the same nature, where the atoms are interchangeable. In this way, this physical reality can be taken as a simple reason for supporting the practice of exchanges or swaps Operations in the course of the fuel cycle inevitably entail the simultaneous treatment and physical mixture of materials governed by different safeguards regimes Afterwards, it is no longer possible to continue to distinguish physically between the materials, according to their initial safeguards regime. Consequently, no-one can reasonably dispute the application of the fungibility principle This implies that each of the initial legal safeguard regimes should continue to apply to a quantity of materials equivalent to the amount fed in for treatment

The important point from the safeguards angle is that at the end of the process the same safeguards obligation should continue to apply to a quantity and quality of nuclear material equivalent to the original materials

Consequently, I can see no reason to refuse to apply the same fungibility principle, as in cases of obligation exchanges, where the materials are not physically mixed

8 From the operational point of view, the complexity of the nuclear fuel cycle forces operators to resort to obligation exchanges There are many different possible scenarios but here are just two typical examples

First example. for obvious reasons, to simplify matters, any nuclear power station operator may well wish all the fuel elements fed into a reactor to be subject to the same safeguards regime. If this is impossible with the fuel he has, he could proceed to an obligation exchange with other material, whether inside or outside the Community, where it is subject to the requisite safeguards regime

Second example· a supplier providing fuel element conversion or fabrication services agrees to supply a customer, after processing, with materials

which are subject to specific safeguards If no materials covered by those safeguards are available immediately, he could well wish to exchange obligations to avoid delays in delivery of the end-product.

9 As to the economic reasons, such "exchanges" can provide an obvious alternative to physical transfers of materials while attaining the same practical results Consequently, the primary aim is to save on transport costs, which can be very high if, for example, the materials have to cross the Atlantic

10 Finally, "obligation exchanges" have advantages for the physical protection and safeguards authorities too Elimination of unnecessary movements of materials enhances their physical security It also reduces the accident risk and the chance of foul play or diversion of materials, where possibilities are higher when nuclear materials are transported

Finally, avoidance of movements of materials in this way makes it easier for the safeguards authorities to keep track of materials.

11 I think you must admit that these technical and economic arguments provide very solid reasons for "obligation exchanges". But is the practice accepted under international and, in particular, Community law? The answer is clearly yes

12 For example, all the agreements concluded between the Vienna-based International Atomic Energy Agency and countries which are not party to the Non-Proliferation Treaty explicitly allow the substitution of nuclear materials subject to IAEA safeguards by materials not subject to them.

In the Community, the Commission statement interpreting Regulation No 3227/76 concerning the application of the provisions on Euratom safeguards declared obligation exchanges to be in line with Community law, provided they were compatible with any international commitments made and, in particular, reduced neither the quantity nor quality of materials subject to the most restrictive utilisation commitments

13 If one turns, more particularly, to the international agreements concluded by the Community, a distinction must be drawn between intra-Community and international "exchanges" or "swaps" Intra-Community swaps involve only materials located in the Community. International swaps involve a consignment outside the Community

On Intra-Community "exchanges", I must mention in passing that a member of this Committee asked the U S and Australian authorities about such operations They replied without the slightest reservation that the operations were legal, they are also implicitly allowed by the agreement between Euratom and Canada

International "exchanges" are always subject to the assent of the supplying country which concluded an agreement with the Community·

a) The USA has recognised such exchanges as being compatible with its Agreement with Euratom

b) The Agreement between Canada and Euratom expressly provides for international exchanges of obligations.

c) Australia, on the other hand, has yet to agree to any international exchanges of obligations. Consequently, no such operation has yet been carried out.

14 It therefore follows that the "exchange of obligations" option is well established in both international and Community law. What is more, there are convincing technical and economic reasons for this practice. All that remains now is to describe the general principles applied by the Commission in assessing the acceptability of "obligation exchanges" proposed by nuclear operators

15. In the Community, the Commission authorises or refuses obligation exchanges case by case, on the basis of the relevant rules in Chapter VII of the Euratom Treaty, of Regulation 3227/76, of the Commission statement interpreting this Regulation and of the specific safeguard commitments given by the Community in its supply agreements with the USA, Canada and Australia

16 The "obligation exchange" principles in force in Community law are based on the two fundamental principles which I mentioned earlier fungibility and equivalence

I have no intention of embarking on a technical and scientific explanation of how my services apply these principles when they receive applications for the exchange of obligations. However, I can tell you the key factors on which the Commission bases its decisions on such proposals First, "obligation exchanges" are not automatic. They are authorised by the Commission case by case with the sole aim of facilitating more efficient exploitation

Second, such "obligation exchanges" must not reduce the quantity or quality of materials subject to the most restrictive safeguards obligations The current order of precedence for the various safeguard systems in the Community is as follows, in decreasing order of application

- Materials subject to the international agreements between Euratom and the USA, Canada and Australia,

- Materials subject to the peaceful use commitment only,

- Materials subject to no such commitment but subject to Euratom safeguards

Everything must be done to ensure that all the international commitments are honoured Finally, the Commission has issued standing orders to its staff strictly to observe the letter and spirit of each and every legal provision on "obligation exchanges" while respecting the legitimate interests of the nuclear power industry which, I remind you, generates 35 per cent of the Community's electricity

The Community is one of the best safeguarded regions in the world, since it is subject to two multinational safeguard systems that of Euratom and that of the IAEA The Community enjoys the trust and respect of the leading non-Community suppliers (Australia, USA and Canada) each known for their attachment to non-proliferation . .»

1988 COMMISSION REGULATION FOR THE APPLICATION OF THE 1987 COUNCIL REGULATION ON THE CONDITIONS GOVERNING IMPORTS OF AGRICULTURAL PRODUCTS ORIGINATING IN THIRD COUNTRIES FOLLOWING THE ACCIDENT AT CHERNOBYL

Following the Chernobyl accident, the Community authorities issued two Regulations in particular: Council Regulation (EEC) No. 1707/86 of 30th May 1986 on the conditions governing imports of agricultural products originating in third countries following that accident (see Nuclear Law Bulletin No. 38), and Commission Regulation (EEC) No. 1762/86 in application thereof Both Regulations expired on 31st October 1987 and, in order to maintain a high degree of protection of the Community population, a new Regulation (EEC) No. 3955/87 was issued on the same lines on 12th December 1987 (the text of the Regulation is reproduced in Nuclear Law Bulletin No. 41).

This further Regulation (EEC) No 1983/88 of 5th July 1988 lays down the rules for the application of Regulation (EEC) No. 3955/87 and was published in the Official Journal of the European Communities No. L 174/32 of 6th July 1988; it entered into force on the day it was published. Under this Regulation, radioactivity checks must be performed by sampling, in the Member States where products originating from third countries are released for free circulation, according to common objective criteria

Products produced or harvested before 26th April 1986 (date of the Chernobyl accident) are exempted from checks

Where failure to comply with the maximum permitted levels [set by Article 3 of Council Regulation (EEC) No. 3955/87] is observed, the competent authorities of the Member State concerned may decide to refuse the product involved or destroy it. During checks, export certificates may be presented attesting that the maximum permitted levels set by Regulation (EEC) No 3955/87 have been complied with

The results of checks carried out by Member States must be notified regularly to the Commission

• Argentina - Brazil

JOINT DECLARATION ON NUCLEAR POLICY (IPERO DECLARATION - 1988)

This Declaration, signed by the Presidents of the Republic of Argentina and the Federative Republic of Brazil on 8th April 1988, builds upon an earlier Joint Policy Statement made on 30th November 1985 (see Nuclear Law Bulletin No 37)

It records a decision to improve existing mechanisms for political and technical co-operation by expanding visits and the exchange of information and to turn the joint working group established by the 1985 Statement into a standing committee to propose and co-ordinate initiatives in the political, technical and industrial areas of the nuclear sector.

• Argentina - Turkey

AGREEMENT ON CO-OPERATION IN THE PEACEFUL USES OF NUCLEAR ENERGY (1988)

This Agreement, which was signed in Buenos Aires on 3rd May 1988, aims at establishing closer co-operation between the Republic of Argentina and the Republic of Turkey in peaceful uses of nuclear energy.

In particular, the Parties intend to co-operate in research and development in the nuclear field, production and utilisation of radioisotopes, management of radioactive wastes, physical protection of nuclear materials, radiological and environmental protection, nuclear safety and licensing This co-operation will be carried out, in particular, through the exchange of experts, lecturers and trainees; the delivery of equipment and materials is also provided for.

The Agreement will be valid for an initial period of fifteen years

• Austria - Hungary

1987 AGREEMENT ON QUESTIONS OF MUTUAL INTEREST RELATING TO NUCLEAR INSTALLATIONS

The above Agreement was concluded between the Republic of Austria and the Hungarian Peoples' Republic on 29th April 1987 and was published in the Hungarian Official Gazette (Magyar Közlöny) of 10th December 1987

The Agreement concerns exchange of information on a number of questions, in particular, in the event of a nuclear hazard resulting from an accident in an installation situated on the territory of one of the Contracting Parties, and on radioactive contamination of the population and the environment.

The Agreement also provides for regular exchange of information on the development of programmes in the field of nuclear technology and radiation protection, as well as on new regulations on nuclear safety, radiation protection and environmental protection

The Contracting Parties must inform each other of any plans for the establishment of a nuclear power plant, or an installation for the storage, recycling or final disposal of nuclear waste This information must be provided at least two years prior to commissioning of the plant or installation concerned

Austria has concluded a similar Agreement with the Czechoslovak Socialist Republic (see Nuclear Law Bulletin No. 36).

• Belgium - Netherlands

ENTRY INTO FORCE OF 1984 AGREEMENT ON MUTUAL ASSISTANCE IN THE EVENT OF CATASTROPHES AND ACCIDENTS (1988)

This Agreement, signed on 14th November 1984, entered into force on 1st November 1988, after both Parties had notified each other of the accomplishment of their respective constitutional procedures. The Agreement was approved in Belgium by an Act of 9th September 1988 (published in the Moniteur belge of 29th October 1988).

Like similar Agreements concluded between France and the Federal Republic of Germany (see Nuclear Law Bulletin Nos. 25 and 27), Belgium and the Federal Republic of Germany (see Nuclear Law Bulletin Nos 31 and 33), and Belgium and France (see Nuclear Law Bulletin No. 34), this Agreement lays down

a comprehensive legal framework for mutual emergency assistance It provides that rescue teams will be sent by the Parties in the event of any catastrophe or serious accidents, including nuclear incidents The Agreement also contains provisions on administrative competences, on quick border crossings by the rescue teams, as well as on their supervision. Finally, other provisions settle the question of the costs incurred for assistance, compensation of damage and exchange of information.

• Canada - Hungary

1988 AGREEMENT FOR CO-OPERATION IN THE PEACEFUL USES OF NUCLEAR ENERGY

On 27th November 1987, an Agreement for Co-operation in the Peaceful Uses of Nuclear Energy was concluded between the Government of Canada and the Government of the Hungarian Peoples' Republic.

The Agreement covers, inter alia, supply of information on health, nuclear safety, emergency planning and environmental protection It also deals with supply of nuclear material and equipment, technical assistance and services as well as exchange of personnel.

The Agreement, which is reproduced in the "Texts" Chapter of this issue of the Bulletin, entered into force on 12th January 1988 for a period of thirty years.

• F.R. of Germany - Switzerland

1986 EXCHANGE OF NOTES AMENDING AND COMPLETING THE AGREEMENT OF 31st MAY 1978-15th FEBRUARY 1980 ON RADIATION PROTECTION IN CASE OF EMERGENCY

The Government of the Federal Republic and the Swiss Federal Council concluded the above Agreement on 31st May 1978 (the text of the Agreement is reproduced in Nuclear Law Bulletin No. 22). The original German text was amended by an exchange of notes between both Parties on 15th February 1980 (the amendment does not affect the French text).

Article 1 of the Agreement provides that the Parties shall inform each other of any radioactive emergency occurring on their territory which might have harmful consequences for the other neighbouring country

Both countries again amended the Agreement by an exchange of notes dated 25th July 1986, the amendment inserts a new Article 10 (the previous Articles 10-12 have become 11-13) extending the undertaking of both Parties to inform each other on events which are not included in Article 1 of the Agreement Those are events occurring in nuclear installations in the Federal Republic of Germany or in Switzerland which might frighten the population in border areas

Arrangements for implementing this provision were settled by another exchange of notes, also dated 25th July 1986. The amendment entered into force on 25th March 1988.

ENTRY INTO FORCE OF THE 1986 AGREEMENT ON THIRD PARTY LIABILITY IN THE NUCLEAR FIELD (1988)

The above Agreement of 22nd October 1986, between the Federal Republic of Germany and the Swiss Confederation has been published in Bundesgesetzblatt 1988 II, p 598 (the text of the Agreement is reproduced in Nuclear Law Bulletin No 39) In accordance with its Article 11, paragraph 2, the Agreement entered into force on 21st September 1988 (BGBl. 1988 II, p. 955).

• F.R. of Germany - USSR

1988 AGREEMENT ON EARLY NOTIFICATION IN THE EVENT OF A NUCLEAR ACCIDENT AND ON EXCHANGE OF INFORMATION ON NUCLEAR INSTALLATIONS

The Governments of the Federal Republic of Germany and the Union of Socialist Soviet Republics signed the above Agreement in Moscow on 25th October 1988.

The first part of the Agreement refers to the necessary bilateral implementation of the 1986 IAEA Convention on Early Notification (the text of the Convention is reproduced in the Supplement to Nuclear Law Bulletin No 38). The Contracting Parties agree to inform each other directly on questions within the scope of the Agreement, the competent authorities are the Federal Minister of Environmental Affairs, Nature Conservation and Reactor Safety on behalf of the Federal Republic of Germany, and the State Committee for the Use of Nuclear Energy on behalf of the USSR

The second part of the Agreement deals with exchange of information on the operation of nuclear installations and with the exchange of other technical information relevant to evaluating the possible consequences of an accident, so as to enable the respective Parties to prepare adequate measures for

protection of man and the environment. A list of installations to be included in the Agreement, as well as the type and extent of information to beexchanged will be agreed upon by exchange of diplomatic notes This exchange of notes must take place within three months after the entry into force of theAgreement Also, it is provided that the Contracting Parties will convene regular meetings for consultation at least twice a year.

The scope of the Agreement is extended to West-Berlin

The Agreement has been concluded for an unlimited period of time and may be terminated by written notification through diplomatic channels, it will expire six months after receipt of the notification by the other Party, unless otherwise provided in the notification

• Turkey- USSR

AGREEMENT ON EARLY NOTIFICATION OF NUCLEAR ACCIDENTS AND EXCHANGE OF INFORMATION ON NUCLEAR FACILITIES (1988)

An Agreement between the Government of the Turkish Republic and the Government of the Union of Soviet Socialist Republics on Early Notification of Nuclear Accidents and Exchange of Information on Nuclear Facilities was initialed in Moscow on 29th July 1988. With respect to notification of accidents, the Agreement covers installations mentioned in Articles 1 and 3 of the IAEA Convention on Early Notification of a Nuclear Accident and activities mentioned in Article 4 of that Convention (the text of the Convention is reproduced in the Supplement to Nuclear Law Bulletin No 38, see also Nuclear Law Bulletin Nos 39 and 41). With respect to the exchange of information, the Agreement covers installations for the peaceful uses of nuclear energy such as nuclear power plants and their fresh and used fuel storage facilities

• United Kingdom- USSR

ARRANGEMENT ON EXCHANGE OF INFORMATION CONCERNING NUCLEAR SAFETY (1988)

On 21st September 1988 the United Kingdom Health and Safety Executive and the USSR State Commission on Supervision of Nuclear Power Safety concluded an Information Exchange Arrangement. Under the Arrangement, the two sides

will exchange safety-related information about the regulation of nuclear installations with respect to siting, construction, commissioning, operation and decommissioning The exchange will include information on codes, standards, criteria and guides; technical reports and safety assessments; and reports of possible incidents

The Arrangement entered into force upon signature and will continue for five years, after which it may be extended by mutual agreement.

MULTILATERAL AGREEMENTS

ENTRY INTO FORCE OF THE 1982 PROTOCOL TO AMEND THE PARIS CONVENTION AND RATIFICATION OF THE 1982 PROTOCOL TO AMEND THE BRUSSELS SUPPLEMENTARY CONVENTION

On 7th October 1988, Spain ratified the Protocol of 16th November 1982 to amend the 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy With the deposit of this tenth instrument of ratification, the 1982 Protocol entered into force forthwith, in accordance with Article 20 of the Paris Convention

The Protocol amends the Paris Convention, in particular, by replacing the previous unit of account with the Special Drawing Right of the International Monetary Fund; it also makes technical modifications to take account of the experience gained from practical application of the Convention

Also, on 29th September 1988, Spain ratified the Protocol of 16th November 1982 to amend the Brussels Convention Supplementary to the Paris Convention Contrary to the Paris Convention Protocol, which only requires ratification by two-thirds of the Contracting Parties to enter into force, this Protocol will enter into force when all the Contracting Parties to that Convention have ratified it.

The amendments to the Brussels Supplementary Convention mainly provide for higher amounts of compensation at State level

For further details on the Protocols see Nuclear Law Bulletin No. 30.

The following tables give the status of ratifications of both Protocols.

1982 PROTOCOL TO AMEND THE PARIS CONVENTION

Signatories	Date of ratification
Austria	
Belgium	19.9.1985
Denmark	
Finland	
France	
Germany, F R.	25 9.1985
Greece	30.5.1988
Italy	28.6.1985
Luxembourg	
Netherlands	
Norway	3.6.1986
Portugal	28.5.1984
Spain	7.10.1988
Sweden	8.3.1983
Switzerland	
Turkey	21.1.1986
United Kingdom	19.8.1985

1982 PROTOCOL TO AMEND THE BRUSSELS SUPPLEMENTARY CONVENTION

Signatories	Date of ratification
Austria	
Belgium	20 8.1985
Denmark	
Finland	
France	
Germany, F.R.	25.9 1985
Italy	14 6.1985
Luxembourg	
Netherlands	
Norway	13.5.1986
Spain	29.9 1988
Sweden	22 3.1983
Switzerland	
United Kingdom	8.8.1985

JOINT PROTOCOL RELATING TO THE APPLICATION OF THE VIENNA CONVENTION AND THE PARIS CONVENTION (1988)

The above Joint Protocol was adopted and opened for signature on 21st September 1988 at an International Conference on the Relationship between the Paris and the Vienna Convention, jointly organised in Vienna by the International Atomic Energy Agency and the OECD Nuclear Energy Agency (see Nuclear Law Bulletin No. 41)

The following nineteen countries signed the Joint Protocol at the Conference Argentina, Belgium, Chile, Denmark, Egypt, the Federal Republic of Germany, Finland, Greece, Italy, Morocco, the Netherlands, Norway, the Philippines, Portugal, Spain, Sweden, Switzerland, Turkey and the United Kingdom

An analysis of the Joint Protocol will be published in the "Articles" Chapter of the following issue of the Bulletin; the text of the Protocol is reproduced in the "Texts" Chapter of this issue

JOINT PROTOCOL RELATING TO THE APPLICATION OF THE VIENNA CONVENTION AND THE PARIS CONVENTION (21st September 1988)

THE CONTRACTING PARTIES,

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

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

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

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

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

HAVE AGREED as follows

ARTICLE I

In this Protocol.

a) "Vienna Convention" means the Vienna Convention on Civil Liability for Nuclear Damage of 21st May 1963 and any amendment thereto which is in force for a Contracting Party to this Protocol,

b) "Paris Convention" means the Paris Convention on Third Party Liability in the Field of Nuclear Energy of 29th July 1960 and any amendment thereto which is in force for a Contracting Party to this Protocol.

