NUCLEAR LAW Bulletin

number 15

Contents

Nuclear Energy Agency

Organisation for Economic Co-operation and Development

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

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

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

The OECD Nuclear Energy Agency (NEA) was established on 20th April 1972, replacing OECD's European Nuclear Energy Agency (ENEA) on the adhesion of Japan as a full Member NEA now groups eighteen European Member countries of OECD, Japan and Australia, with Canada and the United States as Associated countries The Commission of the European Communities takes part in the work of the Agency

The objectives of NEA remain substantially those of ENEA, namely the orderly development of the uses of nuclear energy for peaceful purposes This is achieved by

- *assessing the future role of nuclear energy as a contributor to economic progress, and encouraging co-operation between governments towards its optimum development,*
- *encouraging harmonisation of governments' regulatory policies and practices in the nuclear field, with particular reference to health and safety, radioactive waste management and nuclear third party liability and insurance,*
- *forecasts of uranium resources, production and demand*
- *operation of common services and encouragement of co-operation in the field of nuclear energy information;*
- *sponsorship of research and development undertakings jointly organised and operated by OECD countries*

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

NOTICE

When the first Analytical Index of the Nuclear Law Bulletin was published in parallel with issue No. 10, our readers were informed that the Index would be updated periodically, in particular, with issue No. 15. This new edition of the Index will be distributed shortly together with a supplement reproducing the revised text of the German Atomic Energy Act.

We should like to take this opportunity to thank once again all those whose kind collaboration has enabled us to publish the Nuclear Law Bulletin.

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BRAZIL	- Mr. AYRTON SA PINTO DE PAIVA, Legal Adviser, Comissao Nacional de Energia Nuclear
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DENMARK	- Mr. ARILDSEN, Head of Section, Ministry of Justice
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NEW ZEALAND	- Mr. O'LEARY, Executive Secretary of the Atomic Energy Committee
NORWAY	- Mr. SKARPNES, Head of Division, Department of Legislation, Ministry of Justice
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UNITED KINGDOM	- Mr. COLEMAN, Assistant Treasury Solicitor, Treasury Solicitor's Department, Department of Energy
	- Mr. RITCHIE, Deputy Legal Adviser of the Atomic Energy Authority of the United Kingdom
UNITED STATES	- Mr. BRUSH, Office of the General Counsel, United States Atomic Energy Commission
ZAIRE	- Mr. MALU WA KALENGA, Commissioner for Nuclear Science
ZAMBIA	- Mr. ZULU, Solicitor General, Ministry of Legal Affairs
IAEA	- Mr. STEIN, Legal Division, International Atomic Energy Agency
EURATOM	- Mr. PRELLE, Ispra Joint Research Centre, Commission of the European Communities
WHO	- Mr. DE MOERLOOSE, Head of the Health Legislation Unit, World Health Organization

LEGISLATIVE AND REGULATORY ACTIVITIES

• *Argentina*

ORGANISATION AND STRUCTURE

National Atomic Energy Commission

Several texts concerning the duties of the National Atomic Energy Commission have recently been adopted in Argentina.

By Decree No. 1470 of 15th November 1974 the "National Executive Authorities" grant the Commission exclusive use of the symbol "CNEA" so as to avoid any confusion between its own public activities and private ones.

Decree No. 1666 of 30th May 1974 proclaims that 31st May each year shall be "National Atomic Energy Day" to celebrate the anniversary date of the creation in 1950 of the National Atomic Energy Commission by Decree No. 10.936/50.

Finally, a Resolution adopted on 30th September 1974 by the Chamber of Deputies invites the National Executive Authorities to grant the National Atomic Energy Commission exclusive competence for the control and development of nuclear energy in Argentina.

• *Brazil*

FOOD IRRADIATION

Decree of 29th August 1973 laying down general standards for irradiated foodstuffs

Decree No. 72.718 published in the Official Gazette of 30th August 1973 regulates, for all the national territory, the elaboration, storage, transport, distribution, import, export, putting up for sale and delivery for consumption of irradiated foodstuffs. Foodstuffs for human consumption may only be irradiated in establishments approved by the appropriate Health Ministry authorities and following authorisation by

the National Nuclear Energy Commission. In particular, before irradiation of a foodstuff is authorised, the following should be verified: the innocuousness of the irradiated foodstuff from the consumption standpoint, the extent of the effects of irradiation on the essential nutritive principles of the foodstuff as compared with its treatment by conventional processes, the wholesomeness of the irradiated foodstuff and the efficiency of the operation from the viewpoint of the aim to be achieved.

The Standards Commission for Foodstuffs of the Health Ministry is responsible for establishing, on proposal by the National Nuclear Energy Commission and on the basis of approved technical and scientific data, the list of foodstuffs or groups of foodstuffs whose irradiation is authorised, with specifications on the type and intensity of the radiation used and the objectives sought.

When irradiated foodstuffs are put up for sale or delivered for consumption they must be marked "foodstuffs treated by radiation" and "this product has undergone treatment in an establishment controlled by the National Nuclear Energy Commission". The provisions of this Decree apply mutatis mutandis to imported irradiated foodstuffs; irradiated foodstuffs for export may be treated according to the standards in force in the country of destination.

• *France*

REGIME OF NUCLEAR INSTALLATIONS

Regulations on pressurised components for light water reactor steam supply systems

The Minister of Industry and Research issued an Order on 6th December 1974 (Official Gazette of 19th December 1974) supplementing, in respect of the exemptions to the regulations in force, the provisions of the Order of 26th February 1974 on pressurised components for light water reactor steam supply systems (see Nuclear Law Bulletin No. 13).

Disposal of radioactive effluents

The disposal of radioactive effluents from large nuclear installations and from nuclear installations grouped on the same site is governed by Decrees No. 74 - 945 of 6th November 1974 on gaseous effluents and No. 74 - 1181 of 31st December 1974 on liquid effluents (Official Gazette of 15th November 1974 and of 4th January 1975).

Under the Decrees radioactive waste disposal is submitted to a licensing system after a public enquiry and a preliminary study sent by the operator to the Minister of Industry and Research.

The licence sets the limits and methods for carrying out and controlling the disposal operations which the operator of the nuclear installation is authorised to undertake.