ARTICLE II

For the purposes of this Protocol:

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

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

ARTICLE III

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

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

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

ARTICLE IV

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

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

ARTICLE V

This Protocol shall be open for signature, from 21st September 1988 until the date of its entry into force, at the Headquarters of the International Atomic Energy Agency by all States which have signed, ratified or acceded to either the Vienna Convention or the Paris Convention

ARTICLE VI

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

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

ARTICLE VII

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

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

ARTICLE VIII

1 Any Contracting Party may denounce this Protocol by written notification to the depositary.

2. Denunciation shall take effect one year after the date on which the notification is received by the depositary.

ARTICLE IX

1 Any Contracting Party which ceases to be a Party to either the Vienna Convention or the Paris Convention shall notify the depositary of the termination of the application of that Convention with respect to it and of the date such termination takes effect.

2 This Protocol shall cease to apply to a Contracting Party which has terminated application of either the Vienna Convention or the Paris Convention on the date such termination takes effect

ARTICLE X

The depositary shall promptly notify Contracting Parties and States invited to the Conference on the relationship between the Paris Convention and the Vienna Convention as well as the Secretary-General of the Organisation for Economic Co-operation and Development of·

a) Each signature of this Protocol,

b) Each deposit of an instrument of ratification, acceptance, approval or accession concerning this Protocol;

c) The entry into force of this Protocol;

d) Any denunciation; and

e) Any information received pursuant to Article IX.

ARTICLE XI

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

• Canada - Hungary

AGREEMENT OF 27th NOVEMBER 1987
BETWEEN THE GOVERNMENT OF CANADA
AND THE GOVERNMENT OF THE HUNGARIAN PEOPLE'S REPUBLIC
FOR CO-OPERATION IN THE PEACEFUL USES OF NUCLEAR ENERGY*

The Government of Canada and the Government of the Hungarian People's Republic, both hereinafter referred to as the Parties,

DESIRING to strengthen the friendly relations that exist between the Parties;

MINDFUL of the advantages of effective co-operation in the peaceful uses of nuclear energy;

RECOGNIZING that Canada and the Hungarian People's Republic are both non-nuclear weapon States Party to the Treaty on the Non-Proliferation of Nuclear Weapons done at London, Moscow and Washington on July 1, 1968 (hereinafter referred to as the "NPT") and, as such, have undertaken not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices and that both Parties have concluded agreements with the International Atomic Energy Agency for the application of safeguards in connection with the NPT;

UNDERLINING further that the Parties to the NPT have undertaken to facilitate, and have the right to participate in, the fullest possible exchange of nuclear material, material, equipment and scientific and technological information for the peaceful uses of nuclear energy and that parties to the NPT in a position to do so may also co-operate in contributing together to the further development of the applications of nuclear energy for peaceful purposes;

INTENDING, therefore, to co-operate with one another to these ends,

HAVE AGREED as follows:

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* The Agreement entered into force on 12th January 1988

ARTICLE I

For the purpose of this Agreement:

a) "The Agency's Safeguards System" means the safeguards system set out in the International Atomic Energy Agency document INFCIRC/66 Rev 2 as well as any subsequent amendments thereto,

b) "Appropriate governmental authority" means for Canada, the Atomic Energy Control Board, and for the Hungarian People's Republic, the National Atomic Energy Commission;

c) "Equipment" means any of the equipment listed in Annex B to this Agreement,

d) "Material" means any of the material listed in Annex C to this Agreement,

e) "Nuclear material" means any source material or any special fissionable material as these terms are defined in Article XX of the Statute of the International Atomic Energy Agency which is attached as Annex D to this Agreement. Any determination by the Board of Governors of the International Atomic Energy Agency under Article XX of the Agency's Statute, which amends the list of material considered to be "source material" or "special fissionable material", shall only have effect under this Agreement when the Parties to this Agreement have informed each other in writing that they accept that amendment;

f) "Persons" means individuals, firms, corporations, companies, partnerships, associations and other entities, private or governmental, and their respective agents, and

g) "Technology" means technical data that the supplier Party has designated, prior to transfer and after consultation with the recipient Party, as being relevant in terms of non-proliferation and important for the design, production, operation or maintenance of equipment or for the processing of nuclear material or material and i) includes, but is not limited to, technical drawings, photographic negatives and prints, recordings, design data and technical and operating manuals; and ii) excludes data available to the public

ARTICLE II

1 The co-operation contemplated under this Agreement relates to the use, development an application of nuclear energy for peaceful purposes and may include, inter alia:

a) The supply of information, which includes technology, related to:

i) Research and development,

ii) Health, nuclear safety, emergency planning and environmental protection,

iii) Equipment (including the supply of designs, drawings and specifications),

iv) Uses of nuclear material, material and equipment (including manufacturing processes and specifications), and

v) Transfer of patent and other proprietary rights,

b) The supply of nuclear material, material and equipment,

c) The implementation of projects for research and development as well as for design and application of nuclear energy for use in such fields as agriculture, industry, medicine and the generation of electricity,

d) Industrial co-operation between persons in Canada and in the Hungarian People's Republic;

e) Technical training and related access to and use of equipment, and

f) The rendering of technical assistance and services, including exchanges of experts and specialists.

ARTICLE III

1. The Parties shall encourage and facilitate co-operation between persons under their respective jurisdictions on matters within the scope of this Agreement.

2 Subject to the terms of this Agreement, persons under the jurisdiction of either Party may supply to or receive from persons under the jurisdiction of the other Party nuclear material, material, equipment and technology, on commercial or other terms as may be agreed by the persons concerned

3 Subject to the terms of this Agreement, persons under the jurisdiction of either Party may provide persons under the jurisdiction of the other Party with technical training in the application of nuclear energy for peaceful uses on commercial or other terms as may be agreed by the persons concerned

4 The Parties, in accordance with their respective laws and regulations, will make efforts to facilitate exchanges of experts, technicians and specialists related to activities under this Agreement

5. The Parties shall take all appropriate precautions in accordance with their respective laws and regulations to preserve the confidentiality of information including commercial and industrial secrets transferred between persons under the jurisdiction of either Party.

6. The Parties may, if appropriate and subject to terms and conditions to be mutually determined, collaborate on safety and regulatory aspects of the production of nuclear energy including a) exchange of information and b) technical co-operation and training

7 A Party shall not use the provisions of this Agreement for the purpose of securing commercial advantage or for the purpose of interfering with the commercial relations of the other Party

ARTICLE IV

1 Nuclear material, material, equipment and technology contained in Annex A shall be subject to this Agreement unless otherwise agreed by the Parties.

2 Items other than those covered by paragraph 1 of this Article shall be subject to this Agreement when the Parties have so agreed in writing.

3. The appropriate governmental authorities of both Parties shall establish notification and other administrative procedures in order to implement the provisions of this Article.

ARTICLE V

Nuclear material, material, equipment and technology subject to this Agreement shall not be transferred beyond the jurisdiction of a Party to this Agreement to a third party without the prior written consent of the other Party An arrangement to facilitate the implementation of this provision may be established by the Parties.

ARTICLE VI

Nuclear material subject to this Agreement shall not be enriched to twenty (20) per cent or more in the isotope U-235 or reprocessed without the prior written consent of both Parties. Such consent shall include the conditions under which the resultant plutonium or uranium enriched to twenty (20) per cent or more may be stored and used. An arrangement to facilitate the implementation of this provision may be established by the Parties.

ARTICLE VII

1. Nuclear material, material, equipment and technology subject to this Agreement shall not be used to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices The use, development or application of nuclear energy for peaceful purposes shall not include the development, manufacture, acquisition or detonation of nuclear devices

2. With respect to nuclear material, the commitment contained in paragraph 1 of this Article shall be verified pursuant to the safeguards agreements between each Party and the International Atomic Energy Agency, in connection with the NPT. However, if for any reason or at any time, the International Atomic Energy Agency is not administering such safeguards within the territory of a Party, that Party shall forthwith enter into an agreement with the other Party for the establishment of such safeguards or of a safeguards system that conforms to the principles and procedures of the Agency's Safeguards System and provides for the application of safeguards to all items subject to this Agreement.

ARTICLE VIII

1. Nuclear material shall remain subject to this Agreement until

a) It is determined that it is no longer either usable or practicably recoverable for processing into a form in which it is usable for any nuclear activity relevant from the point of view of safeguards referred to in Article VII of this Agreement Both Parties shall accept a determination made by the International Atomic Energy Agency in accordance with the provisions for the termination of safeguards of the relevant safeguards agreement to which the Agency is a party;

b) It has been transferred from the jurisdiction of the recipient Party in accordance with the provisions of Article V of this Agreement, or

c) Otherwise decided between the Parties.

2. Material and equipment shall remain subject to this Agreement until

a) Transferred from the jurisdiction of the recipient Party in accordance with the provisions of Article V of this Agreement; or

b) Otherwise decided between the Parties.

3. Technology shall remain subject to this Agreement until otherwise decided between the Parties.

ARTICLE IX

1 Each Party shall take all measures necessary, commensurate with the assessed threat prevailing from time to time, to ensure the physical protection of nuclear material subject to this Agreement and shall, as a minimum, apply levels of physical protection as set out in Annex E to this Agreement.

2 The Parties shall consult at the request of either Party concerning matters related to physical protection of nuclear material, material, equipment and technology subject to this Agreement including those concerning physical protection during international transportation.

ARTICLE X

1. The Parties shall consult at any time at the request of either Party to ensure the effective fulfillment of the obligations of this Agreement. The International Atomic Energy Agency may be invited to participate in such consultations upon the request of the Parties.

2 The appropriate governmental authorities shall establish administrative arrangements to facilitate the effective implementation of this Agreement and shall consult annually or at any other time at the request of either. Such consultations may take the form of an exchange of correspondence.

3. Each Party shall, upon request, inform the other Party of the conclusions of the most recent report by the International Atomic Energy Agency on its verification activities in the territory of that Party, relevant to the nuclear material subject to this Agreement.

ARTICLE XI

1. Any dispute between the Parties concerning the interpretation or application of this Agreement shall as far as possible be settled through negotiations.

2 If the dispute cannot thus be settled, it shall upon the request of either Party be submitted to an arbitral tribunal.

3 The arbitral tribunal shall be constituted as follows: the Parties shall each designate one arbitrator and these two arbitrators shall elect a national of a third state as chairman The arbitrators for both Parties shall be designated within sixty (60) days of the request for arbitration, and the chairman shall be elected within sixty (60) days of the designation of the second arbitrator.

4. If one of the Parties fails to designate its arbitrator and has not proceeded to do so within the specified period, the other Party may invite the Secretary General of the United Nations to appoint an arbitrator If the two arbitrators are unable to elect a third arbitrator within the specified period, either Party may invite the Secretary General of the United Nations to make the necessary appointment.

5 In reaching its decision, the arbitral tribunal shall be guided by Articles 31 and 32 of the Vienna Convention on the Law of Treaties of May 23, 1969.

6. Unless otherwise agreed, the arbitral tribunal shall determine its own procedure.

7. A majority of the members of the arbitral tribunal shall constitute a quorum and all decisions shall require a majority of votes Such decisions shall be final and binding on the Parties.

8. Each Party shall bear the cost of the arbitrator appointed by itself and of its representation. The cost of the chairman as well as the other costs will be borne in equal parts by the Parties.

ARTICLE XII

1 For the purpose of the entry into force of this Agreement, the Parties will inform each other by an exchange of notes that their respective constitutional and legal requirements have been completed. This Agreement shall enter into force on the date of the exchange of notes or, in the event that the exchange of notes does not take place on the same day, on the date of the last note.

2 This Agreement may be amended at any time with the written consent of the Parties. Any amendments to this Agreement shall enter into force in accordance with the provisions of paragraph 1 of this Article

3. This Agreement shall remain in force for a period of thirty (30) years If neither Party has notified the other Party of its intention to terminate the Agreement at least six (6) months prior to the expiry of that period, this Agreement shall continue in force for additional periods of ten (10) years each unless, at least six (6) months before the expiration of any such additional period, a Party notifies the other Party of its intention to terminate this Agreement.

4. Notwithstanding termination of this Agreement, the obligations contained in Article III, paragraph 5 and in Articles IV, V, VI, VII, VIII, IX, X and XI of this Agreement shall remain in force until otherwise agreed by the Parties.

IN WITNESS WHEREOF the undersigned, being duly authorized for this purpose by their respective governments, have signed this Agreement.

DONE AT Budapest, this 27th day of November 1987,

in duplicate in the English, French and Hungarian languages, each version being equally authentic

Annex A

NUCLEAR MATERIAL, MATERIAL, EQUIPMENT AND TECHNOLOGY SUBJECT TO THE AGREEMENT

i) Nuclear material, material, equipment and technology transferred between the Parties, directly or through third countries;

ii) Material and nuclear material that is produced or processed on the basis, or by the use, of any equipment subject to this Agreement;

iii) Nuclear material that is produced or processed on the basis, or by the use, of any nuclear material or material subject to this Agreement,

iv) Equipment which the recipient Party, or the supplying Party after consultations with the recipient Party, has designated as being designed, constructed or operated on the basis, or by the use, of the technology referred to above, or technical data derived from equipment referred to above

Without restricting the generality of the foregoing, equipment that satisfies all three of the following criteria:

a) That is of the same type as equipment referred to in i) [i.e., its design, construction or operating processes are based on essentially the same or similar physical or chemical processes as agreed in writing by the Parties prior to the transfer of the equipment referred to in i)],

b) That is so designated by the recipient Party or the supplier Party after consultation with the recipient Party; and

c) The first operation of which commences at a location within the jurisdiction of the recipient Party within 20 years of the date of the first operation of the equipment referred to in sub-paragraph a)

Annex B

EQUIPMENT

1. Nuclear reactors capable of operation so as to maintain a controlled self-sustaining fission chain reaction, excluding zero energy reactors, the latter being defined as reactors with a designed maximum rate of production of plutonium not exceeding 100 grams per year.

A "nuclear reactor" basically includes the items within or attached directly to the reactor vessel, the equipment which controls the level of power in the core, and the components which normally contain, or come in direct contact with, or control the primary coolant of the reactor core

It is not intended to exclude reactors which could reasonably be capable of modification to produce significantly more than 100 grams of plutonium per year. Reactors designed for sustained operation at significant power levels, regardless of their capacity for plutonium production, are not considered as "zero energy reactors".

2 Reactor pressure vessels - Metal vessels, as complete units or as major shop-fabricated parts therefor, which are especially designed or prepared to contain the core of a nuclear reactor as defined in paragraph 1) above and are capable of withstanding the operating pressure of the primary coolant

A top plate for a reactor pressure vessel is a major shop-fabricated part of a pressure vessel.

3. Reactor internals - Support columns and plates for the core and other vessel internals, control rod guide tubes, thermal shields, baffles, core grid plates, diffuser plates, etc.

4. Reactor fuel charging and discharging machines - Manipulative equipment especially designed or prepared for inserting or removing fuel in a nuclear reactor as defined in paragraph 1 above capable of on-load operation or employing technically sophisticated positioning or alignment features to allow complex off-load fuelling operations such as those in which direct viewing of *of access to the fuel is not normally available*

5 Reactor control rods - Rods especially designed or prepared for the *control of the reaction rate in a nuclear reactor as defined in paragraph* 1 above.

This item includes, in addition to the neutron absorbing part, the support or suspension structures therefor if supplied separately

6. Reactor pressure tubes - Tubes which are especially designed or prepared to contain fuel elements and the primary coolant in a reactor as defined in paragraph 1 above at an operating pressure in excess of 50 atmospheres

7. Zirconium tubes - Zirconium metal and alloys in the form of tubes or assemblies of tubes, and in quantities exceeding 500 kg per year, especially designed or prepared for use in a reactor as defined in paragraph 1 above, and in which the relationship of hafnium to zirconium is less than 1 500 parts by weight

8 Primary coolant pumps - Pumps especially designed or prepared for circulating the primary coolant for nuclear reactors as defined in paragraph 1 above

9 Plants for the reprocessing of irradiated fuel elements, and equipment designed especially or prepared therefor - A "plant for the reprocessing of irradiated fuel elements" includes the equipment and components which normally come in direct contact with and directly control the irradiated fuel and the major nuclear material and fission product processing streams In the present state of technology, only two items of equipment are considered to fall within the meaning of the phrase "and equipment especially designed or prepared therefor" These items are

a) Irradiated fuel element chopping machines. remotely operated equipment especially designed or prepared for use in a reprocessing plant as identified above and intended to cut, chop or shear irradiated nuclear fuel assemblies, bundles or rods, and

b) Critically safe tanks (e g. small diameter, annular or slab tanks) especially designed or prepared for use in a reprocessing plant as identified above, intended for dissolution of irradiated nuclear fuel and which are capable of withstanding hot, highly corrosive liquid, and which can be remotely loaded and maintained.

10 Plants for the fabrication of fuel elements - A "plant for the fabrication of fuel elements" includes the equipment

a) Which normally comes in direct contact with, or directly processes, or controls, the production flow of nuclear material, or

b) Which seals the nuclear material within the cladding, and

c) The whole set of items for the foregoing operations, as well as individual items intended for any of the foregoing operations, and for other fuel fabrication operations, such as checking the integrity of the cladding or the seal, and the finish treatment to the sealed fuel

11. Equipment, other than analytical instruments, especially designed or prepared for the separation of isotopes of uranium - "Equipment, other than analytical instruments especially designed or prepared for the separation of isotopes of uranium" includes each of the major items of equipment especially designed or prepared for the separation process. Such items include·

- Gaseous diffusion barriers
- Gaseous diffuser housings
- Gas centrifuge assemblies, corrosion-resistant to UF6
- Jet nozzle separation units

- Vortex separation units
- Large UF6 corrosion-resistant axial or centrifugal compressors
- Special compressor seals for such compressors.

12. Plants for the production of heavy water - A "plant for the production of heavy water" includes the plant and equipment specially designed for the enrichment of deuterium or its compounds, as well as any significant fraction of the items essential to the operation of the plant

13. Any major components or components of items 1 to 12 above

Annex C

MATERIAL

1. Deuterium and heavy water - Deuterium and any deuterium compound in which the ratio of deuterium to hydrogen exceeds 1:5000 for use in a nuclear reactor, as defined in paragraph 1 of Annex B, in quantities exceeding 200 kg of deuterium atoms in any period of 12 months

2. Nuclear grade graphite - Graphite having a purity level better than 5 parts per million boron equivalent and with a density greater than 1 50 grams per cubic centimetre in quantities exceeding 30 metric tons in any period of 12 months.

Annex D

ARTICLE XX OF THE STATUTE OF THE INTERNATIONAL ATOMIC ENERGY AGENCY

DEFINITIONS

As used in this Statute:

1. The term "special fissionable material" means plutonium 239, uranium 233, uranium enriched in the isotopes 235 or 233; any material containing one or more of the foregoing; and such other fissionable material as the Board of Governors shall from time to time determine but the term "special fissionable material" does not include source material.

2. The term "uranium enriched in the isotopes 235 or 233" means uranium containing the isotopes 235 or 233 or both in an amount such that the abundance ratio of the sum of these isotopes to the isotope 238 is greater than the ratio of the isotope 235 to the isotope 238 occurring in nature.

3 The term "source material" means uranium containing the mixture of isotopes occurring in nature; uranium depleted in the isotope 235; thorium; any of the foregoing in the form of metal, alloy, chemical compound, or concentrate, any other material containing one or more of the foregoing in such concentration as the Board of Governors shall from time to time determine, and such other materials as the Board of Governors shall from time to time determine.

Annex E

AGREED LEVELS OF PHYSICAL PROTECTION

The Agreed levels of physical protection to be ensured by the appropriate governmental authorities in the use, storage and transportation of the materials of the attached table shall as a minimum include protection characteristics as follows:

CATEGORY III

Use and Storage within an area to which access is controlled

Transportation under special precautions including prior arrangement between sender, recipient and carrier, and prior agreement between states in case of international transport specifying time, place and procedures for transferring transport responsibility.

CATEGORY II

Use and Storage within a protected area to which access is controlled, i.e an area under constant surveillance by guards or electronic devices, surrounded by a physical barrier with a limited number of points of entry under appropriate control, or any area with an equivalent level of physical protection.

Transportation under special precautions including prior arrangement between sender, recipient and carrier, and prior agreement between states in case of international transport specifying time, place and procedures for transferring transport responsibility.

CATEGORY I

Materials in this Category shall be protected with highly reliable systems against unauthorized use as follows:

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

Transportation under special precautions as identified above for transportation of Category II and III materials and, in addition, under constant surveillance of escorts and under conditions which assure close communication with appropriate response forces.

Table CATEGORIZATION OF NUCLEAR MATERIAL

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

a All plutonium except that with isotopic concentration exceeding 80% in plutonium 238

b Material not irradiated in a reactor or material irradiated in a reactor but which a radiation level equal to or less than 100 rads/hour at one meter unshielded

c Less than a radiologically significant quantity should be exempted

d Natural uranium, depleted uranium and thorium and quantities of uranium enriched to less than 10% not falling in Category III should be protected in accordance with prudent management practice

e Other fuel which by virtue of its original fissile material content is classified as Category I or II before irradiation may be reduced one category level when the radiation level from the fuel exceeds 100 rads/hour at one meter unshielded

STUDIES AND ARTICLES

ARTICLES

THE PRICE-ANDERSON AMENDMENTS ACT OF 1988: A CASE OF BETTER LATE THAN NEVER

Marcus A. Rowden, Jay R. Kraemer, Lillian M. Cuoco*

INTRODUCTION

On 20th August 1988, President Reagan signed into law the Price-Anderson Amendments Act of 1988[1], thus ending a legislative marathon that had left the United States without a comprehensive nuclear accident liability regime for over a year. The efforts to renew the indemnification and limitation of liability statute applicable to the U S nuclear power industry and to Department of Energy (DOE) nuclear contractors began in 1984 and quickly became a stage upon which the full panoply of public expectations and concerns about nuclear power were played out. In the end, the 1988 amendments retained the basic structure of the previous legislation with regard to the financial protection required for nuclear power reactor licensees and the indemnification of DOE's contractors engaged in nuclear activities. However, while the structure of the compensation scheme remained largely intact, other provisions of the new legislation have significantly altered the nuclear industry's insurance plan in a number of fundamental respects This article describes those changes to the law and explains the statutory background and legislative process from which those changes evolved

A substantial portion of this article is devoted to an explanation of the legislative process which led to the extension and revision of the Price-Anderson liability/indemnity framework, rather than simply describing the legislation which was its outcome and its contents As is the case with other major and controversial legislative enactments, an understanding of the

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* The authors are attorneys in the United States law firm of Fried, Frank, Harris, Shriver & Jacobson. Responsibility for the article's contents and the views expressed rest solely with the authors The authors wish to acknowledge the efforts of Thomas D. Mullins in the preparation of this article.

outcome must begin with an appreciation of the process which led to it - the issues raised and their disposition, the contending political and underlying social forces, the compromises reached, and what it all means.

This is particularly apt as regards the Price-Anderson extension battle, which covered a period of five years and three Congresses, and was viewed by proponents and opponents alike as a political litmus test for the future of nuclear power development in the United States. Opponents sought to block extension or so couple it with crippling conditions (unlimited or sky-high liability, expansive subrogation rights, erosion of the channelling concept) as to emasculate the ultimate legislation's enactment. Proponents saw Price-Anderson extension as the maintenance of a progressive piece of social legislation to deal with low-probability catastrophic accidents and a necessary building block for future expansion of the nuclear power option in the U.S The ensuing legislative process involved no fewer than six Congressional Committees, some of the most powerful personages in both chambers of Congress, and a series of intricate compromises. The outcome was a clear (albeit expensive) victory for nuclear's proponents, and something of a political vote of confidence on nuclear power's potential future It is that broader story that is told here.

I. HISTORY OF THE PRICE-ANDERSON ACT

A The Price-Anderson Act of 1957

The Price-Anderson Act (hereinafter, "the Act") was originally enacted into law on 2nd September 1957[1], in the main constituting a new Section 170 of the Atomic Energy Act of 1954[2]. In establishing the Price-Anderson Act regime, Congress identified "[t]he primary concern of the Federal Government [to be] . the protection [of] the people who might suffer damages from the new atomic energy industry"[3]. A companion motivation for the legislation was to assuage the fears of private industry about participation in an activity which bore the risk of potentially enormous liability in the event of an accident and for which no adequate insurance coverage was available[4]

As enacted in 1957, the Act limited the total liability to be paid from U.S. Government funds to $500 million[5]. It authorized the Atomic Energy Commission (AEC), the predecessor agency to today's Nuclear Regulatory Commission (NRC) and Department of Energy, to enter into indemnification agreements up to that amount Utilities operating large power reactors were also required by the Act to obtain additional "financial protection", a responsibility they satisfied by the purchase of privately-offered nuclear liability insurance This private "primary coverage" would provide the initial layer of funds to be used to pay compensation to victims in the event of a nuclear accident In 1957 the primary coverage available for each reactor was $60 million Added to the Government's indemnity, this provided a total potential coverage of, and ceiling on, public liability - the so-called "limit of liability" - of $560 million. AEC contractors were not required to obtain private insurance, so the ceiling on liability for accidents at DOE

nuclear facilities was $500 million. By limiting accident victims' potential recovery under tort remedies through the liability ceiling, and by channelling all financial responsibility to the reactor licensee or the AEC prime contractor, the Act sought to ensure orderly and equitable compensation of victims. The alternative, it seemed, would have been a rush to the courthouse that could soon have left the defendants' assets exhausted and subsequent claimants with uncollectable awards[6].

B. The 1965 and 1966 Amendments - Perfecting the Liability Regime

In 1965, the Act (which had originally granted the AEC authority for ten years to enter into indemnification agreements) was extended until 1977, with the stipulation that, for civilian reactor licensees, the Government's maximum $500 million indemnity would be reduced by whatever amount above $60 million on the maximum primary coverage was increased by the insurance industry[7]. In 1966, further amendments to the Act were adopted concerning Extraordinary Nuclear Occurrences ("ENO"). An ENO is defined, in essence, as an event causing unintended contamination by radioactive materials which the Commission[8] determines to result in substantial off-site damage to persons or property. When the Commission determined that an ENO had taken place, the 1966 amendment provided that a "waiver of defenses" would be activated Under this waiver, compensation would be granted to claimants who could show a causal link between their loss and the radioactive material released The claimants would not have to meet the usual tort law test of establishing that the defendant was negligent or otherwise at "fault" for the harm caused, nor could defendants rely upon sovereign or charitable immunity to escape liability. Furthermore, in the event of an ENO, a minimum statute of limitations (three years from actual or constructive discovery of the injury, up to a maximum of twenty years from the date of the accident) would apply[9]

C The 1975 Amendments - Further Reneval and the Retrospective Premium

In December 1975, the Price-Anderson regime was given a major structural overhaul along with a second ten-year extension This extension, to 1st August 1987, marked something of a rite of passage for the industry Rather than continuing to rely on the Government for the full secondary coverage above private insurance, each power reactor licensee would now be liable for a "retrospective premium" of up to $5 million for any nuclear accident at a licensed power reactor in the United States. Any time the damages from a nuclear incident exceeded a licensee's primary (that is, insurance) coverage, each reactor licensee would be financially responsible (on a pro rata basis and up to $5 million) for that excess liability The aggregate limit of liability for each accident would remain at $560 million until the total of available insurance and retrospective premiums exceeded that figure, but would grow thereafter by $5 million every time another power reactor was licensed[10]. Thus, by the time the Price-Anderson Act expired in 1987, the pool of money available as retrospective premiums from operators of the United States' 109 licensed commercial power reactors was $545 million, while the liability ceiling had grown (with $160 million of available insurance) to $705 million. Thus, the Government's indemnity obligation was

phased out altogether with respect to civilian power reactors. As to accidents involving the Department of Energy's nuclear contractors, the liability limit remained at $500 million, all indemnified by the Government[11]. Should either limit of liability be exceeded, the 1975 amendments provided for Congressional review of the accident's consequences so as to consider the actions necessary to protect the public

II THE 1988 RENEWAL

A. NRC Proposals for Renewal of Price-Anderson

In December 1983, the Nuclear Regulatory Commission (NRC) completed and published its recommendations regarding Price-Anderson renewal, as Congress had mandated in its 1975 renewal of the Act The NRC report[12] marked the official start of what proved to be an unprecedentedly prolonged battle, the ultimate focus of which was not the NRC-licensed nuclear power industry but the government contract activities of the Department of Energy. The NRC supported renewal of the Act· the agency recommended that Congress (1) raise annual retrospective premiums from $5 million to $10 million per reactor per incident per year, thus creating an annual cap on liability payments but retaining no limit on the total amount of public liability, (2) extend the statute of limitations for filing public liability claims from twenty to thirty years after the accident, so as to enable victims with long latent injuries (e g., certain cancers) to file claims; (3) retain the existing statutory language for determining when an ENO had occurred, (4) investigate the potential for raising private primary insurance to keep pace with inflation; and (5) clarify its intent concerning the applicability of the waiver of defenses to non-reactor accidents and the exclusion of defense litigation costs from the limit of liability applicable to the NRC licensees[13].

The nuclear industry reacted with dismay to the NRC proposal for substituting an annual limit of liability payments, with no limit on total liability, for the absolute limit At the time, industry spokesmen complained that imposition of an annual liability limit would constitute retroactive legislation that deprived current licensees of the financial protection of the present legislation on which they had relied and under which they had obtained contractual rights Hearings were held in the Congress in 1984 on the NRC's report, but no serious attempt to enact renewal legislation was mounted during the 98th Congress.

B Defining the Issues for Price-Anderson Renewal - Consideration in the 99th Congress

1. Early Manoeuvres

Two of the first bills introduced when the 99th Congress convened in January 1985 to address the issues posed by the NRC's report foretold the

scope of the legislative battle that was about to begin regarding Price-Anderson renewal. Congressman Melvin Price, one of the original authors of the 1957 Act, introduced an extension proposal that would raise the retrospective premium to $10 million per reactor per incident (keeping intact the concept of an absolute limit on liability) and would bring Department of Energy contractor indemnification up to general equivalency with the total limits applicable to NRC reactor licensees[14]. Contemporaneously, a liberal Democrat from the State of Ohio, Congressman John Seiberling, introduced legislation designed to eliminate the limit on liability, make the ENO waiver of defenses applicable to all nuclear incidents (not just ENOs), and make the ENO statute of limitations apply to any nuclear incident[15]. Other House of Representatives bills followed, variously including plans to eliminate liability ceilings for DOE nuclear waste disposal contractors[16] and allow suits against vendors and other nuclear suppliers as well as eliminating the twenty-year ENO statute of limitations[17].

Not to be outdone by their House colleagues, the Senate also showed early interest in Price-Anderson renewal. As in the House, the measures introduced in the Senate reflected the controversy which would surround Price-Anderson renewal. Senators Alan Simpson and James McClure, influential Senators who chaired key committees with jurisdiction over Price-Anderson renewal, introduced legislation which would have raised the retrospective premium to between $10 and $15 million per reactor for each incident, and created a third level of protection (of about $500 million) based on a fee of up to 1 mil (one-tenth of a cent) per kilowatt hour of nuclear electricity generation[18]. Legislation introduced by senator Gary Hart (like Congressman Seiberling, a liberal Democrat) took a vastly different approach to Price-Anderson renewal. Senator Hart's bill proposed to eliminate the liability ceiling, create strict liability for all nuclear incidents (not merely ENOs) and establish a discovery-based statute of limitations on claims[19]. A more "moderate" approach to elimination of the liability ceiling was taken by Senator Robert Stafford, a Republican who chaired the Environment and Public Works Committee - a panel with jurisdiction over Price-Anderson issues. Senator Stafford's bill, although proposing elimination of the liability ceiling, sought to establish a maximum annual retrospective premium of $10 million (with the NRC authorized to increase the premium to $15 million), extend the statute of limitations to thirty years, create strict liability for all nuclear incidents, and repeal the Congressional review provisions enacted as part of the Act's 1975 amendments[20].

While support for elimination of the liability ceiling appeared to be growing among legislators, hearings in mid-1985 revealed that three of the five NRC Commissioners had moved away from support for unlimited liability. Two were even looking toward schemes such as that proposed by Senators Simpson and McClure which, along with raising retrospective premiums, would impose a third layer of coverage based on a fee linked to each reactor's power output. Commissioner Frederick Bernthal of the NRC was the "swing voter". He equated unlimited liability with unlimited litigation and expressed fears that dangling an annual $1 billion "stipend" before U.S. tort lawyers would ensure endless lawsuits. Rather, Bernthal posited, a $20 million retrospective premium per year per reactor with a limit of liability totalling $5 billion might be the solution. Commissioner Bernthal had begun to plow the soil of compromise out of which the 1988 Amendments would eventually grow[21].

2. The Compromise Begins to Take Shape

In mid-1985, Congressman Morris Udall (Democrat-Arizona), Chairman of the House Interior and Insular Affairs Committee (one of the five principal House and Senate Committees with substantive jurisdiction over Price-Anderson renewal), recognized that the great diversity of views was preventing progress toward Price-Anderson renewal To stimulate discussion among his colleagues, Congressman Udall introduced his own Price-Anderson proposal to be used in Committee sessions as a working draft. Significantly, the Udall bill incorporated some of Commissioner Bernthal's basic approach. Retrospective premiums would be raised to a maximum of $10 million per year per reactor, with a $10 billion industry-wide limit on liability allowing payments to claimants to be made over a number of years The measure would have (1) raised the private insurance coverage to $200 million; (2) established a Presidential Commission that would recommend to Congress how to fund claims not otherwise provided for in the event that the limit of liability might be exceeded, (3) retained the statute of limitations and waiver of fault and immunity defenses as applicable exclusively to ENOs, while raising the ENO statute of limitations to thirty years; and (4) provided for inflation adjustments to the primary and secondary coverage every five years. The Udall bill also proposed allowing DOE to indemnify its contractors without limit, except in the case of such contractors' gross negligence, and to provide a right of subrogation so that non-culpable licensees and the Government might recover against a reactor licensee whose gross negligence or wilful misconduct caused an accident The extension period proposed by the Udall bill was ten years[22]

The nuclear power industry was, on the whole, satisfied with much of the Udall approach While the $10 billion limit of liability was still considered much too high (the industry preferred a $2 2 billion ceiling), the Udall bill did not compel utility licensees to bear open-ended financial responsibility for a nuclear accident The provisions for a right of subrogation were viewed, however, as categorically unacceptable. Even when limited to cases where directors or officers of a responsible licensee (or contractor) engaged in wilful misconduct, subrogation was seen as the practical equivalent of unlimited liability

The Udall plan attracted attacks both from those who saw the $10 billion limit of liability as too high and those who believed it to be too low The bill travelled a tortured path through the three House Committees - Interior and Insular Affairs, Energy and Commerce and Science and Technology (later renamed to reflect its jurisdiction over "space" as well) - with primary jurisdiction over Price-Anderson renewal Sessions to consider the measure were extraordinarily contentious, as Republicans and a substantial number of Democrats tried to hold a middle-ground coalition together against vociferous opposition from those contending that the bill was too favourable to the industry These opponents argued that the proposed threshold for recovery under a right of subrogation was too high, that the thirty-year ENO statute of limitations was too short, and that high-level waste disposal accidents should be covered by full federal compensation no matter how high the cost Some also argued for no limitation on liability (or a limitation so high as to be the equivalent of no limit) Arguments were also advanced in support of financial contributions by vendors and other nuclear suppliers All of these concerns and proposals were eventually rejected by the majority

coalition, which sought to move the bill to consideration by the full House Exacerbating an already heated debate was the accident at Chernobyl

By mid-summer 1986, when the three House Committees had completed their work, three different Price-Anderson renewal bills, all based on Congressman Udall's original proposal, had been produced. Discussions which began during the August 1986 Congressional recess culminated in the introduction of a compromise Price-Anderson bill which reconciled differences among the three competing House measures. Among other provisions, the compromise capped the liability ceiling for a nuclear power plant accident at $6 5 billion (assuming 101 commercial reactors) by requiring utilities to maintain as much nuclear liability insurance as was commercially available and by increasing the maximum retrospective premium to $63 million per reactor per accident (with no more than $10 million to be assessed in any one year) Aggregate liability for DOE conractors, both for nuclear waste and other activities, was tied to the maximum aggregate liability for commercial reactors (The compromise provided that the limit of liability would increase as new reactors were licensed, but would not decrease as reactors were decommissioned) The compromise also contained a procedure for development and enactment of a compensation plan in situations where claims were likely to exceed the aggregate limit on liability, and directed NRC to review the impact of inflation on the liability ceiling every five years[23]. Time ran out in the 99th Congress, however, before House action on the compromise could be completed. An attempt to bring the compromise bill to the House floor was defeated when the House Rules Committee, noting that the existing Price-Anderson law was not due to expire for another ten months, declined to resolve a dispute over the rules which would govern floor debate

Efforts in the Senate to forge Price-Anderson renewal legislation followed a path similar to that in the House. The two Senate Committees with primary jurisdiction over Price-Anderson renewal - the Committees on Energy and Natural Resources and Environment and Public Works - each produced different versions of the Price-Anderson bill originally introduced by Senators Simpson and McClure. A subsequent Senate compromise bill devised by the Energy and Environment Committees largely reflected the Environment Committee's version of the Simpson/McClure measure, with a limit of liability (assuming 101 reactors) of $6.2 billion, exceptions for small reactors from the amount-of-coverage requirements, and indemnification of DOE contractor activities (including waste activities) up to the limit of liability applicable to civil power reactor licensees[24]. Because of the opposition of three powerful Democrats on the Environment Committee, however, the evolving Senate compromise emulated its House counterpart in its inability to reach the floor of the chamber during the 99th Congress Congress adjourned, realizing that upon its return in January 1987 - this time with a Democratic majority in the Senate - only seven months would remain before the indemnification authority contained in the Price-Anderson Act would expire

C <u>A Race Against the Clock - The 100th Congress Takes Up Price-Anderson Renewal</u>

When the 100th Congress convened in January 1987, Price-Anderson Act renewal headed the legislative agendas of lawmakers interested in energy

issues. Congressman Udall, seeking to capitalize on the compromises reached with regard to Price-Anderson in the final months of the 99th Congress, introduced legislation building on those compromises. Congressman Udall's bill, eventually designated H R 1414, like its predecessor bill in the previous Congress, required utilities to maintain the maximum amount of nuclear liability insurance coverage available ($160 million) and would assess a retrospective premium of $63 million per reactor per accident with no more than $10 million in any one year With 107 civilian reactors then subject to the Price-Anderson compensation, H R 1414 provided for a limit on liability of nearly $7 billion In fact, H.R 1414 differed from the 99th Congress' compromise House bill in only a few significant respects, including an inflation adjustment for the retrospective premium and a restriction on the use of Price-Anderson funds to defend against damage claims H.R 1414 also granted the NRC authority to borrow funds to pay valid claims that exceeded payments available from insurance proceeds and retrospective premiums[25].

As was the case in the 99th Congress, the deliberations of the three House Committees of primary jurisdiction produced three different versions of H R.1414 The competing House proposals were then reconciled - to the amazement of many who had observed the often raucous debate In contrast to the previous year, the House Rules Committee adopted a rule allowing consideration of the compromise Price-Anderson bill to move to the House floor The ensuing two-day debate saw the House repeatedly reject attempts to add controversial, and potentially crippling amendments The House ultimately passed H R 1414 on 30th July just two days before the Price-Anderson Act expired on 1st August 1987

In the Senate, consideration of Price-Anderson renewal legislation proceeded at a considerably slower pace Senator J. Bennett Johnston, the new Chairman of the Energy Committee, introduced a "contractor only" bill that retained the Senate compromise of the 99th Congress with respect to DOE's contractors[26] Energy Committee amendments to that bill sought to link indemnification of contractors to the inflation-adjusted limit of liability applicable to NRC licensees and extend Price-Anderson for thirty years. Efforts to authorize the imposition of massive fines on contractors who had engaged in "knowing and willful misconduct", however, stalled consideration of the bill Energy Secretary John Herrington claimed that DOE would not be able to attract contractors if they might be held liable to such an extent, and eventually the potential civil penalties were scaled back in size and scope and a moderate criminal sanctions provision added

In the Senate Environment Committee, during this same period, consideration was focussed on a bill sponsored by Senator Daniel Patrick Moynihan which would retain unlimited liability, and a comprehensive renewal bill introduced by Robert Stafford, the ranking minority member. The Stafford bill, which was nearly identical to the compromise Price-Anderson legislation produced by the House in the 99th Congress, limited the aggregate amount of the standard deferred premium to $63 million per reactor, with no more than $10 million to be paid in any one year The bill also permitted the NRC, on a case-by-case basis, to determine whether annual deferred premium amounts less than the standard premium should be assessed in cases where "undue hardship to [the] licensee or the ratepayers of [the]

licensee" would result. Also, DOE would be authorized to enter into indemnification agreements with contractors and Price-Anderson's coverage was explicitly extended to nuclear waste activities[27].