The licence is granted by an Interministerial Order signed by the Minister of Industry and Research, the Minister of Health, the Minister of the "quality of life" in the case of gaseous effluents; for liquid effluents, the Order is signed by the Minister of Industry and Research, the Minister of Health, the Minister of the "quality of life", the Minister responsible for water control, and in cases of sea disposal the Minister of Housing and Equipment and the Secretary of State for Transport. The involvement of those different Ministers is due to the fact that the regulations on liquid effluents and on gaseous ones were made in implementation of different laws, thus entailing separate ministerial powers.

Orders specifying the procedure for public enquiries, the terms for the preliminary study, the general rules applicable to limits and disposal methods, to selection of monitoring and control measures are being prepared and will be published shortly.

This radioactive waste disposal licensing procedure for operators of nuclear installations is now added to the licensing procedure for the setting up of nuclear installations regulated by the Decree of 11th December 1963 (as amended) on nuclear installations.

Although they might lengthen lead times for the construction of power stations these new regulations meet an evident need in the safety field and are proof of the French authorities' concern with ensuring very rigorously the environmental protection of power stations and other nuclear installations.

• *Germany*

THIRD PARTY LIABILITY

The Bill relating to the ratification of the Paris and Brussels Nuclear Conventions (see Nuclear Law Bulletin No. 14) was approved by Parliament (Bundestag) on 31st January and by the Federal Council (Bundesrat) on 21st February 1975.

The Third Bill Amending the Atomic Energy Act (see Nuclear Law Bulletin No. 14) was approved by Parliament on 31st January 1975. However, the Federal Council, whose approval is necessary, decided at its session of 21st February 1975 to invoke the mediation procedure foreseen in the Basic Law for the purpose of achieving two modifications to the Bill. The first concerned the participation of the Länder in the indemnification of the operator of the nuclear installation for damage exceeding DM 500 million; the Bill adopted by Parliament had set such participation at 35%. The second modification concerned the transitional arrangements for the licensing of factories for the fabrication of fuel elements which so far do not need a licence for their construction and operation, which Parliament proposed to introduce. On 12th March the Mediation Committee (Vermittlungsausschuss) recommended a 25% participation in the indemnification by the Land concerned and a revised transitional arrangement for fuel element factories. This proposal was adopted by Parliament on 20th March and by the Federal Council on 11th April.

The text of the Atomic Energy Act as amended will be published in the near future as a Supplement to this No. of the Bulletin.

• *Greece*

RADIATION PROTECTION

Decree of 19th November 1974 on the protection against the hazards of ionizing radiations

The purpose of Decree-Law No. 181, published in the Official Gazette of 20th November 1974, is to protect the population and property against ionizing radiations emitted by all types of equipment, nuclear installations and radioactive materials, excluding military installations and weapons.

The Decree lays down, in particular, that the Minister for Public Health is competent for issuing licences for the import, installation and utilisation of equipment emitting ionizing radiations for medical purposes. The Minister for Science and Culture is for his part competent for issuing licences for the import, installation and utilisation of equipment emitting ionizing radiations for purposes other than medical. Finally, the Greek Atomic Energy Commission is responsible for the import, production, holding and disposal of radioactive substances and radioisotopes; it is also competent in respect of all types of radioactive sources, including fissile materials. The Decree also lays down the conditions for issuing such licences.

Furthermore, the Decree contains provisions regulating prospecting and mining and the processing of radioactive ores; the Minister for Industry is competent for these activities and carries out his duties in collaboration with the Commission.

The Decree also lays down penal sanctions against all persons who deliberately release radioactive materials or who use radiations in a manner likely to jeopardise the life, health or property of the public.

• *Israel*

REGIME OF NUCLEAR INSTALLATIONS

The Supervision of Supplies and Services (Construction and Operation of Nuclear Reactors) Order - 1975

Order 5735 signed on 27th September 1974 but dated 1975, concerns the procedure for licensing and control of construction and operation of nuclear reactors. This Order was made by the Prime Minister by virtue of the Supervision of Supplies and Services Law 1957 and the Safety at Work Ordinance (New Version) 1970.

The first Chapter deals with definitions; in particular, "nuclear reactor" means a plant which has been designed, adapted or used for the production of nuclear energy by means of a controlled chain reaction of the fission of nuclear fuel, which is self-sustaining without the presence of an additional source of neutrons.

Chapter 2 establishes an Advisory Committee on Nuclear Safety to advise the Director-General of the Atomic Energy Commission in all matters concerning safety in the construction and operation of a nuclear reactor. The Prime Minister will determine susbsequently the composition of the Committee.

Chapter 3 lays down that it is prohibited to construct or operate a nuclear reactor or to modify it without a permit issued by the Director-General of the Commission and in accordance with the terms of the permit. Applications for a permit must be submitted to the Director-General, following the procedure he has laid down; they must be accompanied by all the information he may require concerning, in particular the site, construction and operation of the reactor, as well as the safety measures and plans for waste disposal. The Director-General may grant or refuse a permit and make its granting subject to such conditions and restrictions as he may think fit.

Before granting a permit, or partial permit for construction and operation, the Director-General must ascertain that the applicant and personnel to be responsible for construction and operation of the nuclear reactor possess the knowledge and training required. He must also ensure that provision has been made for all the safety measures necessary for the protection of workers, the population and the environment. The Director-General is entitled to change the terms of the permit at any time The permit, whose period of validity is set by the Director-General, may not be transferred without his written approval. The Director-General may suspend or cancel the permit at any time in the interests of safety or if the terms of the permit have not been complied with. In certain cases provided by the Order the applicant or permit-holder may lodge an appeal with the Prime Minister against the Director-General's decision.

Chapter 4 provides for the designation by the Director-General of a supervisor of the construction and operation of the nuclear reactor. The supervisor may have access to the site and premises of the nuclear reactor to carry out all investigations and controls which the Director-General may think fit.

A permit-holder must immediately notify to the Director-General any fault or accident likely to cause nuclear damage.

The Order is supplemented by a Declaration adopted on 27th September 1974 by the Prime Minister by virtue of the Supervision of the Supervision of Supplies and Services Law 1957 which is entitled "Declaration Regarding Services Subject to Supervision (Nuclear Reactors)". It repeats certain of the definitions in Chapter 1 of the Order and lays down that construction and operation of a nuclear reactor are services subject to supervision.

• *Italy*

NUCLEAR LEGISLATION

Decree No. 1042 of the President of the Republic of 5th November 1973 /Official Gazette of the Italian Republic of 27th April 1974/

Decree No. 1042 of the President of the Republic (DPR) of 5th November 1973 was made in implementation of the Treaty on the Prohibition of the Emplacement of Nuclear Weapons and other Weapons of Mass Destruction on the Sea-Bed and Ocean Floor and the Subsoil hereof of 11th February 1971. The Treaty, together with its implementing Decree, was published in the Official Gazette of 17th August 1974. Italy ratified this Treaty on 3rd September 1974.

RADIATION PROTECTION

Ministerial Decree of 13th October 1973

A Decree of 13th October 1973 of the Minister of Labour and Social Security lays down a new tariff for premiums for the compulsory insurance of medical staff against disease and injury caused by the use of X-rays and radioactive substances.

REGIME OF NUCLEAR INSTALLATIONS

Interministerial Decree of 1st March 1973 approving the forms to be completed for recognition of the qualifications for running and operating nuclear installations /Official Gazette of the Italian Republic of 17th April 1973/

In accordance with Decree No. 1450 of the President of the Republic of 30th December 1970 governing the recognition of the qualifications required for the technical operation of nuclear installations (see Nuclear Law Bulletin No. 8) the Minister of Labour and Social Security together with the Minister for Industry, Commerce and Crafts have made a Decree approving the forms to be completed by persons wishing to perform such work. Models of the forms are appended to the Decree.

REGIME OF RADIOACTIVE MATERIALS

Ministerial Decree of 1st March 1974 /Official Gazette of the Italian Republic of 22nd February 1975/

The Decree made by the Minister for Industry, Commerce and Crafts lays down the requirements to be met for obtaining licences for the use of radioisotopes. Requests for such licences must contain information on the applicant, the intended use of the radioisotopes (industrial, agricultural, educational, medical, research), the site of the installation where they will be used. The request must also include the maximum activity of each radioisotope together with details on the professional qualifications of the persons responsible for monitoring and radiation protection.

The request must be accompanied by documents describing the premises allocated for the radioisotopes with a detailed diagram of those premises and adjoining areas. A technical report must be provided on the equipment and operations involving the use of the radioisotopes and on the number and qualifications of staff assigned to their use. The report must also include the data required to assess the adequacy, from the radiation protection viewpoint, of the premises where the radioisotopes will be used and housed, of the equipment involved, and also in this connection, information on the quantity, type etc of the radioisotopes as well as the radiotoxicity of each single one.

Finally, a certificate from the provincial authorities in charge of fire prevention must be provided ascertaining that the rules in force in matters of fire prevention have been complied with; the certificate should eventually contain any technical provisions required for the particular work to be performed.

When the Ministry for Industry, Commerce and Crafts has ascertained that the request for a licence and the accompanying documents have been regularly completed, copies are transmitted to the Ministry of Labour and Social Security, and for technical aspects, to the Comitato Nazionale per l'Energia Nucleare, for advice.

Copies of the request and related documents are also transmitted

for advice to the other Ministries or departments concerned, within the limits of their respective competences.

The ultimate decision, however, lies with the Ministry of Industry, Commerce and Crafts which, when issuing such licence, sends a copy to the Ministry or department concerned.

A licence for the use of radioisotopes is valid for five years from its date of issue and may be renewed.

• *Mexico*

THIRD PARTY LIABILITY

Act of 1974 on third party liability for nuclear damage

This Act was promulgated on 29th December 1974 and published in the Diario Oficial on 31st December 1974; it came into force on the following day.

The purpose of the Act is to establish a third party liability regime for damage likely to be caused by the operation of nuclear reactors, by the use of nuclear substances and fuels as well as by radioactive wastes. Nuclear ships are not covered by this Act.

The Mexican Act closely follows the standards laid down by international nuclear third party liability Conventions although Mexico has neither signed nor acceded to the Conventions to date.

One characteristic of the Act, among others, is that the nuclear operator who is held absolutely liable for nuclear damage caused by an incident occurring in his installation or in the course of transport of nuclear substances for which he is responsible, is the person designated or licensed by the State within whose competence the installation is situated. The carrier of the nuclear substances may ask to assume liability for such transport in place of the nuclear operator. Every consignment of nuclear substances requires a certificate describing the nature of the substances carried and giving the amount of the third party liability laid down by the Act.

The maximum amount for the third party liability of an operator for a given nuclear incident is determined at 100 million pesos (approximately 10 million $ US). Liability for successive nuclear incidents occurring in the same installation within a period of twelve months cannot exceed 195 million pesos (approximately 19.5 million $ US). These amounts are exclusive of legal costs.

The Act also lays down a scale for compensation of victims of a nuclear incident:

(i) in case of death, the amount of "the minimum general salary" multiplied by one thousand;

(ii) in case of total disablement, this same amount multiplied by one thousand five hundred;

(iii) in case of partial disablement, this amount multiplied by five hundred.

The time-limit for bringing a claim for compensation of nuclear damage is ten years from the date of the incident or fifteen years from that same date when manifestation of physical injury is delayed. In case of loss, theft, abandonment, jettison of materials having caused a nuclear incident, the time-limit is also ten years from the date of the incident.

The courts competent for deciding on the application of this Act, are the federal courts within whose jurisdiction the defendants are domiciled.

The nuclear operator must immediately inform the appropriate authorities of any nuclear incident or theft of nuclear substances or radioactive materials.

The Department of the Interior (Secretaria de Gobernacion), in liaison with the appropriate federal and local authorities, is in charge of co-ordinating the different safety measures to be taken in case of a nuclear incident.

Regulations will be made in implementation of this Act, in particular in respect of the safety of nuclear installations and control of the access to such installations.

• *New Zealand*

RADIATION PROTECTION

Act of 1974 to amend the Radiation Protection Act 1965

Act No. 116 of 8th November 1974 amends Radiation Protection Act No. 23 of 24th September 1965. The Amendment mainly concerns the procedure for the entry into force of the 1965 Act. Under the 1974 Act, the Order implementing the 1965 Act is deemed to have come into effect on 5th March 1973.