By May of 1987, it was becoming clear that even if the House was able to produce and adopt a final bill before the 1st August 1987 expiration of the Act, the Senate would probably miss the deadline. As 1987 slipped by, efforts to combine the very different reneval bills passed by the Senate Energy and Environment Committees failed to produce a compromise bill for floor consideration. In part, the obstacles were substantive, but competing jurisdictional claims by the leadership of the two Committees also played a significant role in the impasse. Finally, at the start of the Second Session of the 100th Congress in January of 1988, leaders of the two Committees agreed to use the House-passed H R.1414 as a vehicle for Senate amendments Three days of spirited debate in which numerous amendments were added to the House version culminated in Senate passage of a revised H R 1414 by voice vote on 18th March 1988 The principal controversial issues before the Senate were once again civil and criminal penalties for contractors

In informal negotiations between the responsible House and Senate leaders to reconcile the two versions of H.R.1414, Senate amendments to provide government indemnification to the radiopharmaceuticals industry and to deem the DOE a contractor in its waste-related activities (and thus directly subject to suit), among others, encountered strong resistance from House leaders. After considerable hard negotiation, a House-drafted compromise, further revising many of the Senate's modifications, went to the House floor on 2nd August 1988, and was passed with a large majority The Senate adopted the House bill three days later by voice vote After more than four years of controversy and compromise, Price-Anderson extension became a reality when President Reagan signed the bill into law on 20th August 1988

III DESCRIPTION OF PROVISIONS OF THE PRICE-ANDERSON AMENDMENTS ACT OF 1988

The measure ultimately enacted into law and signed by the President extended the Price-Anderson Act until 1st August 2002 This extension legislation also added a variety of refinements, clarifications and new concepts to the pre-existing Price-Anderson indemnification regime The following is a description of the more significant changes enacted as part of the 1988 Amendments.

A. Increases in the Retrospective Premium and the Limit of Liability from Accidents at NRC-Licensed Reactors

The 1988 Amendments insert new and significantly larger numbers into the liability regime applicable to civil reactor accidents, but do not alter the basic structure of the Act with respect to such accidents The 1988 Act raises the maximum retrospective premium from $5 million to $63 million per

reactor per incident[28]. This amount would be payable in annual increments no larger than $10 million per reactor Assuming 110 licensed reactors (the number of reactors licensed as of 20th August 1988) and the (unchanged) availability of nuclear liability insurance in the amount of $160 million, the new maximum sum available as compensation for public liability stemming from a single power reactor accident is $7 09 billion The Act also extends until 1st August 2002 the NRC's authority to enter into indemnification agreements with its reactor licensees[29] These indemnification agreements continue to provide financial protection not only for the licensees themselves, but also for their suppliers, contractors, and subcontractors of every tier, i.e., functional channelling of public liability for covered accidents.

In order to keep the Price-Anderson liability ceiling at the same level in real terms, the Act requires that the NRC adjust the maximum retrospective premium for inflation at least once every five years. These adjustments are to be made in accordance with the Consumer Price Index published by the Secretary of Labor[30] The inclusion of this inflation adjustment was a major factor in winning Congressional approval for a fifteen-year extension of the Act

Spirited arguments that Congress should assure that victims of an accident are fully compensated for their losses before lawyers are paid fees for defending the responsible parties led to the enactment of a provision that, in the event the total of public liability claims and authorized legal costs exceeds the liability ceiling, an extra charge of not more than five per cent (e g $3 15 million before any inflation adjustment) may be added to the maximum retrospective premium charged to each reactor[31] At the current cap of $7 09 billion this, in effect, raises the total liability ceiling by about another $350 million This "surcharge", which is also structured so as to be subject to inflation adjustment, would be used for both public liability claims and the authorized "legal costs" (for which the 1988 Act provides a statutory definition) The provision also sets forth a description of what a person seeking payment of legal costs must demonstrate to a court in order for payment of such costs to be authorized from Price-Anderson funds

Finally, the 1988 Act sets the limit on liability for power reactor accidents, including authorized legal costs, at the sum of· the maximum amount of private liability insurance available, the aggregate of the maximum retrospective premiums charged to reactor licensees, and the "surcharges", if any, to these premiums[32]

B Indemnification of DOE Nuclear Contractors

With regard to the indemnification of DOE contractors, the 1988 Act raises the maximum indemnity (and with it, by virtue of other amendments to the Act, the limit on liability) from $500 million to an amount equivalent to the limit on liability applicable to civil reactor licensees (i e , maximum aggregate retrospective premium plus primary insurance coverage) If, however, the liability cap for reactor licensees were to decrease in the future (owing to, for example, the decommissioning of retired reactors), the indemnification available to DOE contractors would not fall, but instead,

would remain at its highest historical level. As with NRC indemnification agreements, these DOE indemnities extend to the contractors' suppliers and subcontractors of every tier. As in the past, the Secretary of Energy is authorized, but not required, to oblige contractors to obtain their own "primary level" of financial protection The 1988 Act also extends DOE's indemnification authority for fifteen years, until 1st August 2002 (As discussed below, this extension was of much more immediate significance to DOE contractors than was its counterpart with respect to NRC-licensed reactors) It also provides for the immediate and automatic retrospective amendment of DOE nuclear contracts entered into since the Price-Anderson Act's expiration on 1st August 1987, to substitute therein the new Price-Anderson regime for the less comprehensive regime on which DOE and its contractors had been forced to rely in the interim Further, it made the Price-Anderson regime the exclusive indemnification means for DOE nuclear contract activities and for DOE's demonstration reactors licensed by the NRC[33].

For the first time, the 1988 Act addressed the relationship between DOE waste activities and Price-Anderson indemnification Public liability claims arising from "nuclear waste activities" (now a defined term under the Atomic Energy Act of 1954) funded by the nuclear-utility-supported Nuclear Waste Fund (created by the Nuclear Waste Policy Act of 1982) will be paid from that Fund up to the ceiling in effect at that time for the NRC reactor licensees In its indemnification agreements with its contractors engaged in nuclear waste activities, DOE may be required to incorporate provisions compelling those contractors to waive sovereign or charitable immunities defenses[34]

C Precautionary Evacuations

A significant new addition to the definition of "public liability" covered by the Price-Anderson regime is that of costs incurred when a "precautionary evacuation" takes place A precautionary evacuation is defined by the 1988 Act as an evacuation of the public that is ordered when a threat of imminent danger, posed by nuclear materials, reasonably leads a responsible and authorized state or local officials to initiate evacuation to protect the health and safety of the public. While existing nuclear liability insurance policies cover payment "for loss of use of property while evacuated or withdrawn from use because . of imminent danger of such contamination"[35], this provision ensures that a state and its responding localities will be compensated for their reasonable additional costs of law enforcement, emergency shelter and the like in case of either a nuclear incident or a precautionary evacuation. In the Committee explanations of the provision, it was made clear that the Congress also included as additional compensable items "such costs incurred by the public" in the evacuation[36] This is not to say, however, that all costs incurred by the public are recoverable The Act precludes recovery of the "costs of a precautionary evacuation unless such costs constitute a public liability" The definition of "public liability", in turn, excludes such items as claims under state or federal workers' compensation laws for nuclear workers employed at the site and "claims arising out of an act of war"[37].

D. Relief from Deferred Premiums

The financial viability of nuclear utilities is protected in three important ways by the 1988 Amendments To keep manageable the payments of the potentially vast damages arising from a nuclear accident, the per reactor payments in the form of retrospective premiums may not exceed $10 million in any one year. Should more than one accident occur in the course of a calendar year, the NRC is authorized to reduce the standard annual deferred premium contribution amount This option also exists for the benefit of utilities that are licensed to operate more than one reactor (which the majority of nuclear utilities currently do) under circumstances where full payment of assessed retrospective premiums "would result in undue financial hardship" to the utility-licensee. Any reduction in the standard assessment to a licensee would be required to be paid subsequently (i e , "within a reasonable period of time") by the licensee, with interest Additionally, a variety of financial mechanisms, including borrowing authority, which the NRC may use in order that payment of valid claims not be unduly delayed, are authorized by the 1988 Act[38]

E Statute of Limitations for Damages from an ENO

The Atomic Energy Act assures that, notwithstanding any shorter state statute of limitations, damages stemming from an ENO may be recovered in suits filed within three years of the date on which the claimants knew or could first reasonably have known of injury or property damage they incurred[39]. Prior to the 1988 Amendments, however, once twenty years had passed after the ENO, the statute of limitations ran out on public liability unless a longer state statute of limitations applied Thus, an accident victim whose leukemia surfaced twenty-one years after an ENO-induced exposure could have been left with no legal recourse The 1988 Act strikes out the twenty-year filing requirement, leaving all plaintiffs free to file suit regardless of how long after the ENO the injury is discovered or become discoverable[40] The ENO provisions are also expanded to cover occurrences involving, inter alia, transportation of nuclear material to or from a licensed facility and occurrences involving nuclear waste activities[41]

F Civil and Criminal Penalties Against DOE Contractors

One of the most controversial aspects of the Price-Anderson renewal battle - and a cause for considerable delays in the last months of the legislative process - was the extent to which DOE contractors were to be made liable for civil and criminal penalties for their safety violations and, indeed, whether they ought to be fully indemnified (or be subject to a right of subrogation) by the Government in the event such a safety violation contributed to a nuclear accident In the end, the advocates of restraint in imposing such new requirements prevailed in their arguments that subrogation vulnerability and less-than-complete indemnification for DOE contractors would

not enhance safety consciousness but rather would be a formidable disincentive for major U S companies to undertake defense-related contract activities for DOE

Provisions were included, however, for the imposition of civil and criminal penalties on contractors in specified circumstances The Secretary of Energy now has the authority to impose civil penalties of up to $100,000 per violation against DOE contractors (and their suppliers and subcontractors) who violate, or whose employees violate, applicable DOE nuclear safety rules or regulations[42]. Since each day of a continuing violation is a separate violation, the maximum civil penalty may quickly rise to a very high level The provision also sets standards for determining (within the maximum limits) how large a civil penalty should be imposed and provides procedures for contesting the imposition of, and for collecting, such civil penalties It also exempts from such civil penalties the contract activities of the operators of nine national laboratories run by DOE, and of their subcontractors and suppliers

Furthermore, DOE nuclear contractors and their individual officers, directors and employees who knowingly and wilfully violate, or cause the violation of, the Atomic Energy Act or a nuclear safety-related rule or regulation of DOE where such violation results, or could have resulted, in a nuclear accident are subject to criminal penalties[43] Those convicted would face both fines and incarceration, with stiffer penalties authorized for multiple offenders

G Punitive Damages

Ever since the Supreme Court handed down its decision in Silkwood v Kerr-McGee[44], a case which did not, in fact, involve the Price-Anderson Act, it has been a matter of live speculation as to whether courts could award punitive damages where Price-Anderson did apply The Act clearly answers that question in the negative, preventing courts from awarding punitive damages - arising from either nuclear accidents or precautionary evacuations - against any person entitled to be indemnified by the Government under the Act[45] The purpose of this clarification is to avoid diminishing the funds available to pay compensatory damages to some victims by awarding other victims punitive damages It is also designed to ensure that the Government is not ultimately held subject to liability for punitive damages.

H Public Compensation in Excess of the Limitation on Liability

A recurring objection to the Price-Anderson regime has been to its limitation on liability Although opposition efforts to remove a liability limitation from the extension legislation were unavailing, the Congress did add specific provisions to the 1988 Amendments addressing this issue The 1988 Amendment recognized that there may occur nuclear accidents so severe that even the newly increased limits on liability will prove insufficient to fully compensate all the victims. The President is required to appoint a

Commission on Catastrophic Nuclear Accidents to study the means of fully compensating the victims of such an accident, including the establishment of priorities among claimants[46] The Commission is to report to the Congress on its findings by 20th August 1990

In the event a nuclear accident occurs which is deemed as likely to have caused damage in excess of the applicable ceiling on public liability, the NRC or the Secretary of Energy (whichever has jurisdiction) would be required by the 1988 Act to assess the damages and "expeditiously" prepare and submit to the Congress a report on those damages and their causes[47] Once a court had found that damage might exceed the applicable liability limit, the President would be required to submit to Congress a plan for full compensation of all valid claims, including recommendations for new legislation to effect such compensation Congress would be required to give expeditious consideration to that compensation plan, and would have "sixty calendar days of continuous session" to approve it by joint resolution.

In addition to the provisions described above, Congress is expressly reserved the right to enact further revenue measures, including new legislation increasing the financial burden on NRC reactor licensees, to fund such a compensation plan[48]

I Liability of Lessors

In the recent past, there have been a small number of transactions in which nuclear utilities (for complex financial and regulatory reasons) have sold their nuclear reactor facilities to third parties and then leased them back and operated them The 1988 Amendments now make it clear that the channelling effect of Price-Anderson is not altered by such sale-leaseback transactions[49]. It guarantees that lessors in such transactions will not be legally liable for damages resulting from an accident at a plant not under their actual possession or control The party with the ultimate financial responsibility would still be the licensee, even if it no longer owned the plant, but merely operated it

J Radiopharmaceuticals

The last outstanding major difference between the two chambers was over whether to indemnify manufacturers and users of radioisotopes or radiopharmaceuticals for medical purposes Temporarily resolving the disagreement is a provision that directs the NRC to decide the issue, within eighteen months after 20th August 1988, under a statutory "negotiated rulemaking" framework overseen in part by an administrative convener, who will make recommendations to the Commission on the subject[50]

IV. CONCLUSION

On 20th August 1988, upon signing the Price-Anderson Amendments Act of 1988 into law, President Reagan stated:

> "I sign this legislation in the midst of a summer that has brought record temperatures to much of our country
>
> The current limits to our electric generating capacity are already being felt. clocks losing time because of voltage reductions, temporary losses of power at moments of peak demand, and the necessity of employing backup generators at hospitals and like facilities that have this capacity to meet emergency needs.
>
> The implication of this situation is clear Our nation must move forward into a new era of safe, economical and clean nuclear power
>
> Enactment of an extension of Price-Anderson is the latest in our steps to assure a reliable, expanding supply of nuclear power for the Nation "[51]

Thus, after more than four years of legislative manoeuvring over Price-Anderson renewal, the President at last completed its removal from the legislative agenda for the remainder of the twentieth century It is of more than passing interest to note, in this regard, that when the Price-Anderson regime is next scheduled to come before the U S Congress for renewal, that Congress will almost certainly contain not a single veteran of the Joint Committee on Atomic Energy. One such veteran, Congressman Melvin Price (Domocrat-Illinois), died in early 1988 without seeing his namesake renewed Another, Congressman Manuel Lujan (Republican-New Mexico), announced his intention to retire from the Congress once the 100th Congress was over

What are the lessons of the long legislative struggle leading to renewal of the Price-Anderson Act? One important lesson lies in what did not happen - the system was not allowed to collapse For licensees of operating power plants and those holding construction permits, continuing coverage was *fore-ordained; the 1957 Price-Anderson Act and its later extensions* were drafted so that the indemnification arrangements of existing Nuclear Regulatory Commission licensees (i.e., power reactor licensees or license applicants with a valid pre-August 1987 construction permit from the NRC) remained in place notwithstanding Congressional failure to act by 1st August 1987 On that date, the Commission's authority to enter into indemnification agreements with subsequent applicants for construction permits expired. However, since there were no applications for power reactor construction permits pending before the Commission at the time, the practical impact of that lapse of authority was virtually nil It is significant, however, that existing licensees were not saddled with unlimited liability or other crippling additional obligations by the 1988 Amendments Rather, a balanced, though more costly, regime was put in place for the next fifteen years

Moreover, the fifteen-year extension was something of a political vote of confidence (or perhaps of affirmative neutrality) on the future of nuclear power in the United States. To the extent that any U.S. utility might later consider seeking a construction permit for a new nuclear power plant, the continuing lapse of the Act's limitation of liability and of the Government's indemnification authority would certainly have had a chilling, if not terminal, effect.

The August 1987 lapse of indemnification authority had a much greater practical impact on the relationship between the DOE and its private-sector nuclear contractors. As DOE's contracts with these entities expired after 1st August 1987, DOE was unable to renew them with Price-Anderson indemnification, and was compelled to use a fall-back, less comprehensive indemnification regime provided for under another law Some contractors reluctantly accepted the substitute regime. Others cited the lapse of DOE's Price-Anderson indemnification authority as a reason for deferring decisions on whether to continue as contractors of DOE and some threatened to withdraw as DOE nuclear contractors. While the 1988 Amendments retroactively amended all the subject DOE contracts signed since 1st August 1987 to bring them back within the Price-Anderson regime, the new regime imposed civil and criminal penalty risks on DOE contractors which were new to their relationship with DOE and which required as-yet uncharted implementing actions before a satisfactory measure of certainty is re-established

Another lesson learned during the renewal process is that while hardly any contentious legislative task is completed by the U.S. Congress in less than the time allotted, few tasks are impossible given sufficient practical incentives to get them done and the willingness of a few far-sighted members with influence to play a leadership role. The 98th Congress began holding hearings on Price-Anderson renewal in 1984 It was not enacted until near the end of the 100th Congress, more than four years later Nearly midway through the process, one of the Chernobyl reactor units destroyed itself and spread contamination over a not insubstantial portion of Europe Before the Chernobyl accident, people asked either why Price-Anderson renewal was needed or why it was taking so long, after Chernobyl, many wondered whether renewal would occur at all. It did occur because (a) the nuclear utility industry was willing to accept a thirteen-fold increase in the retrospective premium; (b) the Department of Energy needed renewal to keep its weapons and enrichment facilities in operation; (c) the anti-nuclear opposition eventually came to be seen as endangering the interests of possible accident victims; (d) the NRC abandoned its initial support of unlimited retrospective premiums for reactor licensees, and (e) Chairman Udall and Senators Johnston, Breaux and Simpson kept the issue at the top of the nuclear legislative agenda until enactment became a certainty And as much as Chernobyl was a complication in the path of renewal, another disaster, the one at Bhopal, proved an even greater incentive to renewal by showing the severe inadequacies of a common law tort regime to deal in a timely way with an industrial disaster of massive proportions.

What remains to be done by the Congress with respect to nuclear liability issues in the wake of Price-Anderson renewal? Surprisingly little! The 1988 Amendments have addressed, or at least set in motion the means to address, a number of issues which have arisen since the 1975 renewal - how to deal with catastrophic accidents where damages exceed the liability ceiling,

punitive damages, legal costs, accidents involving the transport and storage of high-level nuclear wastes, added safety incentives for DOE contractors, coverage of precautionary evacuations, compensation for long-latent cancers, and even the eroding effects of inflation.

While Congress took a long time to act, they appear to have done a fairly comprehensive job in the end. They, like their predecessors, were ultimately able to overcome the unfounded fears of nuclear power and deal with the issues before them in an informed and constructive manner, consistent both with the right to compensation of potential victims and the needs of society as a whole for adequate sources of electric power

NOTES AND REFERENCES

1. Pub. L. No. 100-408, 102 Stat. 1066, (20th August 1988).

2. Section 170 is codified at 42 U.S.C. 2210. The Price-Anderson Act also added several new definitions to Section 11 of the Atomic Energy Act of 1954 Act, 42 U S.C. 2014.