Furthermore, the Amendment decrees that the Radiation Protection Regulations No. 48 of 1973 and the Transport of Radioactive Materials Regulations No. 51 of 1973 in implementation of the 1965 Act are deemed to have come into force on 1st April 1973 (see Nuclear Law Bulletin No. 12).

• *South Africa*

NUCLEAR LEGISLATION

Atomic Energy Act of 19th June 1967

Act No. 90 which was amended by Atomic Energy Act No. 34 of 1970 and Atomic Energy Act No. 73 of 1971, provides for the control of prospecting and mining, processing, enrichment, reprocessing, possession and disposal of source material and of the production of nuclear energy and radioactive nuclides. The Act also defines the powers and functions of the Atomic Energy Board and provides for the control of certain patents.

Under the Act no person may produce nuclear energy except with the written permission of the Atomic Energy Board and unless he is in possession of a licence issued under the Nuclear Installations (Licensing and Security) Act, 1963. The permission granted by the Atomic Energy Board may be subject to certain conditions.

As regards prospecting for and mining of source material the Act provides that no person shall do so unless he has obtained the written permission of the Minister of Mines. The Minister may only withhold such permission if he is satisfied that the security of the State is endangered. The Minister of Mines may, at any time when the national interest so requires, acquire or cause to be acquired any source material which has been mined or processed, and any special nuclear material. In such case the Minister of Mines must pay an appropriate compensation to the owner of the expropriated material.

The possession, disposal, enrichment, reprocessing and export of source material and special nuclear material as well as the production, acquisition, disposal and importation of radioactive nuclides are equally subject to a written authorisation by the Minister of Mines.

Act No. 35 of 1948 on Atomic Energy setting up the Atomic Energy Board is repealed by this Act which nevertheless provides for the continued existence of the Board and defines its composition and functions as mentioned above.

RADIATION PROTECTION

Governmental Notice of 3rd August 1973 concerning the control of electronic products emitting radiation

Notice No. R. 1332 was issued by the Minister of Health by virtue of Section 1 of the Amending Public Health Act 1971 and contains provisions concerning electronic products.

According to the Notice, electronic products emitting radiation may not be used or modified without a prior licence delivered by the Secretary for Health. Similarly, premises where these electronic products are to be operated, have also to be licensed in advance. The licensing procedure lays down that the applicant must provide the Secretary for Health with all relevant information on radiation hazards he could have

had knowledge of when applying which might affect the conditions for granting the licence. The licence entitles its holder to use the electronic product or the premises where it is to be operated only for a specific purpose. The licensee must take all necessary radiation protection measures and must comply with any specific conditions which the Secretary for Health may consider fit to include with the licence. These special conditions may concern the organisation and methods of radiation protection or precautions to be taken before or during operation of the electronic products. The Notice provides that a register must be kept of all persons working with radiation. Radiation workers must be medically fit at the moment of registration, may not be pregnant and must possess the necessary knowledge and experience for operating the electronic products. In order to qualify for registration as radiation workers, candidates must be examined by a doctor nominated for this purpose. In addition, medical checks must be carried out at intervals of at least 14 months, and when accidental radiation has taken place or at any other time deemed necessary by the doctor, the licensee or the Secretary for Health. Radiation workers are also subject to regular radiation monitoring.

As regards patients, the Notice provides that they may not be exposed to radiation longer than strictly necessary and only to the lowest practicable doses compatible with their treatment. Furthermore, the licensee must keep records for a period of at least five years, of all patients exposed to radiation. Except as otherwise provided by the licence, persons may not be exposed to radiation for non-medical purposes

REGIME OF NUCLEAR INSTALLATIONS

Nuclear Installations (Licensing and Security) Act

Nuclear Installations (Licensing and Security) Act No 43 of 8th May 1963 came into force on 17th May 1963. It was subsequently modified by (Licensing and Security) Amendment Act No. 39 of 1965 and by (Licensing and Security) Amendment Act No. 89 of 1967.

The purpose of this Act is to provide for the licensing and control of installations capable of causing nuclear damage and for a third party liability system for such damage; it also lays down provisions regulating the visits of nuclear vessels.

The licence includes provisions prescribed by the Atomic Energy Board concerning, in particular, the system for detecting and recording ionizing radiations, conditions for the siting, construction and operation of the nuclear installation involved, the safety system and measures to be taken in case of an incident, as well as the treatment and disposal of radioactive waste.

As in the United Kingdom legislation, the licensing system in the South African Republic applies to the site used for construction and operation of a nuclear installation. Under the Act, the holder of a nuclear site licence is held absolutely and solely liable for nuclear damage caused by an incident having occurred in his installation or during the course of transport for which he is responsible. A licence is granted only if the operator has provided financial security in compliance with the requirements of the Minister of Mines, after consultation with Minister of Finance. If the amount of a claim for compensation

of nuclear damage is likely to exceed that of the financial security taken out by the operator, the latter must immediately inform the Minister of Mines accordingly so that he may propose appropriate measures to Parliament.

Inspectors, appointed by the Board, are responsible for carrying out investigations on the nuclear installation site to ensure that the requirements laid down by the Act are complied with.

If a nuclear-powered vessel enters the ports or territorial waters of the South African Republic, the Minister of Mines, after consultation with the Minister of Finance, is empowered to determine the conditions each vessel must meet in respect of safety and liability.

REGIME OF RADIOACTIVE MATERIALS

Dangerous Goods Act of 26th March 1973

Act No. 15 lays down rules applicable to goods which may cause damage to man or which may affect his health or cause his death as a result of their dangerous nature, and includes, on this ground, provisions licensing radioactive materials and electronic products emitting radiation.

As regards radioactive materials, the Act provides that the Minister of Health, with the agreement of the Minister of Mines, may classify such materials as dangerous substances. If the Minister of Health intends to proceed with such classification, he must publish a notice in the Official Gazette to this effect and invite interested parties to submit to the Secretary for Health any comments and remarks they may wish to make on the subject.

For the purposes of the Act, the Secretary for Health may nominate inspectors who may enter and inspect any premises which they have reason to believe house dangerous substances. During their inspection, they may require all relevant information concerning the substances in question, measure, mark or seal such substances, examine books and documents in connection with the substances and seize the substances or books and documents, which may give some proof of contravention of the Act.

Under the Act, the Minister of Health may issue regulations concerning any matter which he deems necessary or appropriate to regulate in order to attain the objectives of the Act. These regulations may cover the fabrication, importation, storage and transport of dangerous substances in general and, as regards radioactive materials in particular, dumping and disposal. The regulations may also provide for sanctions in case of contravention. If the Minister of Health intends to issue regulations, he must publish the proposed text in the Official Gazette and invite comments by interested parties. Three months after publication the regulations enter into force.

• *Spain*

ORGANISATION AND STRUCTURE

Composition of the Board of the Junta de Energia Nuclear

Decree No. 3237 of 24th October 1974, published in the Boletin Oficial del Estado on 29th November 1974, and put into force on the following day, has amended Decree No. 2175 of 16th July 1964 laying down the composition of the Board of the Junta de Energia Nuclear.

Under the new Decree, the Board of the Junta is composed of the Chairman, Counsellors whose number must not exceed seventeen, and the Secretary. The Chairman of the Junta is the ex officio Chairman of the Board. The Counsellors are appointed by the Minister of Industry on proposal by the Ministries and bodies to be represented on the Board, such as the Ministries of Finance, Trade Union Relations, Education and Science. The Minister of Industry who is represented by two Counsellors, also appoints a number of scientists or industrialists in view of their specific qualifications. The terms of reference of Counsellors are normally valid for four years.

• *Sweden*

THIRD PARTY LIABILITY

Nuclear Liability Act of 1968

The Swedish Act No. 45 of 8th March 1968 on nuclear third party liability came into force on 1st April 1968 on the same day as the Paris Convention of 1960 (see Nuclear Law Bulletin No. 2). However, Sections 29 to 31 had not yet been implemented as they are based on the Brussels Supplementary Convention of 1963. They are now operative, since a Decree of 18th October 1974 ordered their application as from 4th December 1974, on the same date as the entry into force of the Brussels Supplementary Convention.

• *Turkey*

REGIME OF NUCLEAR INSTALLATIONS

1974 Decree concerning the licensing procedure for nuclear installations

Decree No. 7/9141 of 5th December 1974 entitled "Regulations for Licensing of Nuclear Installations" came into force in December 1974.

Under the Regulations, the licensing system for nuclear installations in Turkey may be outlined as follows:

General licensing procedure

The licensing procedure for nuclear reactor facilities and that for other nuclear installations are slightly different due to the specific characteristics of such installations. A general three-step procedure is adopted for both types as follows:

1. Site Licence
2. Construction Licence
3. Operating Licence

All the applications for licences must be filed with the Turkish Atomic Energy Commission. The applicant must be an establishment with juridical personality and make suitable provision whether by insurance or any other financial security to cover his liability against claims by third parties for compensation for the injury or damage caused by radiation resulting from operation of nuclear reactor facilities or other nuclear installations; such security must be approved by the TAEC.

Licensing of nuclear reactor facilities

1. Site licence

Applications must specify the considered reactor type and its approximate capacity; the application must also provide information on the expertise and qualifications of the consultant firms and a Site Evaluation Report including all relevant particulars on the geological, seismological, hydrographic, meteorological characteristics of the site and vicinity, together with its demographic aspects.

This information is examined by the Nuclear Safety Committee which consists of seven experts in the nuclear field. The Committee is attached to the TAEC and has advisory functions. After perusal of the documents, the Committee submits its recommendations to the TAEC which is the final authority for granting licences. The TAEC's decision must be transmitted to the applicant within five months of the date of application.

2. Construction licence

It is not possible to apply for a construction licence before having obtained a site licence. No construction may begin without a construction licence.

The applicant must attach to his application a Preliminary Safety Analysis Report as well as a complete project of the installation and technical data on the proposed nuclear reactor.

The procedure then followed is the same as that for the site licence.

3. Operating licence

This stage of licensing procedure consists of three permits.

a. Permit for loading nuclear fuel;

b. Permit for start-up;

c. Permit for full power operation.

When applying for an operating licence, the Final Safety Analysis Report, documents showing the proficiency of the operating team, describing the methods of detection and monitoring of ionizing radiation on the reactor site, internal operating instructions etc. should be submitted to the TAEC.

Following examination of these documents, the Nuclear Safety Committee decides whether to load the fuel in the reactor.

After completion of fuel loading and the examination of the other documents, the permit for start-up is given. If the results of the initial operation are found satisfactory, the applicant is granted the permit for full power operation together with the operating licence.

Licensing of other nuclear installations

As already mentioned, the provisions for licensing other nuclear installations are fairly similar to those for reactors; although there are some minor differences concerning the documents to be attached to the applications, the main procedure is identical to the procedures related to the reactors. Furthermore, another difference lies in the delivery of the operating licence as two permits are required instead of three: permit for start-up and permit for full power operation.

• *United Kingdom*

ORGANISATION AND STRUCTURE

The Official Secrets (Prohibited Places) Order 1975

This Order, SI 1975/182, which came into operation on 24th February 1975, revokes a number of earlier Orders in which various establishments (all except one concerned with atomic energy) were declared to be "prohibited places" for the purposes of the Official Secrets Act 1911

The Order declares that the Capenhurst Works and the Windscale and Calder Works of British Nuclear Fuels Limited, and the UKAEA Establishments at Harwell, Risley, Culcheth and the Authority's London Offices are prohibited places, on the ground that information with respect to them or damage to them would be useful to an enemy. All these establishments were previously "prohibited places" and the Order merely consolidates them in one Order with up-to-date descriptions and locations.

The effect of being a "prohibited place" is that prosecutions could be brought for a number of offences under the Official Secrets Act, such as unauthorised entry, acts of espionage, breach of confidence etc., in relation to such places.

RADIATION PROTECTION

Health and Safety at Work etc. Act 1974 (entry into force)

(Commencement No. 1) Order 1974 (SI 1974/1439) brings into force Parts I, II and IV of the Health and Safety at Work Act 1974 at dates which run from 1st October 1974 to 1st April 1975. The Health and Safety Executive (which is now the licensing authority for nuclear installations under the Nuclear Installations Act 1965, and also controls the Nuclear Installations Inspectorate) was established on 1st January 1975.