3. See Sen. Rep. No. 296, 85th Congress, 1st Session, reprinted in U S Code Cong. and Admin News 1803, 1806 (1957)

4. Id.

5. See Pub. L No 85-256, s. 4, 71 Stat. 576 (1957).

6 The Supreme Court unanimously upheld the constitutionality of the Price-Anderson Act in 1978, overturning a District Court ruling to the contrary in Duke Power Company v. Carolina Environmental Study Group, Inc , 438 U.S. 59 (1978). Writing for the Court, Chief Justice Burger rejected arguments that the limits on liability violated the Due Process and Equal Protection clauses of the Constitution. The limit on liability was not arbitrary or irrational, he wrote, because it was rationally related to Congress' effort to encourage private sector construction and operation of nuclear power plants

7. See Pub. L No. 89-210, s. 1, 79 Stat 855 (1965)

8 The criteria used by the Nuclear Regulatory Commission to determine whether an ENO has occurred are found at 10 CFR, s. 140 81-140 85 (1988)

9. See Pub L No. 89-645, s 3, 80 Stat 891 (1966) These ENO provisions comprise Section 170n. of the Atomic Energy Act, and are codified at 42 U S.C 2210(n)

10 See Pub. L. No. 94-197, 89 Stat 1111 (1975).

11 It should be noted that special conditions were implemented for smaller reactors and those owned by non-profit educational institutions Under the 1975 amendments, small reactors were not required to buy the full amount of private insurance available, and educational reactors were provided with Government indemnity on damages above $250,000. See Pub L No. 94-197, s 7, 10, 89 Stat 1111, 1114 While not required to be so by the Price-Anderson regime, many of these facilities are privately insured for the first $250,000.

12 NUREG-0957, "The Price-Anderson Act - The Third Decade" (December 1983).

13 See NUREG-0957 at IV-8 - IV-10. The report explained that defense costs were already excluded from the Government's indemnity.

14 H R 51, 99th Cong., 1st Sess , 131 Cong Rec. H83 (3rd January 1985)

15 H R 445, 99th Cong , 1st Sess , 131 Cong. Rec. H100 (3rd January 1985).

16 H R. 2524, 99th Cong , 1st Sess , 131 Cong Rec H3263 (15th May 1985).

17 H R. 2665, 99th Cong , 1st Sess , 131 Cong. Rec H3808 (4th June 1985).

18 S 1225, 99th Cong., 1st Sess , 131 Cong Rec S7204 (24th May 1985).

19 S 445, 99th Cong., 1st Sess , 131 Cong Rec S1264 (7th February 1985).

20 S 1761, 99th Cong., 1st Sess., 131 Cong Rec. S13122 (10th October 1985).

21 See testimony of Commissioner Bernthal before the Subcommittee on Energy and the Environment of the House Interior Committee on 4th June 1985 and before the Subcommittee on Research and Development of the Senate Energy Committee on 25th June 1985.

22 H R 3653, 99th Cong , 1st Sess , 131 Cong. Rec. H9462 (30th October 1985).

23 H R 5650, 99th Cong , 2nd Sess , 132 Cong. Rec H9264 (6th October 1986).

24 Amendment No 3238, 99th Cong., 2nd Sess , 132 Cong. Rec S15403 (6th October 1986).

25 H R 1414, 100th Cong , 1st Sess , 133 Cong Rec H992 (4th March 1987)

26 S 748, 100th Cong., 1st Sess., 133 Cong Rec S3249 (17th March 1987).

27 S 843, 100th Cong., 1st Sess , 133 Cong Rec S3847 (25th March 1987)

28 Pub L No 100-408, s. 2(b), 102 Stat 1066, amending Section 170b. of the Atomic Energy Act of 1954, 42 U S C 2210(b)

29 Pub L No 100-408, s. 3, 102 Stat 1068, amending Section 170c of the Atomic Energy Act of 1954, 42 U.S C. 2210(c).

30. Pub. L. No. 100-408, s. 15, 102 Stat. 1079, to be codified as Section 170t. of the Atomic Energy Act of 1954, 42 U.S.C 2210(t)

31. Pub. L. No. 100-408, s. 11(d), 102 Stat. 1077-78, amending Section 170o of the Atomic Energy Act of 1954, 42 U.S.C. 2210(o).

32. Pub. L. No. 100-408, s. 6, 102 Stat. 1070-71, amending Section 170e. of the Atomic Energy Act of 1954, 42 U.S.C. 2210(e). Legal costs not authorized under the 1988 Act are not included in the liability ceiling

33. Pub. L. No. 100-408, s. 4(a), 102 Stat. 1068-69, amending Section 170d of the Atomic Energy Act of 1954, 42 U.S.C. 2210(d).

34. Id.

35 See NUREG-0957, *supra note* 12, *at* I-7. *NRC there noted that* "it remains to be seen how the insurers would interpret coverage under this provision in specific circumstances". Id. The only public evacuation in U S history for a nuclear incident took place in 1979 in the area surrounding the Three Mile Island Unit 2 reactor. The 1979 accident was considered to be a "nuclear occurrence" for liability insurance purposes but was not designated by the NRC as an "Extraordinary Nuclear Occurrence" for *purposes of the Price-Anderson Act*

36. See H.R. Rept. No. 104, Pt. 1, 100th Cong., 1st Sess. 27 (Committee on Interior and Insular Affairs); H.R. Rept. No. 104, Pt 3, 100th Cong , 1st Sess. 28 (Committee on Energy and Commerce).

37. Section 11w. of the Atomic Energy Act of 1954, 42 U.S.C. 2014(w)

38. Pub. L. No. 100-408, s. 2(c)-2(d), 102 Stat. 1066-68, amending Section 170b of the Atomic Energy Act of 1954, 42 U S.C 2210(b).

39. Pub. L. No. 89-465, adding Section 170n. of the Atomic Energy Act of 1954, 42 U.S.C. 2210(n).

40. Pub. L. No. 100-408, s. 10(a), 102 Stat. 1075, amending Section 170n (1) of the Atomic Energy Act of 1954, 42 U.S.C. 2210(n)(1).

41. Pub. L. No. 100-408, s. 10(b), 102 Stat. 1075-76, amending Section 170n.(1) of the Atomic Energy Act of 1954, 42 U.S C 2210(n)(1)

42. Pub. L. No. 100-408, s. 17, 102 Stat. 1081-83, adding a new Section 234A to the Atomic Energy Act of 1954, 42 U.S.C. 2282a.

43. Pub. L. No. 100-408, s. 18, 102 Stat. 1083, to be codified as Section 223c. of the Atomic Energy Act of 1954, 42 U S C 2273(c)

44. 464 U.S. 238 (1984).

45. Pub. L. No. 100-408, s. 14, 102 Stat. 1078, to be codified as Section 170s. of the Atomic Energy Act of 1954, 42 U.S.C 2210(s)

46. Pub L. No. 100-408, s. 9, 102 Stat. 1074-75, amending Section 170(i). of the Atomic Energy Act of 1954, 42 U.S.C. 2210(i).

47 Pub. L No. 100-408, s 7(a), 102 Stat 1071-73, amending Section 170i of the Atomic Energy Act of 1954, 42 U.S.C 2210(i).

48 Pub. L. No 100-408, s 6, 102 Stat 1071, amending Section 170e. of the Atomic Energy Act of 1954, 42 U.S.C. 2210(e).

49. Pub L. No. 100-408, s 13, 102 Stat. 1078, to be codified as Section 170r. of the Atomic Energy Act of 1954, 42 U.S.C. 2210(r).

50 Pub. L No. 100-408, s. 19, 102 Stat 1083-84

51. Statement by President Reagan Upon Signing H.R.1414 24 Weekly Compilation of Presidential Documents 1075, 20th August 1988.

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The four volumes continue the Göttinger Atomrechtskatalog, the last volume of this vast and comprehensive work on nuclear law prepared by the Institute of Public International Law of Göttingen University (vol 29) appeared in 1977 A total of more than 135000 titles are recorded in volumes 30 - 33 They are made accessible by more than 450 classifications with a total of 21500 references. The classification in German and English is sub-divided into four parts. General - Subjects - International Law - National Law An authors' index provides an additional means for finding relevant literature

• NEA

The Regulation of Nuclear Trade - Non-Proliferation, Supply, Safety OCDE/NEA, Paris 1988, Volume I, 271 pages, volume II, 341 pages

This study is the latest in the series of analytical studies of the major aspects of nuclear legislation in OECD Member Countries and was prepared by the Secretariat in close collaboration with many experts from the Member Countries and the international organisations concerned. The study deals with the regulation of nuclear trade, mainly considered from the angle of the non-proliferation of nuclear weapons, supply of nuclear material and equipment and safety

The study is divided into two volumes. Volume I deals with international aspects of the regulation of nuclear trade and Volume II covers national legislation in this field

Volume I in the context of international regulations, deals with transfers of nuclear materials, equipment and technologies concerning aspects such as non-proliferation, safeguards, physical protection and transport of nuclear materials This volume also examines the various sources of international law governing nuclear trade namely the work and the statutory functions of the relevant international organisations such as IAEA, EURATOM and NEA The importance of bilateral agreements on scientific and technical co-operation and supply of nuclear material and equipment has been also emphasized. For consultation purposes, various basic documents on the regulation of nuclear trade as well as a selection of particularly representative bilateral agreements have been reproduced in full.

Volume II contains a compilation of the different national laws of OECD Member countries which have significant activities in the field of nuclear trade The first part of the national studies covers the political and administrative controls over imports and exports of nuclear materials, equipment and technologies. The second part deals with the licensing system for nuclear trade as well as for imports and exports of nuclear materials with a view to protecting workers and the public against the hazards created by their radioactive properties The reader will also find information on regulations concerning physical protection, industrial property and transport as well as on multilateral and bilateral agreements involving nuclear trade. To facilitate consultation of this volume, the national studies have been prepared following a plan whihch is as uniform as possible given the differences in the legal systems concerned.

Public Understanding of Radiation Protection Concepts - Proceedings of an NEA Workshop, OECD, Paris, 1988, 121 pages

The Chernobyl accident in April 1986 clearly showed that communication with the public was one of the areas which should be improved, particularly concerning the nature and extent of the information provided by national authorities The countermeasures adopted by public health authorities also raised difficulties in terms of public understanding and acceptance due, in part, to a lack of comprehension of the complex radiation protection considerations involved.

This Workshop, organised in December 1987, brought together radiation protection experts and specialists in communication on scientific matters. Its purpose was to analyse the appropriate methods and language to be used when explaining to the public the scientific concepts underlying radiation risks and radiation protection, and the technical rationale for the choice of protective actions in an emergency The participants discussed the various aspects of communicating scientific and technical matters to the public and the specific problems encountered in explaining radiation protection and accident management concepts Some criteria for the development of a more easily understandable language in this field were established.

The Proceedings reproduce the papers presented as well as guidelines in the form of conclusions and recommendations for communicating with the public in both normal and accidental conditions.

• European Communities

The Regulatory Framework for Storage and Disposal of Radioactive Waste in the Member States of the European Community, Radioactive Waste Management Series, by G.D. Burholt and A. Martin, Associated Nuclear Services, United Kingdom, published by Graham and Trotman Ltd., London, for the Commission of the European Communities, 1988, 121 pages

The main purpose of this Study is to collate information and to summarise the present situation with regard to the regulatory framework for the storage and disposal of radioactive waste in each of the twelve Member countries of the European Community. It also covers Sweden, Switzerland and the United States. This will enable comparisons to be made with a view to the joint development and harmonization of waste management policies. This is in preparation of a programme on the management and storage of radioactive waste, the objectives of which are the joint elaboration of waste management and disposal criteria and the evaluation of possible approaches, at Community scale, for waste disposal.

The situation in each European Community country is summarised in a series of appendices to the Study and references are made to the most relevant national documents. For further comparison, a summary has also been made of the situation in the above-mentioned countries outside the Community The main report compares the situation in each country and identifies trends and differences.

After a discussion of the systems of waste classification, the national organisational structures, the status of legislation and current waste management policies are reviewed. The financing of waste management and liabilities under international Conventions are also dealt with in the Study Finally, information is provided on the status of developments with respect to technical criteria for waste management.

The information contained in the Study generally refers to the situation at mid-1986.

• INLA

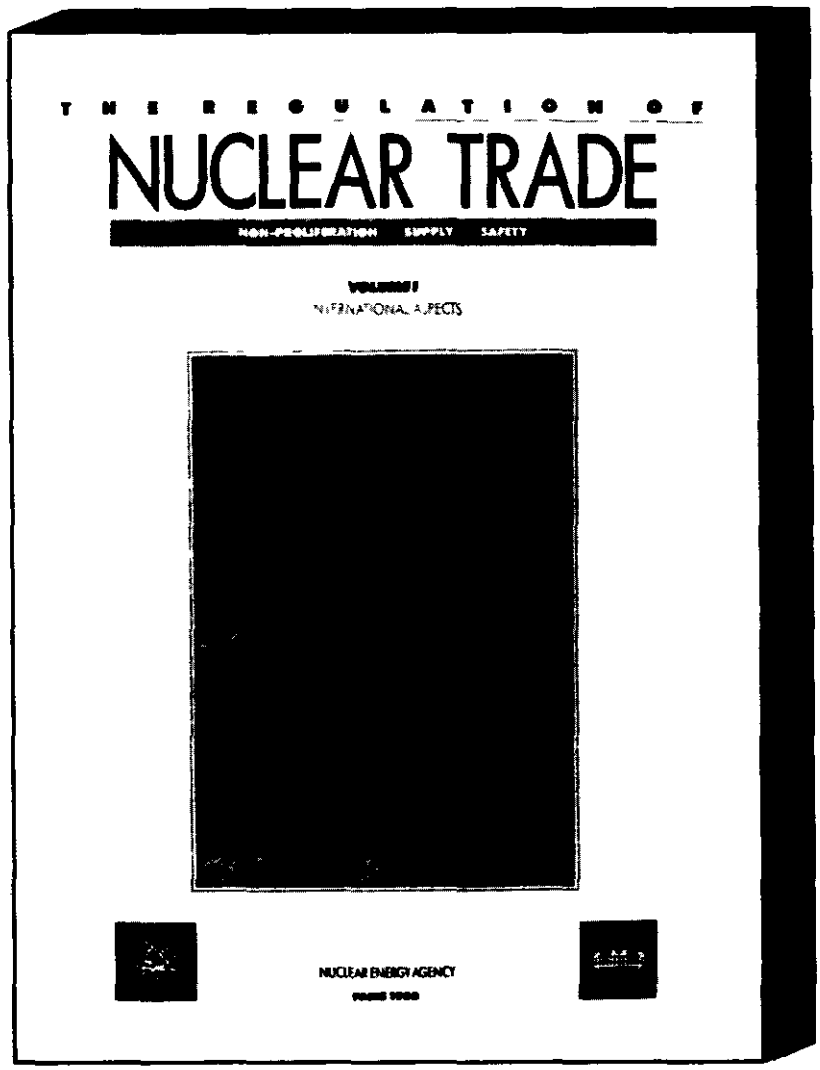
Proceedings of Nuclear Inter Jura' 87, Eighth Congress of the International Nuclear Law Association, published by courtesy of F. Vandenabeele, Ave. Marnix 13, B-1050 Brussels, 1988, 596 pages

The Proceedings of Nuclear Inter Jura' 87 contain the papers presented, the ensuing discussions and their conclusions, as well as the recommendations adopted following the Working Sessions. The Congress was held in Antwerp, Belgium, from 20th to 24th September 1987.

The topics of the Congress were the following: new orientations, convergence and discordance as well as optimization of nuclear law, impact of international treaties, and comparison with the legal provisions of other high technology sectors

Along the same lines as the previous Congress (see Nuclear Law Bulletin N° 36), international Working Groups within the Association presented joint reports which formed the basis of discussions during the Sessions, together with individual reports. A special Session was devoted to Chernobyl and its legal consequences

In the framework of the Congress topics, the reports presented by the different Working Groups dealt respectively with licensing and decommissioning of nuclear installations, nuclear third party liability, international nuclear trade, radiation protection and radioactive waste management.



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ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

NUCLEAR ENERGY AGENCY

SUPPLEMENT TO No. 42

SWEDEN 1988 RADIATION PROTECTION ACT AND ORDINANCE

UNITED STATES THE PRICE-ANDERSON ACT AS AMENDED BY THE PRICE-ANDERSON AMENDMENTS ACT OF 1988
[Sections 11 and 170 of the Atomic Energy Act of 1954, as amended]

December 1988

Sweden

RADIATION PROTECTION ACT*
OF 19th MAY 1988
(SFS 1988:220, published on 25th May 1988)

The following is hereby provided by Act of Parliament.

INTRODUCTORY PROVISIONS

Section 1

The purpose of this Act is to protect people, animals and the environment against the harmful effects of radiation.

Section 2

(1) The Act applies both to ionizing and non-ionizing radiation.

(2) Ionizing radiation is defined as the radiation of gamma rays and X-rays, corpuscular radiation and any other radiation with similar biological effects.

(3) Non-ionizing radiation is defined as optical radiation, radio-frequency radiation, low-frequency electric and magnetic fields, ultrasonic radiation and any other radiation with similar biological effects.

Section 3

The Government or authority so empowered by the Government may, insofar as this is not in conflict with the intentions of the Act, provide exceptions to the Act or certain of its provisions in respect of radioactive materials or technical devices capable of generating radiation.

Section 4

The Government may, insofar as this is necessary to strengthen the country's military preparedness in special circumstances, issue regulations relating to the total defence which are at variance with the provisions of this Act.

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* Translation provided by Swedish authorities.

Section 5

For the purposes of this Act activities involving radiation are understood to mean:

1. The manufacture, import, transportation, sale, transfer, lease, acquisition, possession or use of radioactive materials, or any other comparable activity,

2. The use of technical devices capable of generating radiation, or any other comparable activity.

GENERAL OBLIGATIONS

Section 6

Persons who conduct activities involving radiation shall, with regard to the nature of such activities and the conditions in which they are carried on:

1. Take such action and precautionary measures as are necessary to prevent or counteract injury to people and animals and damage to the environment,

2. Supervise and maintain the radiation protection at the site, on the premises and in other areas where radiation occurs,

3. Maintain the technical devices and the measuring and radiation protection equipment used in the said activities in good condition.

Section 7

Persons who conduct activities involving radiation shall be responsible for ensuring that those employed in the said activities are thoroughly familiar with the conditions are regulations governing these activities and that they are informed of any risks inherent therein. Persons who conduct such activities shall make sure that those employed in the said activities have the requisite training and know what measures must be taken to ensure that the radiation protection functions in a satisfactory manner.

Section 8

Persons who are engaged in activities involving radiation shall use the safety equipment and take any other measures that are necessary to make the radiation protection function in a satisfactory manner.

Section 9

Persons who manufacture, import, transfer or lease radioactive materials shall, by marking or other appropriate means, provide relevant information concerning radiation protection.

Section 10

Persons who manufacture, import, transfer or lease technical devices capable of generating radiation, or ones that contain radioactive materials, shall be responsible for ensuring that, when such a device is delivered for the purpose of being put into operation or for demonstration for marketing purposes, it is supplied with the necessary radiation protection equipment and that adequate protection against injury to people and animals and damage to the environment is provided on other respects too. Relevant information concerning radiation protection shall be provided by marking or other appropriate means.

Section 11

Persons who install, or perform maintenance work on, a device such as those referred to in section 10 shall make sure that the accompanying radiation protection equipment is also installed and that any other measures necessary with respect to radiation protection and the work in question are also carried out.

Section 12

(1) The Government or authority so empowered by the Government may issue any further regulations that are necessary with a view to protection against, or control of, radiation in the respects referred to in sections 6-11.

(2) Provisions relating to radioactive materials are also contained in the Act (1981:289) concerning Radioactive Pharmaceutical Preparations and the Act (1982:821) concerning the Transportation of Hazardous Goods.

RADIOACTIVE WASTE, ETC.

Section 13

(1) Persons who conduct, or have conducted, activities involving radiation shall be responsible for ensuring that the radioactive waste is collected, treated and disposed of and, if necessary, placed in terminal storage in a satisfactory manner with regard to radiation protection. The same shall apply to discarded sources of radiation that have been used in such activities.

(2) If necessary for the sake of radiation protection, the Government or authority so empowered by the Government may direct that a person who conducts, or has conducted, activities involving radiation shall be responsible for ensuring that the radioactive waste generated by these activities is collected, treated and disposed of, or placed in terminal storage, in a specified manner.

Section 14

Persons who conduct, or have conducted, activities involving technical devices capable of generating radiation shall, if the Government or authority so empowered by the Government so directs, be responsible for ensuring that the device is rendered harmless when it is no longer needed for the said activities.

PROHIBITIONS, SAMPLING, ETC.

Section 15

If necessary for reasons of radiation protection, the Government or authority so empowered by the Government may issue a prohibition against:

1. The manufacture, import, transportation, sale, transfer, lease, acquisition, possession or use of materials containing radioactive materials, or any other comparable activity,

2. The manufacture, import, sale, transfer, lease, acquisition, possession, use, installation or maintenance of, or any other comparable activity involving, technical devices capable of generating radiation that are not subject to an obligation to obtain a licence pursuant to this Act.

Section 16

(1) Persons under the age of 16 may not be employed in work involving ionizing radiation.

(2) The Government or authority so empowered by the Government may issue special directions concerning employees under the age of 18 who carry out such work.

Section 17

If a certain type of work involves special risks with respect to radiation protection for certain employees, the Government or authority so empowered by the Government may direct that special conditions shall apply to the performance of such duties, or may prohibit the performance of these duties by such employees.

Section 18

(1) A person who is, or is about to be, employed in work involving ionizing radiation shall be obliged to undergo a medical examination for the purpose of ascertaining whether he runs a special risk of injury if exposed to ionizing radiation. The Government or authority so empowered by the Government may limit the scope of the above obligation and also issue detailed instructions concerning the medical examination.

(2) Only persons who have undergone a medical examination as stipulated in subsection (1) above may be employed in work involving ionizing radiation. A person who, in connection with the said examination, is considered to run a special risk of injury if exposed to ionizing radiation may not be employed in work involving ionizing radiation without the permission of the Government or authority so empowered by the Government.

(3) If a person who is employed in work involving ionizing radiation, or who may by nature of his employment have been exposed to ionizing radiation, shows signs of injury which there is reason to believe may be attributable to such radiation, his employer shall arrange for him to undergo a medical examination without delay.

Section 19

(1) The Government or authority so empowered by the Government may issue directions concerning measuring and protective equipment, as well as sampling, supervision and inspection, related to radiation protection.

(2) The Government or authority so empowered by the Government may direct that special charges shall be made for such sampling, supervision and inspection as are referred to in subsection (1) above.

OBLIGATION TO OBTAIN A LICENCE, ETC.

Section 20

A licence shall be required for:

1. The manufacture, import, transportation, sale, transfer, lease, acquisition, possession or use of radioactive materials,

2. The manufacture, import, sale, transfer, lease, acquisition, possession, use, installation or maintenance of technical devices capable of and intended for emission of ionizing radiation, or of parts of such devices that are of significance for radiation,

3. The manufacture, import, sale, transfer, lease, acquisition, possession, use, installation or maintenance of any other technical devices apart from those mentioned in subsection 2 above that are capable of generating

radiation and for which the Government or authority so empowered by the Government stipulates that a licence is required.

Section 21

The Government or authority so empowered by the Government may issue directions making a licence compulsory for the manufacture, import, sale, transfer, lease, acquisition, possession, use, installation or maintenance of technical devices capable of generating non-ionizing radiation, or of parts of such devices that are of significance for radiation.

Section 22

(1) Matters relating to licences pursuant to this Act shall be considered by the Government or authority so empowered by the Government.

(2) The Government or authority so empowered by the Government may by issuing directions grant licences pursuant to this Act to public health authorities, certain professional groups and certain hospitals, institutions and companies.

Section 23

(1) A licence pursuant to this Act is not required for activities covered by the Act (1984:3) concerning Nuclear Power Activities, unless other provision is made in licences issued pursuant to that Act.

(2) Provisions relating to the manufacture, import and sale of radioactive pharmaceutical preparations are also contained in the Act (1981:289) concerning Radioactive Pharmaceutical Preparations.

Section 24

A licence may be limited to a certain period.

Section 25

A person who is not in possession of a licence which is required in accordance with sections 20 or 21 may not, until and unless permission has been obtained from the Government or authority so empowered by the Government, take charge in the manner referred to in section 8(1) of the Customs Act (1987:1065) of radioactive materials or technical devices not cleared by the customs. In other respects, the Act (1973:980) concerning Transportation, Storage and Destruction of Goods subject to Import Control, etc. shall be applicable.

CONDITIONS RELATING TO LICENCES, ETC.

Section 26

In connection with the issue of a licence, or during the period of its validity, a supervisory authority may notify the holder of such conditions in respect of the licence as are necessary for reasons of radiation protection.

Section 27

If a licence has been issued pursuant to the Act (1984:3) concerning Nuclear Power Activities, or during the period of its validity, the Government or authority so empowered by the Government may notify the holder of such conditions in respect of the licence as are necessary for reasons of radiation protection. If, however, such a licence has been issued for a nuclear power plant, conditions which may significantly affect the design of the plant or operation of the same shall always be submitted to the Government for consideration.

WITHDRAWAL OF LICENCES

Section 28

A licence issued pursuant to this Act may be withdrawn:

1. If regulations or conditions stipulated pursuant to the provisions of sections 12, 13 (2), 14, 15, 16 (2), 17, 19 (1) or 26 are not complied with in any significant respect,

2. If there are special reasons in other cases.

SUPERVISION, ETC.

Section 29

Supervision of compliance with this Act and of the regulations or conditions stipulated pursuant to it shall be exercised by the authority or authorities so empowered by the Government.

Section 30

Following a commitment to that effect by a municipality, the Government or authority so empowered by the Government may assign the responsibility of

exercising supervision in a certain respect to that municipality's Environment and Health Protection Board. If such assignment is made, the provisions of this Act relating to supervisory authorities shall also apply to such an Environment and Health Protection Board.

Section 31

(1) Persons who conduct activities to which this Act is applicable shall, when so requested by a supervisory authority:

1. Provide the said authority with the information and documents necessary for the purposes of supervision,

2. Afford the authority access to the plant or site where the activities are carried on to allow inspections to be made and samples to be taken to the extent necessary for the purposes of supervision. No compensation shall be payable for samples taken in this connection.

(2) The police authorities shall provide the assistance necessary for the purposes of supervision.

(3) The Government or authority so empowered by the Government may stipulate an obligation to reimburse the expenses incurred by a supervisory authority in connection with the taking of samples and examination of the same.

Section 32

(1) A supervisory authority may issue orders and prohibitions if necessary in special cases to ensure compliance with this Act and with directions or conditions stipulated pursuant to its provisions.

(2) If a person fails to take a measure which is incumbent upon him in accordance with this Act or with directions or conditions stipulated pursuant to its provisions, the authority may cause the measure to be taken at his expense.

Section 33

(1) Pending the performance of a radiation protection measure for which an order has been made, or to ensure compliance with a prohibition which has been issued, a supervisory authority may take charge of radioactive materials or technical devices capable of generating radiation or containing radioactive materials.

(2) A supervisory authority may also seal a technical device or plant in order to prevent unlawful use of the same.

(3) The police authorities shall provide the assistance necessary for the taking of measures pursuant to subsections (1) and (2) above.

Section 34

Decisions relating to orders or prohibitions pursuant to this Act may include a stipulation making non-compliance subject to a penalty of a fine.

PROVISIONS CONCERNING LIABILITY, ETC.

Section 35

The penalty for offences committed deliberately or through gross negligence against the provisions of sections 6, 7, 9-11 or 13(1) shall be a fine or imprisonment for not more than two years.

Section 36

The penalty for offences committed deliberately or through negligence in the following instances shall be a fine or imprisonment for not more than two years:

1. Offences against the provisions of sections 16(1) or 20, subsection 1 or 2,

2. Failure to comply with directions issued under the provisions of sections 12(1), 13(2), 14, 15, 16(2), 17, 19(1), 20, subsection 3 or 21,

3. Failure to comply with conditions stipulated under the provisions of sections 26 or 27,

4. Failure to comply with an order or prohibition issued under the provisions of section 32(1).

Section 37

The penalty for offences committed deliberately or through negligence in the following instances shall be a fine:

1. Offences against the provisions of sections 18(2) or (3),

2. Failure to comply with the request of a supervisory authority pursuant to section 31(1),

3. The submission, in an application or other document tendered pursuant to this Act or a direction issued under its provisions, of erroneous information concerning matters of significance.

Section 38

(1) No penalty shall be imposed for minor offences.

(2) No penalty shall be imposed pursuant to this Act in the case of offences which are punishable under the Criminal Code or the Act (1960:418) concerning Penalties for Smuggling Goods.

Section 39

A person who neglects to obey an order to pay a fine or fails to comply with a finable prohibition shall not be liable under this Act for the action to which such an order or prohibition applies.

Section 40

(1) Radioactive materials or technical devices capable of generating radiation that have been involved in an offence under this Act, or the value thereof, as well as the proceeds of such offences, shall be declared forfeit, unless this is manifestly unreasonable.

(2) Subsection (1) above shall also apply to containers and other radiation protection devices accompanying radioactive materials or technical devices.

Section 41

(1) Persons who have been associated with any matter relating to this Act may not without authorization disclose or take advantage of any information they have received concerning business matters or operating conditions or circumstances of significance for the national defence.

(2) The Secrecy Act (1980:100) shall be applicable instead of this Act with respect to public service activities.

Section 42

(1) Appeals against individual decisions made pursuant to this Act may be lodged with an administrative court of appeal. Appeals against decisions relating to the matters referred to in section 27 shall, however, be made to the Government.

(2) Directions shall be issued by the Government concerning appeals against decisions made by an authority pursuant to this Act by virtue of powers granted under its provisions.

(3) Decisions rendered pursuant to this Act shall take effect immediately unless other provision is made.

TRANSITIONAL PROVISIONS

1. This Act enters into force on 1st July 1988.

2. This Act supersedes the Radiation Protection Act (1958:110).

3. The provisions of sections 13 and 14 shall not apply to persons who have discontinued the activities concerned prior to entry into force of this Act.

4. Directions issued and individual decisions rendered under the provisions of the Radiation Protection Act (1958:110) shall be considered as having been issued and rendered under the corresponding provisions of this Act. Persons who, on entry into force of this Act, are approved supervisors in the meaning of section 4 of the former Act shall continue to fulfil their supervisor's duties until other provision is made. The provisions of the same Act relating to supervisors' qualifications shall also apply to other persons who perform similar duties.

5. If reference is made in any other Act or statutory instrument to provisions that have been superseded by the provisions of this Act, the new provisions shall be applicable. However, the Act (1963:115) concerning Extended Holidays for Certain Employees in Radiological Work shall, even after entry into force of this Act, continue to apply to those employed in such work as that referred to in section 1(1) of the Radiation Protection Act (1958:110).

RADIATION PROTECTION ORDINANCE*
OF 19th MAY 1988
(SFS 1988:293, published on 2nd June 1988)

The Government hereby provides as follows.

INTRODUCTORY PROVISION

Section 1

The definitions of the terms used in this Ordinance shall be identical with those of the Radiation Protection Act (1988:220).

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* Translation provided by Swedish authorities.

EXCEPTIONS FROM THE RADIATION PROTECTION ACT (1988:220)

Section 2

(1) The provisions of sections 16(1), 18 and 20, subsections 1 and 2 of the Radiation Protection Act (1988:220) shall not apply to:

1. Radioactive materials with a specific activity not exceeding 100 kilobecquerel per kilogram,

2. Natural materials with a higher specific activity than that referred to in subsection 1 above which have not been processed for the purpose of increasing their specific activity,

3. Uranium, uranium compounds, thorium or thorium compounds used for chemical analyses of other substances in a laboratory or that are used for demonstration, research or educational purposes in educational or research institutions,

4. Thorium in electrodes for luminous discharge lamps, gas discharge tubes and electron tubes or in gas mantles, incandescent mantles or highly refractory laboratory appliances,

5. Individual sources of radiation with a specific activity not exceeding 50 kilobecquerel per kilogram, provided that the radioactive material is so tightly sealed as to prevent contact with or diffusion of the material during normal use (sealed radiation sources),

6. Technical devices capable of and intended for emission of ionizing radiation, provided that the maximum energy of this radiation does not exceed 5 kilo-electron volts.

(2) The National Institute of Radiation Protection may direct that the Act shall also be applicable in the cases mentioned in subsection (1) above.

Section 3

The National Institute of Radiation Protection may, insofar as this is not in conflict with the intentions of the Act, issue directions concerning exceptions from the provisions of sections 16(1), 18 and 20, subsections 1 and 2 of the Radiation Protection Act (1988:220) in other cases than those mentioned in section 2.

Section 4

In special cases the National Institute of Radiation Protection may, insofar as this is not in conflict with the intentions of the Act, issue directions concerning exceptions, wholly or in part, from the application of the Radiation Protection Act (1988:220).

GENERAL OBLIGATIONS

Section 5

If there is reason to believe that a person may, as a result of work involving ionizing radiation, have received radiation injuries, or in the event of a failure or accident which may be related to radiation protection, the person conducting the activities shall immediately report the same to the National Institute of Radiation Protection.

Section 6

In the event of the death of a person possessing a licence pursuant to the Radiation Protection Act (1988:220), the administrator of the estate of the deceased shall report the death to the National Institute of Radiation Protection without delay, and within three months at the latest.

Section 7

The National Institute of Radiation Protection may issue any further directions concerning general obligations pursuant to sections 6-11 of the Radiation Protection Act (1988:220) that are necessary with a view to protection against, or control of, radiation.

RADIOACTIVE WASTE, ETC.

Section 8

The National Institute of Radiation Protection may issue directions concerning radioactive waste and related matters pursuant to sections 13 and 14 of the Radiation Protection Act (1988:220).

PROHIBITIONS, TESTS, ETC.

Section 9

Pursuant to the Radiation Protection Act (1988:220) the National Institute of Radiation Protection may issue directions concerning:

1. The prohibition of activities involving certain materials and technical devices (section 15),

2. Particularly hazardous work (section 17),

3. Measuring and protective equipment, and sampling etc., including charges relating to such sampling (section 19).

JUVENILE EMPLOYEES

Section 10

The National Institute of Radiation Protection may issue directions concerning juvenile employees pursuant to section 16 of the Radiation Protection Act (1988:220).

MEDICAL EXAMINATIONS, ETC.

Section 11

(1) The National Institute of Radiation Protection may issue directions concerning medical examinations pursuant to section 18(1) of the Radiation Protection Act (1988:220).

(2) The National Institute of Radiation Protection shall consider matters relating to permission in certain cases for employment in work involving radiation protection pursuant to section 18(2) of the Radiation Protection Act (1988:220).

LICENCES, ETC.

Section 12

Pursuant to the Radiation Protection Act (1988:220) the National Institute of Radiation Protection may issue directions concerning:

1. The obligation to obtain a licence for certain technical devices capable of generating ionizing radiation (section 20, subsection 3),

2. The obligation to obtain a licence for certain technical devices capable of generating non-ionizing radiation (section 21),

3. Licences for public health authorities, certain professional groups and certain hospitals, institutions and companies [section 22(2)].

Section 13

The National Institute of Radiation Protection shall consider matters concerning:

1. Licences relating to radioactive materials and technical devices, pursuant to sections 20 and 21 of the Radiation Protection Act (1988:220),

2. Permision to take charge of radioactive materials or technical devices not cleared by the customs, pursuant to sections 20 and 25 of the Radiation Protection Act (1988:220).

Section 14

The National Institute of Radiation Protection shall, pursuant to section 27 of the Radiation Protection Act (1988:220), consider matters concerning conditions applying to nuclear power activities.

SUPERVISION

Section 15

The National Institute of Radiation Protection shall exercise supervision of compliance with the Radiation Protection Act (1988:220) and with directions or conditions issued under the provisions of the Act.

Section 16

Following a commitment to that effect by a municipality, the National Institute of Radiation Protection may assign the responsibility of exercising supervision, in one or more respects, of compliance with the Radiation Protection Act (1988:220) to that municipality's Environment and Health Protection Board.

Section 17

The expenses incurred by a supervisory authority for the taking of samples and examination of the same shall, to the extent stipulated by the National Institute of Radiation Protection, and in accordance with the conditions laid down by the Institute, be reimbursed by the person whose activities are the subject of supervision.

PROVISIONS CONCERNING LIABILITY AND APPEALS

Section 18

Provisions concerning liability for failure to comply with the directions and conditions laid down in this Ordinance, or issued by virtue of powers granted pursuant to this Ordinance, are contained in the Radiation Protection Act (1988:220).

Section 19

(1) Appeals against individual decisions by the National Institute of Radiation Protection or an Environment and Health Protection Board by virtue of powers granted pursuant to this Ordinance may, with the exception of decisions made under the provisions of section 14, be lodged with an administrative court of appeal.

(2) Appeals against decisions made by the National Institute of Radiation Protection under the provisions of section 14 and decisions concerning directions issued by virtue of powers granted pursuant to this Ordinance may be lodged with the Government.

DIRECTIONS NECESSARY FOR IMPLEMENTATION

Section 20

Further directions necessary for implementation of this Ordinance shall be issued by the National Institute of Radiation Protection.

This Ordinance enters into force on 1st July 1988, at which time the Radiation Protection Ordinance (1958:652) shall cease to be valid.

THE PRICE-ANDERSON ACT

As Revised by Public Law 100-408

The Price-Anderson Amendments Act of 1988

[Sections 11 and 170 of the Atomic Energy Act of 1954, as amended]

[42 U.S.C. 2014]

SECTION 11 - DEFINITIONS

The intent of Congress in the definitions as given in this section should be construed from the words or phrases used in the definitions. As used in this Act:

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j. The term "extraordinary nuclear occurrence" means any event causing a discharge or dispersal of source, special nuclear, or byproduct material from its intended place of confinement in amounts offsite, or causing radiation levels offsite, which the Nuclear Regulatory Commission or the Secretary of Energy, as appropriate, determines to be substantial, and which the Nuclear Regulatory Commission or the Secretary of Energy, as appropriate, determines has resulted or will probably result in substantial damages to persons offsite or property offsite. Any determination by the Nuclear Regulatory Commission or the Secretary of Energy, as appropriate, that such an event has, or has not, occurred shall be final and conclusive, and no other official or any court shall have power or jurisdiction to review any such determination. The Nuclear Regulatory Commission or the Secretary of Energy, as appropriate, shall establish criteria in writing setting forth the basis upon which such determination shall be made. As used in this subsection, "offsite" means away from "the location" or "the contract location" as defined in the applicable Nuclear Regulatory Commission or the Secretary of Energy, as appropriate, indemnity agreement, entered into pursuant to section 170.

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k. The term "financial protection" means the ability to respond in damages for public liability and to meet the costs of investigating and defending claims and settling suits for such damages.

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m. The term "indemnitor" means (1) any insurer with respect to his obligations under a policy of insurance furnished as proof of financial protection; (2) any licensee, contractor or other person who is obligated under any other form of financial protection, with respect to such obligations; and (3) the Nuclear Regulatory Commission or the Secretary of Energy, as appropriate, with respect to any obligation undertaken by it in an indemnity agreement entered into pursuant to section 170.

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q. The term "nuclear incident" means any occurrence, including an extraordinary nuclear occurrence, within the United States causing, within or outside the United States, bodily injury, sickness, disease, or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of source, special nuclear, or byproduct material: Provided, however, That as the term is used in section 170 1., it shall include any such occurrence outside the United States: And provided further, That as the term is used in section 170 d., it shall include any such occurrence outside the United States if such occurrence involves source, special nuclear, or byproduct material owned by, and used by or under contract with, the United States: And provided further, That as the term is used in section 170 c., it shall include any such occurrence outside both the United States and any other nation if such occurrence arises out of or results from the radioactive, toxic, explosive, or other hazardous properties of source, special nuclear, or byproduct material licensed pursuant to chapters 6, 7, 8 and 10 of this Act, which is used in connection with the operation of a licensed stationary production or utilization facility or which moves outside the territorial limits of the United States in transit from one person licensed by the Nuclear Regulatory Commission to another person licensed by the Nuclear Regulatory Commission.