REGIME OF NUCLEAR INSTALLATIONS

Amendment of the Nuclear Installations Act 1965

Regulations which came into force on 1st January 1975 (SI 1974/2056) repeal and modify certain of the provisions of the 1965 Act and of the Nuclear Installations (Dangerous Occurrences) Regulations 1965; these new Regulations follow from the establishment of the Health and Safety Executive and the entry into force of provisions of the Health and Safety at Work etc. Act 1974 which affect or supersede provisions of the 1965 Act and the 1965 Regulations. In particular, this amendment concerns the transfer of functions under the 1965 Act, connected with the licensing of nuclear installations, from the Secretary of State for Energy to the Health and Safety Executive, and the transfer of functions of inspectors of nuclear instllations appointed by the Secretary of State under the 1965 Act to inspectors henceforth appointed by the Health and Safety Executive.

REGIME OF RADIOACTIVE MATERIALS

Amendment of the Radioactive Substances Act 1948

Section 5 of the Radioactive Substances Act 1948 enables Regulations to be made by the appropriate Minister as respects premises or places in which radioactive substances are manufactured, produced, treated, stored or used or irradiating apparatus is used, for the purpose among others of preventing injury being caused by ionizing radiations to the health of persons employed at those premises or places or other persons. Power to make Regulations for that purpose is now included in the powers

contained in Section 15 of the Health and Safety at Work etc. Act 1974. These Regulations (SI 1974/1821) therefore modify Section 5 of the 1948 Act so that, in its application to Great Britain, it no longer contains the power to make Regulations for that purpose, and in consequence three Orders in Council which make the Secretary of State for Employment the appropriate Minister for the purpose of making Regulations under that Section in specified cases are revoked.

TRANSPORT OF RADIOACTIVE MATERIALS

The Radioactive Substances (Carriage by Road) (Great Britain) Regulations 1974

These Regulations (SI 1974/1735) replace the Radioactive Substances (Carriage by Road) (Great Britain) Regulations 1970, which are therefore revoked. A number of changes have been incorporated in the new Regulations, including a reference to the 1973 edition of the IAEA Regulations for the safe transport of radioactive materials.

Code of Practice for the Carriage of Radioactive Materials by Road

This new 1975 edition of the Code of Practice for the Carriage of Radioactive Materials by Road replaces the first Code published in 1970. This version is based on the 1973 edition of the IAEA Regulations on the Safe Transport of Radioactive Materials. Due to a number of minor changes which will be made to these Regulations, an amendment to the Code of Practice will be published in the course of 1975.

The Air Navigation Order 1974

This Order (SI 1974/1114) made under the Civil Aviation Act 1949, came into operation on 12th September 1974 and replaced a similar Order of 1972. Article 40 provides that dangerous goods (which include radioactive materials) may not be carried in any aircraft on or over the United Kingdom without the written permission of the Department of Trade. In fact most air transport operators serving the United Kingdom have been given written permission to carry goods in accordance with the International Air Transport Association Regulations relating to the Carriage of Restricted Articles, which contain provisions concerning radioactive materials.

ENVIRONMENTAL PROTECTION

Dumping at Sea Act 1974

This Act became law on 27th June 1974. It enables the United Kingdom Government to ratify both the Oslo Convention of 1972 for the Prevention of Marine Pollution by Dumping from Ships and Aircraft and the London Convention of 1972 on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter.

Under Section 1 substances and articles may not be dumped in the United Kingdom territorial waters, or dumped in the sea outside the United Kingdom territorial waters from a British ship or aircraft, or loaded in the United Kingdom for dumping in the sea, without a licence granted by the appropriate authority under Section 2. There is no definition of "substances and articles" and thus radioactive substances are not excluded from the prohibition under Section 1.

Dumping in the sea means the permanent deposit in the sea of substances and articles from a vehicle, ship, aircraft, hovercraft, marine structure or from a structure on land constructed or adapted wholly or mainly for the purpose of depositing solids in the sea /Section 1(2)/.

In general, the licensing authority is the Minister of Agriculture, Fisheries and Food (or in Scotland and Northern Ireland the appropriate Minister) /Section 11(1)/.

If the loading for dumping takes place in a State Party to either the Oslo or the London Convention and that State has authorised the dumping by a licence issued by its appropriate responsible authority, it will not be an offence under the Act to dump such substances or articles /Section 1(7)/.

Section 2 of the Act provides for a system of licensing and Sections 5 to 8 deal with the enforcement of the Act and of the Conventions by enforcement officers who are given powers of inspection and entry into premises and powers to board ships and aircraft etc.

• *Zaire*

NUCLEAR LEGISLATION

A draft regulation in the nuclear field has been prepared by the Commissariat des Sciences Nucléaires and submitted to the National Legislative Council for examination. This draft takes account of the establishment of a National Commission for Protection against Radiations and fixes the general principles of protection against the dangers of radiation.

The Commissariat des Sciences Nucléaires is also in the course of preparing draft regulation for the control of the use of X-rays for medical purposes and technical applications.

CASE LAW AND ADMINISTRATIVE DECISIONS

CASE LAW

• *France*

DISMISSAL OF AN APPEAL TO ANNUL THE LICENCE FOR THE FESSENHEIM NUCLEAR POWER STATION

Following an appeal entered by the Association for Protection against Ionizing Radiation (Association pour la protection contre les rayonnements ionisants) to obtain annulment of the Decree of 3rd February 1972 licensing stage 1 and 2 of the Fessenheim power station, the Claims Assembly (Assemblée du Contentieux) of the Council of State considered the Association's intervention admissible but nevertheless dismissed this appeal by a judgment pronounced on 28th February 1975. The decision of the Council of State was based on the following grounds:

- it was considered that the fact that only extracts from the licensing Decree had been published in the Official Gazette did not detract from its legality;

- consultation with the High Council for Electricity and Gas was not required, contrary to the claimants' inference, since such consultation is compulsory only for instruments of a regulatory nature which was not the case for the Decree in question;

- the claimants also upheld that the licensing Decree should have received the consenting opinion of the Commission of the European Communities in accordance with Article 34 of the Treaty constituting Euratom; the Council of State considered that such consenting opinion was necessary only if experiments were likely to affect the territories of other Member States and such obligation did not apply to an installation of the type referred to by the licensing Decree,

- the claimants also upheld that granting of the licence should have been preceded by the local enquiry provided by the 1963 Decree on large nuclear installations; the Council of State considered that the installation in question having already been declared a "public utility" an additional local enquiry was not compulsory;

- the grounds put forward on the allegation that the 1963 Decree was illegal were also rejected;

- finally, the Council of State decided there was no evidence in the file that, when granting the contested licence, the Government had based its decision on incorrect information or had made a manifest error of judgment.

• *Germany*

OPPOSITION TO THE LICENSING OF THE STADE NUCLEAR POWER STATION

1. As pointed out in Nuclear Law Bulletin No. 13, complaints against administrative acts and decisions have a suspending effect. The licensing authority may, however, order that its decision shall take immediate effect as being in the public interest. The plaintiff may move to restore the suspending effect of his complaint; this motion is decided upon in a summary procedure. The plaintiff may also move for a temporary injunction, if any change of present circumstances would endanger or impede the enjoyment of his rights, or if such injunction is necessary to avoid serious disadvantages or imminent danger.

2. The case concerns the nuclear power station at Stade. The licensing authority (the defendant) had issued successively 5 partial construction licences and 6 partial operating licences. The 6th operating licence of 7th January 1972 authorised gradual commencement of the operation up to 100% of full capacity. Accordingly, the Stade nuclear power station started operation in 1972.

On 4th August 1972, the defendant issued the 7th partial operating licence by which it authorised the owner of the plant (a limited liability company), which intervened in the procedure, to operate the plant under its own responsibility after the technical operation had so far been carried out by the constructing enterprise. Several conditions were imposed in that licence. The defendant ordered that this 7th partial operating licence should have immediate effect in the interests of energy supply to the area in question.

3. It is this 7th partial operating licence that the plaintiff attacks in his complaint. His motion to set aside the licence and, at the same time, to permanently enjoin the operation of the nuclear power station and to remove it from German territory is based on the malicious and deadly effects of the radioactive substances produced in the nuclear

power plant; these effects had come to light through damage to the flora in the Hamburg area. The complaint is still pending in the first instance.

On 1st February 1973, the plaintiff moved to order the immediate shut-down of the plant by way of a temporary injunction, and on 14th March 1973, to restore the suspending effect of his complaint. Both motions were dismissed by the Administrative Court on 4th October 1973. The plaintiff appealed and based his appeal in particular on the works of Sternglass (author of the book "Low Level Radiation") which try to show that even a small increase of the concentration of radioactive substances in the area affected by atmospheric currents leading away from nuclear power plants, will lead to a considerable increase in the mortality rate of infants. The plaintiff argued that this mortality rate had considerably increased over the last years in the Federal Republic of Germany, in particular, in Hamburg.

4. By decision of 20th June 1974, the Superior Administrative Court of Lüneburg dismissed the appeal. It would appear that the most interesting parts of the Appeals Court's decision concern the question of whether the complaint and the motions are admissible and whether the plaintiff's interests are affected by the 7th partial operating licence.

The Administrative Court had based its decision mainly on the ground that the plaintiff's motion was inadmissible because his complaint itself was inadmissible. The objections raised by the plaintiff were foreclosed pursuant to sub-section (2) of Section 7(b) of the Atomic Energy Act. This provision provides that a final decision rendered in a procedure covering a partial licence, or a provisional site approval, precludes third parties from intervening in any further licensing procedure on the basis of facts which had already been presented or which such parties could have presented in view of documents and decisions laid open for public inspection. The plaintiff could have presented all his objections in the procedures concerning the preceding partial operating and construction licences. Even if considered as admissible, the plaintiff's objections were unfounded: it would be in the public interest to secure a sufficient energy supply; the plaintiff's interest to restore the suspending effect of his complaint appeared to be minimal as he was living more than 100 km away from the nuclear power plant

The Superior Court took a different view and regarded the plaintiff's motion as admissible. It considered that the plaintiff's objections as based on facts which had arisen after the preceding 6th partial operating licence had become final. In addition, the Court cast some doubt on the interpretation of sub-section (2) of Section 7(b) adopted by the lower court and the defendant. "If a licence is challenged with the argument that the law has been wrongly applied, that the limits of discretion have been exceeded or that the provisions applied violate provisions of a higher rank, such objections are not based on facts which could have been known or presented before the issue of the licence. Where the licensing procedure is split up in several partial licences, it would appear irreconcilable with the principle of lawful administration to consider the circumstance that a previous decision is based on erroneous application of the law which has remained unchallenged as a fact which, if the error is repeated, precludes interventions under sub-section (2) of Section 7(b) " The Court argued further that this Section would have to be interpreted in the light of sub-section (4) of Section 17 of the Atomic Energy Act which obliges the licensing authority to revoke the licence whenever this is necessary to avoid substantial risks to employees, third persons or the general public, and conditions subsequently imposed cannot provide a remedy within a reasonable period. The licensing authority must not, therefore, in a later stage of a licensing procedure,

disregard objections precluded under sub-section (2) of Section 7(b) if such objections might justify a revocation under sub-section (4) of Section 17.

The fact that the plaintiff had moved his domicile to a place more than 100 km distant from the nuclear power station in order to better protect himself and his family from the harmful effects thereof, did not preclude the admissibility of his complaint as he contended that such effects could destroy life in distant regions. The transfer of the responsibility for the operation of the plant to the intervenor was also suitable to violate the plaintiff's interest if one of the licensing requirements had not been fulfilled. For the person affected, it might be of considerable importance whether a provisional operation under the responsibility of a well-known large enterprise had been authorised or whether the operator himself was licensed to operate the installation under his own responsibility.

As to the merits of the motion, the Court struck a balance between the interests of the plaintiff and those of the defendant and the intervenor. As a general principle, the interests of the plaintiff were, prima facie, subordinate to those of the intervenor. Utility companies, too, must in their planning take account of the fact that well-founded objections are sometimes raised against installations subject to licensing, so that a final operating licence may be delayed. Preponderant interests of such enterprises were not already endangered if they were forced, in case of important objections, to change their plans or adopt alternative solutions during legal proceedings. The defendant might claim a preponderance of his interests only if he has appreciably weighed the advantages of using nuclear energy for the production of electricity and the risks connected therewith. A decision in the field of energy policy accepting hazards for life and health of individuals or a greater part of the general public in the interest of an economic growth rate would in any way militate against confirming the lower court's decision.