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s. The term "person" means (1) any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Government agency other than the Commission, any State or any political subdivision of, or any political entity within a State, any foreign government or nation or any political subdivision of any such government or nation, or other entity; and (2) any legal successor, representative, agent, or agency of the foregoing.

t. The term "person indemnified" means (1) with respect to a nuclear incident occurring within the United States or outside the United States as the term is used in section 170 c., and with respect to any nuclear incident in connection with the design, development, construction, operation, repair, maintenance, or use of the nuclear ship Savannah, the person with whom an indemnity agreement is executed or who is required to maintain financial protection, and any other person who may be liable for public liability or (2) with respect to any other nuclear incident occurring outside the United States, the person with whom an indemnity agreement is executed and any other person who may be liable for public liability by reason of his activities under any contract with the Secretary of Energy or any project to which indemnification under the provisions of section 170 d. has been extended or

under any subcontract, purchase order, or other agreement, of any tier, under any such contract or project.

.....

w. The term "public liability" means any legal liability arising out of or resulting from a nuclear incident or precautionary evacuation (including all reasonable additional costs incurred by a State, or a political subdivision of a State in the course of responding to a nuclear incident or precautionary evacuation), except: (i) claims under State or Federal workmen's compensation acts of employees of persons indemnified who are employed at the site of and in connection with the activity where the nuclear incident occurs; (ii) claims arising out of an act of war; and (iii) whenever used in subsections a., c., and k. of section 170, claims for loss of, or damage to, or loss of use of property which is located at the site of and used in connection with the licensed activity where the nuclear incident occurs. "Public liability" also includes damage to property of persons indemnified: Provided, That such property is covered under the terms of the financial protection required, except property which is located at the site of and used in connection with the activity where the nuclear incident occurs.

.....

dd. The terms "high-level radioactive waste" and "spent nuclear fuel" have the meanings given such terms in section 2 of the Nuclear Waste Policy Act of 1982 (42 U.S.C. 10101).

ee. The term "transuranic waste" means material contaminated with elements that have an atomic number greater than 92, including neptunium, plutonium, americium, and curium, and that are in concentrations greater than 10 nanocuries per gram, or in such other concentrations as the Nuclear Regulatory Commission may prescribe to protect the public health and safety.

ff. The term "nuclear waste activities", as used in section 170, means activities subject to an agreement of indemnification under subsection d. of such section, that the Secretary of Energy is authorized to undertake, under this Act or any other law, involving the storage, handling, transportation, treatment, or disposal of, or research and development on, spent nuclear fuel, high-level radioactive waste, or transuranic waste, including (but not limited to) activities authorized to be carried out under the Waste Isolation Pilot Project under section 213 of Public Law 96-164 (93 Stat. 1265).

gg. The term "precautionary evacuation" means an evacuation of the public within a specified area near a nuclear facility, or the transportation route in the case of an accident involving transportation of source material, special nuclear material, byproduct material, high-level radioactive waste, spent nuclear fuel, or transuranic waste to or from a production or utilization facility, if the evacuation is:

1. The result of any event that is not classified as a nuclear incident but that poses imminent danger of bodily injury or property damage from the radiological properties of source material, special nuclear material, byproduct material, high-level radioactive waste, spent nuclear fuel, or transuranic waste, and causes an evacuation; and

2. Initiated by an official of a State or a political subdivision of a State, who is authorized by State law to initiate such an evacuation and who reasonably determined that such an evacuation was necessary to protect the public health and safety.

hh. The term "public liability action", as used in section 170, means any suit asserting public liability. A public liability action shall be deemed to be an action arising under section 170, and the substantive rules for decision in such action shall be derived from the law of the State in which the nuclear incident involved occurs, unless such law is inconsistent with the provisions of such section.

jj. **LEGAL COSTS** - As used in section 170, the term "legal costs" means the costs incurred by a plaintiff or a defendant in initiating, prosecuting, investigation, settling, or defending claims or suits for damage arising under such section.

[42 U.S.C. 2210]

SECTION 170 - INDEMNIFICATION AND LIMITATION OF LIABILITY

a. Requirement of Financial Protection for Licensees

Each license issued under section 103 or 104 and each construction permit issued under section 185 shall, and each license issued under section 53, 63, or 81 may, for the public purposes cited in section 2 i., have as a condition of the license a requirement that the licensee have and maintain financial protection of such type and in such amounts as the Nuclear Regulatory Commission (in this section referred to as the "Commission") in the exercise of its licensing and regulatory authority and responsibility shall require in accordance with subsection b. to cover public liability claims. Whenever such financial protection is required, it may be a further condition of the license that the licensee execute and maintain an indemnification agreement in accordance with subsection c. The Commission may require, as a further condition of issuing a license, that an applicant waive any immunity from public liability conferred by Federal or State law.

b. Amount and Type of Financial Protection for Licensees

(1) The amount of primary financial protection required shall be the amount of liability insurance available from private sources, except that the Commission may establish a lesser amount on the basis of criteria set forth in writing, which it may revise from time to time, taking into consideration such factors as the following:

(A) The cost and terms of private insurance,

(B) The type, size, and location of the licensed activity and other factors pertaining to the hazard, and

(C) The nature and purpose of the licensed activity : Provided, That for facilities designed for producing substantial amounts of electricity and having a rated capacity of 100,000 electrical kilowatts or more, the amount of primary financial protection required shall be the maximum amount available at reasonable cost and on reasonable terms from private sources (excluding the amount of private liability insurance available under the industry retrospective rating plan required in this subsection). Such primary financial protection may include private insurance, private contractual indemnities, self insurance, other proof of financial responsibility, or a combination of such measures and shall be subject to such terms and conditions as the Commission may, by rule, regulation, or order, prescribe. The Commission shall require licensees that are required to have and maintain primary financial protection equal to the maximum amount of liability insurance available from private sources to maintain, in addition to such primary financial protection, private liability insurance available under an industry retrospective rating plan providing for premium charges deferred in whole or major part until public liability from a nuclear incident exceeds or appears likely to exceed the level of the primary financial protection required of the licensee involved in the nuclear incident: Provided, That such insurance is available to, and required of, all of the licensees of such facilities without regard to the *manner in which they obtain other types or amounts of such primary financial* protection: And provided further, That the maximum amount of the standard deferred premium that may be charged a licensee following any nuclear incident under such a plan shall not be more than $63,000,000 (subject to adjustment for inflation under subsection t.), but not more than $10,000,000 in any 1 year, for each facility for which such licensee is required to maintain the maximum amount of primary financial protection: And provided further, That the amount which may be charged a licensee following any nuclear incident shall not exceed the licensee's pro rata share of the aggregate public liability claims and costs [excluding legal costs subject to subsection o.(1)(D), payment of which has not been authorized under such subsection] arising out of the nuclear incident. Payment of any State premium taxes which may be applicable to any deferred premium provided for in this Act shall be the responsibility of the licensee and shall not be included in the retrospective premium established by the Commission.

(2) (A) The Commission may, on a case by case basis, assess annual deferred premium amounts less than the standard annual deferred premium amount assessed under paragraph (1):

(i) For any facility, if more than one nuclear incident occurs in any one calendar year, or

(ii) For any licensee licensed to operate more than one facility, if the Commission determines that the financial impact of assessing the standard annual deferred premium amount under paragraph (1) would result in undue financial hardship to such licensee or the ratepayers of such licensee.

(B) In the event that the Commission assesses a lesser annual deferred premium amount under subparagraph (A), the Commission shall require payment of the difference between the standard annual deferred premium assessment under paragraph (1) and any such lesser annual deferred premium assessment within a reasonable period of time, with interest at a rate determined by the Secretary of the Treasury on the basis of the current average market yield on outstanding marketable obligations of the United States of comparable maturities during the month preceding the date that the standard annual deferred premium assessment under paragraph (1) would become due.

(3) The Commission shall establish such requirements as are necessary to assure availability of funds to meet any assessment of deferred premiums within a reasonable time when due, and may provide reinsurance or shall otherwise guarantee the payment of such premiums in the event it appears that the amount of such premiums will not be available on a timely basis through the resources of private industry and insurance. Any agreement by the Commission with a licensee or indemnitor to guarantee the payment of deferred premiums may contain such terms as the Commission deems appropriate to carry out the purposes of this section and to assure reimbursement to the Commission for its payments made due to the failure of such licensee or indemnitor to meet any of its obligations arising under or in connection with financial protection required under this subsection including without limitation terms creating liens upon the licensed facility and the revenues derived therefrom or any other property or revenues of such licensee to secure such reimbursement and consent to the automatic revocation of any license.

(4) (A) In the event that the funds available to pay valid claims in any year are insufficient as a result of the limitation on the amount of deferred premiums that may be required of a licensee in any year under paragraph (1) or (2), or the Commission is required to make reinsurance or guaranteed payments under paragraph (3), the Commission shall, in order to advance the necessary funds:

(i) Request the Congress to appropriate sufficient funds to satisfy such payments; or

(ii) To the extent approved in appropriation Acts, issue to the Secretary of the Treasury obligations in such forms and denominations, bearing such maturities, and subject to such terms and conditions as may be agreed to by the Commission and the Secretary of the Treasury.

(B) Except for the funds appropriated for purposes of making reinsurance or guaranteed payments under paragraph (3), any funds appropriated under subparagraph (A)(i) shall be repaid to the general fund of the United States Treasury from amounts made available by standard deferred premium assessments, with interest at a rate determined by the Secretary of the Treasury on the basis of the current average market yield on outstanding marketable obligations of the United States of comparable maturities during the month preceding the date that the funds appropriated under such subparagraph are made available.

(C) Except for the funds appropriated for purposes of making reinsurance or guaranteed payments under paragraph (3), redemption of obligations

issued under subparagraph (A)(ii) shall be made by the Commission from amounts made available by standard deferred premium assessments. Such obligations shall bear interest at a rate determined by the Secretary of the Treasury by taking into consideration the average market yield on outstanding marketable obligations of the United States of comparable maturities during the month preceding the issuance of the obligations under this paragraph. The Secretary of the Treasury shall purchase any issued obligations, and for such purpose the Secretary of the Treasury may use as a public debt transaction the proceeds from the sale of any securities issued under chapter 31 of title 31, United States Code, and the purposes for which securities may be issued under such chapter are extended to include any purchase of such obligations. The Secretary of the Treasury may at any time sell any of the obligations acquired by the Secretary of the Treasury under this paragraph. All redemptions, purchases, and sales by the Secretary of the Treasury of obligations under this paragraph shall be treated as public debt transactions of the United States.

c. **Indemnification of Licensees by Nuclear Regulatory Commission**

The Commission shall, with respect to licenses issued between August 30, 1954, and August 1, 2002, for which it requires financial protection of less than $560,000,000, agree to indemnify and hold harmless the licensee and other persons indemnified, as their interest may appear, from public liability arising from nuclear incidents which is in excess of the level of financial protection required of the licensee. The aggregate indemnity for all persons indemnified in connection with each nuclear incident shall not exceed $500,000,000 excluding costs of investigating and settling claims and defending suits for damage: Provided, however, That this amount of indemnity shall be reduced by the amount that the financial protection required shall exceed $60,000,000. Such a contract of indemnification shall cover public liability arising out of or in connection with the licensed activity. With respect to any production or utilization facility for which a construction permit is issued between August 30, 1954, and August 1, 2002, the requirements of this subsection shall apply to any license issued for such facility subsequent to August 1, 2002.

d. **Indemnification of Contractors by Department of Energy**

(1) (A) In addition to any other authority the Secretary of Energy (in this section referred to as the "Secretary") may have, the Secretary shall until August 1, 2002, enter into agreements of indemnification under this subsection with any person who may conduct activities under a contract with the Department of Energy that involve the risk of public liability and that are not subject to financial protection requirements under subsection b. or agreements of indemnification under subsection c. or k.

(B)(i)(I) Beginning 60 days after the date of enactment of the Price-Anderson Amendments Act of 1988, agreements of indemnification under subparagraph (A) shall be the exclusive means of indemnification for public liability arising from activities described in such subparagraph, including activities conducted under a contract that contains an indemnification clause under Public Law 85-804 entered into between August 1, 1987, and the date of enactment of the Price-Anderson Amendments Act of 1988.

(II) The Secretary may incorporate in agreements of indemnification under subparagraph (A) the provisions relating to the waiver of any issue or denfese as to charitable or governmental immunity authorized in subsection n.(1) to be incorporated in agreements of indemnification. Any such provisions incorporated under this subclause shall apply to any nuclear incident arising out of nuclear waste activities subject to an agreement of indemnification under subparagraph (A).

(ii) Public liability arising out of nuclear waste activities subject to an agreement of indemnification under subparagraph (A) that are funded by the Nuclear Waste Fund established in section 302 of the Nuclear Waste Policy Act of 1982 (42 U.S.C. 10222) shall be compensated from the Nuclear Waste Fund in an amount not to exceed the maximum amount of financial protection required of licensees under subsection b.

(2) In agreements of indemnification entered into under paragraph (1), the Secretary may require the contractor to provide and maintain financial protection of such a type and in such amounts as the Secretary shall determine to be appropriate to cover public liability arising out of or in connection with the contractual activity, and shall indemnify the persons indemnified against such claims above the amount of the financial protection required, to the full extent of the aggregate public liability of the persons indemnified for each nuclear incident, including such legal costs of the contractor as are approved by the Secretary.

(3) (A) Notwithstanding paragraph (2), if the maximum amount of financial protection required of licensees under subsection b. is increased by the Commission, the amount of indemnity together with any financial protection required of the contractor, shall at all times remain equal to or greater than the maximum amount of financial protection required of licensees under subsection b.

(B) The amount of indemnity provided contractors under this subsection shall not, at any time, be reduced in the event that the maximum amount of financial protection required of licensees is reduced.

(C) All agreements of indemnification under which the Department of Energy (or its predecessor agencies) may be required to indemnify any person, shall be deemed to be amended, on the date of the enactment of the Price-Anderson Amendments Act of 1988, to reflect the amount of indemnity for public liability and any applicable financial protection required of the contractor under this subsection on such date.

(4) Financial protection under paragraph (2) and indemnification under paragraph (1) shall be the exclusive means of financial protection and indemnification under this section for any Department of Energy demonstration reactor licensed by the Commission under section 202 of the Energy Reorganization Act of 1974 (42 U.S.C. 5842).

(5) In the case of nuclear incidents occurring outside the United States, the amount of the indemnity provided by the Secretary under this subsection shall not exceed $100,000,000.

(6) The provisions of this subsection may be applicable to lump sum as well as cost type contracts and to contracts and projects financed in whole or in part by the Secretary.

(7) A contractor with whom an agreement of indemnification has been executed under paragraph (1)(A) and who is engaged in activities connected with the underground detonation of a nuclear explosive device shall be liable, to the extent so indemnified under this subsection, for injuries or damage sustained as a result of such detonation in the same manner and to the same extent as would a private person acting as principal, and no immunity or defense founded in the Federal, State, or municipal character of the contractor or of the work to be performed under the contract shall be effective to bar such liability.

e. **Limitation on Aggregate Public Liability**

(1) The aggregate public liability for a single nuclear incident of persons indemnified, including such legal costs as are authorized to be paid under subsection o.(1)(D), shall not exceed:

(A) In the case of facilities designed for producing substantial amounts of electricity and having a rated capacity of 100,000 electrical kilowatts or more, the maximum amount of financial protection required of such facilities under subsection b. [plus any surcharge assessed under subsection o. (1)(E)];

(B) In the case of contractors with whom the Secretary has entered into an agreement of indemnification under subsection d., the maximum amount of financial protection required under subsection b. or the amount of indemnity and financial protection that may be required under paragraph (3) of subsection d., whichever amount is more; and

(C) In the case of all other licensees of the Commission required to maintain financial protection under this section:

(i) $500,000,000 together with the amount of financial protection required of the licensee; or

(ii) If the amount of financial protection required of the licensee exceeds $60,000,000, $560,000,000 or the amount of financial protection required of the licensee, whichever amount is more.

(2) In the event of a nuclear incident involving damages in excess of the amount of aggregate public liability under paragraph (1), the Congress will thoroughly review the particular incident in accordance with the procedures set forth in section 170 i. and will in accordance with such procedures, take whatever action is determined to be necessary (including approval of appropriate compensation plans and appropriation of funds) to provide full and prompt compensation to the public for all public liability claims resulting from a disaster of such magnitude.

(3) No provision of paragraph (1) may be construed to preclude the Congress from enacting a revenue measure, applicable to licensees of the Commission required to maintain financial protection pursuant to subsection b., to fund any action undertaken pursuant to paragraph (2).

(4) With respect to any nuclear incident occurring outside of the United States to which an agreement of indemnification entered into under the provisions of subsection d. is applicable, such aggregate public liability shall not exceed the amount of $100,000,000, together with the amount of financial protection required of the contractor.

f. Collection of Fees by Nuclear Regulatory Commission

The Commission or the Secretary, as appropriate, is authorized to collect a fee from all persons with whom an indemnification agreement is executed under this section. This fee shall be $30 per year per thousand kilowatts of thermal energy capacity for facilities licensed under section 103: Provided, That the Commission or the Secretary, as appropriate, is authorized to reduce the fee for such facilities in reasonable relation to increases in financial protection required above a level of $60,000,000. For facilities licensed under section 104, and for construction permits under section 185, the Commission is authorized to reduce the fee set forth above. The Commission shall establish criteria in writing for determination of the fee for facilities licensed under section 104, taking into consideration such factors as (1) the type, size, and location of facility involved, and other factors pertaining to the hazard, and (2) the nature and purpose of the facility. For other licenses, the Commission shall collect such nominal fees as it deems appropriate. No fee under this subsection shall be less than $100 per year.

g. Use of Services of Private Insurers

In administering the provisions of this section, the Commission or the Secretary, as appropriate, shall use, to the maximum extent practicable, the facilities and services of private insurance organizations, and the Commission or the Secretary, as appropriate, may contract to pay a reasonable compensation for such services. Any contract made under the provisions of this subsection may be made without regard to the provisions of section 3709 of the Revised Statutes (41 U.S.C. 5), as amended, upon a showing by the Commission or the Secretary, as appropriate, that advertising is not reasonably practicable and advance payments may be made.

h. Conditions of Agreements of Indemnification

The agreement of indemnification may contain such terms as the Commission or the Secretary, as appropriate, deems appropriate to carry out the purposes of this section. Such agreement shall provide that, when the Commission or the Secretary, as appropriate, makes a determination that the United States will probably be required to make indemnity payments under this section, the Commission of the Secretary, as appropriate, shall collaborate with any person indemnified and may approve the payment of any claim under the agreement of indemnification, appear through the Attorney General on behalf of

the person indemnified, take charge of such action, and settle or defend any such action. The Commission or the Secretary, as appropriate, shall have final authority on behalf of the United States to settle or approve the settlement of any such claim on a fair and reasonable basis with due regard for the purposes of this Act. Such settlement shall not include expenses in connection with the claim incurred by the person indemnified.

i. **Compensation Plans**

(1) After any nuclear incident involving damages that are likely to exceed the applicable amount of aggregate public liability under subparagraph (A), (B), or (C) of subsection e.(1), the Secretary or the Commission, as appropriate, shall:

(A) Make a survey of the causes and extent of damage; and

(B) Expeditiously submit a report setting forth the results of such survey to the Congress, to the Representatives of the affected districts, to the Senators of the affected States, and (except for information that will cause serious damage to the national defense of the United States) to the public, to the parties involved and to the courts.

(2) Not later than 90 days after any determination by a court, pursuant to subsection o., that the public liability from a single nuclear incident may exceed the applicable amount of aggregate public liability under subparagraph (A), (B), or (C) of subsection e.(1), the President shall submit to the Congress:

(A) An estimate of the aggregate dollar value of personal injuries and property damage that arises from the nuclear incident and exceeds the amount of aggregate public liability under subsection e.(1);

(B) Recommendations for additional sources of funds to pay claims exceeding the applicable amount of aggregate public liability under subparagraph (A), (B), or (C) of subsection e.(1), which recommendations shall consider a broad range of possible sources of funds (including possible revenue measures on the sector of the economy, or on any other class, to which such revenue measures might be applied);

(C) 1 or more compensation plans, that either individually or collectively shall provide for full and prompt compensation for all valid claims and contain a recommendation or recommendations as to the relief to be provided, including any recommendations that funds be allocated or set aside for the payment of claims that may arise as a result of latent injuries that may not be discovered until a later date; and

(D) Any additional legislative authorities necessary to implement such compensation plan or plans.

(3) (A) Any compensation plan transmitted to the Congress pursuant to paragraph (2) shall bear an identification number and shall be transmitted to both Houses of Congress on the same day and to each House while it is in session.

(B) The provisions of paragraphs (4) through (6) shall apply with respect to consideration in the Senate of any compensation plan transmitted to the Senate pursuant to paragraph (2).

(4) No such compensation plan may be considered approved for purposes of subsection e.(2) unless between the date of transmittal and the end of the first period of sixty calendar days of continuous session of Congress after the date on which such action is transmitted to the Senate, the Senate passes a resolution described in paragraph (6) of this subsection.

(5) For the purpose of paragraph (4) of this subsection:

(A) Continuity of session is broken only by an adjournment of Congress sine die; and

(B) The days on which either House is not in session because of an adjournment of more than three days to a day certain are excluded in the computation of the sixty-day calendar period.

(6) (A) This paragraph is enacted:

(i) As an exercise of the rulemaking power of the Senate and as such it is deemed a part of the rules of the Senate, but applicable only with respect to the procedure to be followed in the Senate in the case of resolutions described by subparagraph (B) and it supersedes other rules only to the extent that it is inconsistent therewith; and

(ii) With full recognition of the constitutional right of the Senate to change the rules at any time, in the same manner and to the same extent as in the case of any other rule of the Senate.

(B) For purposes of this paragraph, the term "resolution" means only a joint resolution of the Congress the matter after the resolving clause of which is as follows: "That the ..... approves the compensation plan numbered ..... submitted to the Congress on ....., 19...", the first blank space therein being filled with the name of the resolving House and the other blank spaces being appropriately filled; but does not include a resolution which specifies more than one compensation plan.

(C) A resolution once introduced with respect to a compensation plan shall immediately be referred to a committee (and all resolutions with respect to the same compensation plan shall be referred to the same committee) by the President of the Senate.

(D)(i) If the committee of the Senate to which a resolution with respect to a compensation plan has been referred has not reported it at the end of twenty calendar days after its referral, it shall be in order to move either to discharge the committee from further consideration of such resolution or to discharge the committee from further consideration with respect to such compensation plan which has been referred to the committee.

(ii) A motion to discharge may be made only by an individual favoring the resolution, shall be highly privileged (except that it may not be made after the committee has reported a resolution with respect to the same compensation plan), and debate thereon shall be limited to not more than one hour, to be divided equally between those favoring and those opposing the resolution. An amendment to the motion shall not be in order, and it shall not be in order to move to reconsider the vote by which the motion was agreed to or disagreed to.

(iii) If the motion to discharge is agreed to or disagreed to, the motion may not be renewed, nor may another motion to discharge the committee be made with respect to any other resolution with respect to the same compensation plan.

(E)(i) When the committee has reported, or has been discharged from further consideration of, a resolution, it shall be at any time thereafter in order (even though a previous motion to the same effect has been disagreed to) to move to proceed to the consideration of the resolution. The motion shall be highly privileged and shall not be debatable. An amendment to the motion shall not be in order, and it shall not be in order to move to reconsider the vote by which the motion was agreed to or disagreed to.

(ii) Debate on the resolution referred to in clause (i) of this subparagraph shall be limited to not more than ten hours, which shall be divided equally between those favoring and those opposing such resolution. A motion further to limit debate shall not be debatable. An amendment to, or motion to recommit, the resolution shall not be in order, and it shall not be in order to move to reconsider the vote by which such resolution was agreed to or disagreed to.

(F)(i) Motions to postpone, made with respect to the discharge from committee, or the consideration of a resolution or motions to proceed to the consideration of other business, shall be decided without debate.

(ii) Appeals from the decision of the Chair relating to the application of the rules of the Senate to the procedures relating to a resolution shall be decided without debate.

j. Contracts in Advance of Appropriations

In administering the provisions of this section, the Commission or the Secretary, as appropriate, may make contracts in advance of appropriations and incur obligations without regard to sections 1341, 1342, 1349, 1350, and 1351, and subchapter II of chapter 15, of title 31, United States Code.

k. **Exemption from Financial Protection Requirement for Nonprofit Educational Institutions**

With respect to any license issued pursuant to section 53, 63, 81, 104a., or 104c., for the conduct of educational activities to a person found by the Commission to be a nonprofit educational institution, the Commission shall exempt such licensee from the financial protection rquirement of subsection a. With respect to licenses issued between August 30, 1954, and August 1, 2002, for which the Commission grants such exemption:

(1) The Commission shall agree to indemnify and hold harmless the licensee and other persons indemnified, as their interests may appear, from public liability in excess of $250,000 arising from nuclear incidents. The aggregate indemnity for all persons indemnified in connection with each nuclear incident shall not exceed $500,000,000, including such legal costs of the licensee as are approved by the Commission;

(2) Such contracts of indemnification shall cover public liability arising out of or in connection with the licensed activity; and shall include damage to property of persons indemnified, except property which is located at the site of and used in connection with the activity where the nuclear incident occurs; and

(3) Such contracts of indemnification, when entered into with a licensee having immunity from public liability because it is a State agency, shall provide also that the Commission shall make payments under the contract on account of activities of the licensee in the same manner and to the same extent as the Commission would be required to do if the licensee were not such a State agency.

Any licensee may waive an exemption to which it is entitled under this subsection. With respect to any production or utilization facility for which a construction permit is issued between August 30, 1954, and August 1, 2002, the requirements of this subsection shall apply to any license issued for such facility subsequent to August 1, 2002.

l. **Presidential Commission on Catastrophic Nuclear Accidents**

(1) Not later than 90 days after the date of the enactment of the Price-Anderson Amendments Act of 1988, the President shall establish a commission (in this subsection referred to as the "study commission") in accordance with the Federal Advisory Committee Act (5 U.S.C. App.) to study means of fully compensating victims of a catastrophic nuclear accident that exceeds the amount of aggregate public liability under subsection e.(1).

(2) (A) The study commission shall consist of not less than 7 and not more than 11 members, who:

(i) Shall be appointed by the President; and

(ii) Shall be representative of a broad range of views and interests.

(B) The members of the study commission shall be appointed in a manner that ensures that not more than a mere majority of the members are of the same political party.

(C) Each member of the study commission shall hold office until the termination of the study commission, but may be removed by the President for inefficiency, neglect of duty, or malfeasance in office.

(D) Any vacancy in the study commission shall be filled in the manner in which the original appointment was made.

(E) The President shall designate 1 of the members of the study commission as chairperson, to serve at the pleasure of the President.

(3) The study commission shall conduct a comprehensive study of appropriate means of fully compensating victims of a catastrophic nuclear accident that exceeds the amount of aggregate public liability under subsection e.(1), and shall submit to the Congress a final report setting forth:

(A) Recommendations for any changes in the laws and rules governing the liability or civil procedures that are necessary for the equitable, prompt, and efficient resolution and payment of all valid damage claims, including the advisability of adjudicating public liability claims through an administrative agency instead of the judicial system;

(B) Recommendation for any standards or procedures that are necessary to establish priorities for the hearing, resolution, and payment of claims when awards are likely to exceed the amount of funds available within a specific time period; and

(C) Recommendations for any special standards or procedures necessary to decide and pay claims for latent injuries caused by the nuclear incident.

(4) (A) The chairperson of the study commission may appoint and fix the compensation of a staff of such persons as may be necessary to discharge the responsibilities of the study commission, subject to the applicable provisions of the Federal Advisory Committee Act (5 U.S.C. App.) and title 5, United States Codes.

(B) To the extent permitted by law and requested by the chairperson of the study commission, the Administrator of General Services shall provide the study commission with necessary administrative services, facilities, and support on a reimbursable basis.

(C) The Attorney General, the Secretary of Health and Human Services, and the Director of the Federal Emergency Management Agency shall, to the extent permitted by law and subject to the availability of funds, provide the study commission with such facilities, support, funds and services, including staff, as may be necessary for the effective performance of the functions of the study commission.

(D) The study commission may request any Executive agency to furnish such information, advice, or assistance as it determines to be necessary to carry out its functions. Each such agency is directed, to the extent permitted by law, to furnish such information, advice or assistance upon request by the chairperson of the study commission.

(E) Each member of the study commission may receive compensation at the maximum rate prescribed by the Federal Advisory Committee Act (5 U.S.C. App.) for each day such member is engaged in the work of the study commission. Each member may also receive travel expenses, including per diem in lieu of subsistence under sections 5702 and 5703 of title 5, United States Code.

(F) The functions of the President under the Federal Advisory Committee Act (5 U.S.C. App.) that are applicable to the study commission, except the function of reporting annually to the Congress, shall be performed by the Administrator of General Services.

(5) The final report required in paragraph (3) shall be submitted to the Congress not later than the expiration of the 2-year period beginning of the date of the enactment of the Price-Anderson Amendments Act of 1988.

(6) The study commission shall terminate upon the expiration of the 2-month period beginning on the date on which the final report required in paragraph (3) is submitted.

m. Coordinated Procedures for Prompt Settlement of Claims and Emergency Assistance

The Commission or the Secretary, as appropriate, is authorized to enter into agreements with other indemnitors to establish coordinated procedures for the prompt handling, investigation, and settlement of claims for public liability. The Commission or the Secretary, as appropriate, and other indemnitors may make payments to, or for the aid of, claimants for the purpose of providing immediate assistance following a nuclear incident. Any funds appropriated to the Commission or the Secretary, as appropriate, shall be available for such payments. Such payments may be made without securing releases, shall not constitute an admission of the liability of any person indemnified or of any indemnitor, and shall operate as a satisfaction to the extent thereof of any final settlement or judgement.

n. Waiver of Defenses and Judicial Procedures

(1) With respect to any extraordinary nuclear occurrence to which an insurance policy or contract furnished as proof of financial protection or an indemnity agreement applies and which:

(A) Arises out of or results from or occurs in the course of the construction, possession, or operation of a production or utilization facility,

(B) Arises out of or results from or occurs in the course of transportation of source material, byproduct material, or special nuclear material to or from a production or utilization facility,

(C) During the course of the contract activity arises out of or results from the possession, operation, or use by a Department of Energy contractor or subcontractor of a device utilizing special nuclear material or byproduct material,

(D) Arises out of, results from, or occurs in the course of, the construction, possession, or operation of any facility licensed under section 53, 63, or 81, for which the Commission has imposed as a condition of the license a requirement that the licensee have and maintain financial protection under subsection a.,

(E) Arises out of, results from, or occurs in the course of, transportation of source material, byproduct material, or special nuclear material to or from any facility licensed under section 53, 63, or 81, for which the Commission has imposed as a condition of the license a requirement that the licensee have and maintain financial protection under subsection a., or

(F) Arises out of, results from, or occurs in the course of nuclear waste activities,

the Commission or the Secretary, as appropriate, may incorporate provisions in indemnity agreements with licensees and contractors under this section, and may require provisions to be incorporated in insurance policies or contracts furnished as proof of financial protection, which waive (i) any issue or defense as to conduct of the claimant or fault of persons indemnified, (ii) any issue or defense as to charitable or governmental immunity, and (iii) any issue or defense based on any statute of limitations if suit is instituted within three years from the date on which the claimant first knew, or reasonably could have known, of his injury or damage and the cause thereof. The waiver of any such issue or defense shall be effective regardless of whether such issue or defense may otherwise be deemed jurisdictional or relating to an element in the cause of action. When so incorporated, such waivers shall be judicially enforceable in accordance with their terms by the claimant against the person indemnified. Such waivers shall not preclude a defense based upon a failure to take reasonable steps to mitigate damages, nor shall such waivers apply to injury or damage to a claimant or to a claimant's property which is intentionally sustained by the claimant or which results from a nuclear incident intentionally and wrongfully caused by the claimant. The waivers authorized in this subsection shall, as to indemnitors, be effective only with respect to those obligations set forth in the insurance policies or the contracts furnished as proof of financial protection and in the indemnity agreements. Such waivers shall not apply to, or prejudice the prosecution or defense of, any claim or portion of claim which is not within the protection afforded under (i) the terms of insurance policies or contracts furnished as proof of financial protection, or indemnity agreements, and (ii) the limit of liability provisions of subsection e.

(2) With respect to any public liability action arising out of or resulting from a nuclear incident, the United States district court in the district where the nuclear incident takes place, or in the case of a nuclear incident taking place outside the United States, the United States District Court for the District of Columbia, shall have original jurisdiction without regard to the citizenship of any party or the amount in controversy. Upon motion of the defendant or of the Commission or the Secretary, as appropriate, any such

action pending in any State court (including any such action pending on the date of the enactment of the Price-Anderson Amendments Act of 1988) or United States district court shall be removed or transferred to the United States district court having venue under this subsection. Process of such district court shall be effective throughout the United States. In any action that is or becomes removable pursuant to this paragraph, a petition for removal shall be filed within the period provided in section 1446 of title 28, United States Code, or within the 30-day period beginning on the date of the enactment of the Price-Anderson Amendments Act of 1988, whichever occurs later.

(3) (A) Following any nuclear incident, the chief judge of the United States district court having jurisdiction under paragraph (2) with respect to public liability actions (or the judicial council of the judicial circuit in which the nuclear incident occurs) may appoint a special caseload management panel (in this paragraph referred to as the "management panel") to coordinate and assign (but not necessarily hear themselves) cases arising out of the nuclear incident, if:

(i) A court, acting pursuant to subsection o., determines that the aggregate amount of public liability is likely to exceed the amount of primary financial protection available under subsection b. (or an equivalent amount in the case of a contractor indemnified under subsection d.); or

(ii) The chief judge of the United States district court (or the judicial council of the judicial circuit) determines that cases arising out of the nuclear incident will have an unusual impact on the work of the court.

(B)(i) Each management panel shall consist only of members who are United States district judges or circuit judges.

(ii) Members of a management panel may include any United States district judge or circuit judge of another district court or court of appeals, if the chief judge of such other district court or court of appeals consents to such assignment.

(C) It shall be the function of each management panel:

(i) To consolidate related or similar claims for hearing or trial;

(ii) To establish priority for the handling of different classes of cases;

(iii) To assign cases to a particular judge or special master;

(iv) To appoint masters to hear particular types of cases, or particular elements or procedural steps of cases;

(v) To promulgate special rules of court, not inconsistent with the Federal Rules of Civil Procedure, to expedite cases or allow some equitable consideration of claims;

(vi) To implement such other measures, consistent with existing law and the Federal Rules of Civil Procedure, as will encourage the equitable, prompt, and efficient resolution of cases arising out of the nuclear incident; and

(vii) To assemble and submit to the President such data, available to the court, as may be useful in estimating the aggregate damages from the nuclear incident.

o. **Plan for Distribution of Funds**

(1) Whenever the United States district court in the district where a nuclear incident occurs, or the United States District Court for the District of Columbia in case of a nuclear incident occurring outside the United States, determines upon the petition of any indemnitor or other interested person that public liability from a single nuclear incident may exceed the limit of liability under the applicable limit of liability under subparagraph (A), (B), or (C) of subsection e.(1):

(A) Total payments made by or for all indemnitors as a result of such nuclear incident shall not exceed 15 per centum of such limit of liability without the prior approval of such court;

(B) The court shall not authorize payments in excess of 15 per centum of such limit of liability unless the court determines that such payments are or will be in accordance with a plan of distribution which has been approved by the court or such payments are not likely to prejudice the subsequent adoption and implementation by the court of a plan of distribution pursuant to subparagraph (C); and

(C) The Commission or the Secretary, as appropriate, shall, and any other indemnitor or other interested person may, submit to such district court a plan for the disposition of pending claims and for the distribution of remaining funds available. Such a plan shall include an allocation of appropriate amounts for personal injury claims, property damage claims, and possible latent injury claims which may not be discovered until a later time and shall include establishment of priorities between claimants and classes of claims, as necessary to insure the most equitable allocation of available funds. Such court shall have all power necessary to approve, disapprove, or modify plans proposed, or to adopt another plan; and to determine the proportionate share of funds available for each claimant. The Commission or the Secretary, as appropriate, any other indemnitor, and any person indemnified shall be entitled to such orders as may be appropriate to implement and enforce the provisions of this section, including orders limiting the liability of the persons indemnified, orders approving or modifying the plan, orders staying the payment of claims and the execution of court judgments, orders apportioning the payments to be made to claimants, and orders permitting partial payments to be made before final determination of the total claims. The orders of such court shall be effective throughout the United States.

(D) A court may authorize payment of only such legal costs as are permitted under paragraph (2) from the amount of financial protection required by subsection b.

(E) If the sum of public liability claims and legal costs authorized under paragraph (2) arising from any nuclear incident exceeds the maximum amount of financial protection required under subsection b., any licensee required to pay a standard deferred premium under subsection b.(1) shall, in addition to such deferred premium, be charged such an amount as is necessary to pay a pro rata share of such claims and costs, but in no case more than 5 percent of the maximum amount of such standard deferred premium described in such subsection.

(2) A court may authorize the payment of legal costs under paragraph (1)(D) only if the person requesting such payment has:

(A) Submitted to the court the amount of such payment requested; and

(B) Demonstrated to the court:

(i) That such costs are reasonable and equitable; and

(ii) That such person has:

(I) Litigated in good faith;
(II) Avoided unnecessary duplication of effort with that of other parties similarly situated;
(III) Not made frivolous claims or defenses; and
(IV) Not attempted to unreasonably delay the prompt settlement or adjudication of such claims.

p. **Report to Congress**

(1) The Commission and the Secretary shall submit to the Congress by August 1, 1988, detailed reports concerning the need for continuation or modification of the provisions of this section, taking into account the condition of the nuclear industry, availability of private insurance, and the state of knowledge concerning nuclear safety at that time, among other relevant factors, and shall include recommendations as to the repeal or modification of any of the provisions of this section.

(2) Not later than April 1 of each year, the Commission and the Secretary shall each submit an annual report to the Congress setting forth the activities under this section during the preceding calendar year.

q. **Limitation of Awarding of Precautionary Evacuation Costs**

No court may award costs of a precautionary evacuation unless such costs constitute a public liability.

r. **Limitation of Liability of Lessors**

No person under a bona fide lease of any utilization or production facility (or part thereof or undivided interest therein) shall be liable by reason of an interest as lessor of such production or utilization facility,

for any legal liability arising out of or resulting from a nuclear incident resulting from such facility, unless such facility is in the actual possession and control of such person at the time of the nuclear incident giving rise to such legal liability.

s. **Limitation on Punitive Damages**

No court may award punitive damages in any action with respect to a nuclear incident or precautionary evacuation against a person on behalf of whom the United States is obligated to make payments under an agreement of indemnification covering such incident or evacuation.

t. **Inflation Adjustment**

(1) The Commission shall adjust the amount of the maximum standard deferred premium under subsection b.(1) not less than once during each 5-year period following the date of the enactment of the Price-Anderson Amendments Act of 1988 in accordance with the aggregate percentage change in the Consumer Price Index since:

(A) Such date of enactment, in the case of the first adjustment under this subsection; or

(B) The previous adjustment under this subsection.

(2) For purposes of this subsection, the term "Consumer Price Index" means the Consumer Price Index for all urban consumers published by the Secretary of Labor.