The principal question to be decided would therefore be whether there was a preponderance of arguments in favour of a success of the complaint. After having heard four leading experts, the Superior Court concluded that, for the time being, the complaint could not be considered as being successful. The Court limited its preliminary evaluation of the facts presented to those giving rise to doubt that every precaution had been taken which was necessary in the light of existing scientific knowledge to prevent damage resulting from the construction and operation of the installation (no. 2 of sub-section (1) of Section 7) and to those pointing out a substantial risk to the general public (sub-section (4) of Section 17) caused by nuisances permitted or inevitable as well as by possible interventions or interferences of third persons (nos. 4 and 5 of sub-section (2) of Section 7). This evaluation, based extensively on the opinion of the four experts cited, led the court to the conclusion that the risks connected with the operation of the Stade nuclear power station could be kept under control as far as this could be judged in the present summary procedure.

For the same reasons, the Court further rejected the plaintiff's appeal against the Administrative Court's dismissal of his motion for a temporary injunction ordering the immediate shut-down of the installation.

• *Italy*

UNCONSTITUTIONALITY OF THE ACT OF 1962 ON THE PEACEFUL USES OF NUCLEAR ENERGY

Section 3 (conditions for holding fissile or radioactive materials) and Section 28 (related penal sanctions) of Act No. 1860 of 31st December 1962 on the Peaceful Uses of Nuclear Energy have been declared unconstitutional by a judgment pronounced by the Constitutional Court in late November 1974. This judgment was the outcome of an action entered against a user of radioactive materials who had not complied with the above provisions.

In fact, the Italian authorities, in order to align the provisions of Act No. 1860 with those of Article 30 et seq. of the Euratom Treaty, amended that Act by Decree of the President of the Republic (DPR) No. 1704 of 30th December 1965 made in accordance with Act No. 871 of 13th July 1965 on the delegation of powers. The irregularity of this amendment results from the Italian Constitution (Sections 76 and 77) authorising such delegation of powers provided the limits set by the Delegation Act are observed, and it is precisely on that point that the Constitutional Court founded its judgment Act No. 871 lays down penal sanctions not exceeding 2 million lire or one year's imprisonment whereas Act No. 1860 prescribes fines reaching up to 5 million lire and prison sentences reaching up to 2 years. Therefore these penal sanctions should have been modified accordingly when Act No. 1860 was amended by DPR No. 1704.

Until the necessary amendments have been made to Act No. 1860, the decision of the Constitutional Court will temporarily stop infringements to the regulations on holding radioactive materials from being sanctioned.

ADMINISTRATIVE DECISIONS

•*Germany*

NUCLEAR ENGINEERING COMMISSION

The Federal Minister of the Interior who since 15th December 1972 is competent for reactor safety and radiation protection issued, on 27th September 1974, a revised Notice on the establishment of the Nuclear Engineering Commission (Kerntechnischer Ausschuss) and its rules of procedure (Bundesanzeiger No. 193 of 15th October 1974).

This Commission had been established in 1972 by the then competent Federal Minister for Education and Science (see Nuclear Law Bulletin No. 10).

INTERNATIONAL ORGANISATIONS AND AGREEMENTS

INTERNATIONAL ORGANISATIONS

• *International Atomic Energy Agency*

LEGISLATIVE ASSISTANCE

In October 1974, the IAEA Secretariat assisted the Lebanese authorities in the revised elaboration of a draft Radiation Protection Act aimed at establishing licensing requirements for and regulatory control over the uses of radioactive substances and irradiating equipment.

Advisory services in regulatory matters connected with the planning of nuclear power projects were provided to Malaysia and Singapore in November 1974. A member of the IAEA Secretariat visited both countries and held detailed discussions with Government officials, Universities and public utilities representatives to help establish the groundwork for advance preparations in the legislative field.

Similar advisory services regarding third party liability were provided to Yugoslavia in January 1975 in connection with the construction of a nuclear power plant at Krsko in Slovenia, for which the Agency's assistance in the procurement of fuel was the subject of the agreements concluded between the IAEA, the USA and Yugoslavia in June 1974 (INFCIRC/213).

LICENSING OF NUCLEAR INSTALLATIONS

In collaboration with the Greek Atomic Energy Commission and the OECD/NEA, the IAEA convened a Study Group on Regulations and Procedures for Licensing Nuclear Installation at the Nuclear Research Centre "Demokritos", near Athens, from 16th to 20th December 1974. The meeting was attended by 37 participants from 13 countries and from the IAEA and NEA staff. The papers presented by attending experts from Canada, the Federal Republic of Germany, the United Kingdom and the USA, and by staff members of the IAEA and NEA served as introductions to in-depth discussions

on licensing requirements for and regulatory control of nuclear power plants, including the liability regime applying to such installations. National atomic energy authorities and public utilities in 8 developing countries were represented at the meeting: Egypt, Greece, Malaysia, Mexico, Pakistan, Philippines, Singapore and Yugoslavia. The working papers and reference material made available to the Study Group by the IAEA Secretariat will be the subject of publication No. 10 in the IAEA Legal Series in the course of this year.

AGREEMENTS

• *Finland*

REQUEST FOR ACCESSION TO THE BRUSSELS SUPPLEMENTARY CONVENTION

Following the entry into force on 4th December 1974 of the Convention Supplementary to the Paris Convention signed in Brussels on 31st January 1963 and the Additional Protocol to this Convention, on 16th December 1974, the Government of Finland requested accession by notification to the Government of Belgium, depositary of the Convention, in accordance with Article 22(b) of the Convention which provides that accession requires the unanimous assent of the Contracting Parties.

It is recalled that Finland already acceded to the Paris Convention on 8th June 1972.

• *United States-Austria*

CO-OPERATION AGREEMENT CONCERNING CIVIL USES OF ATOMIC ENERGY

The Republic of Austria and the United States have amended their Agreement for Co-operation concerning Civil Uses of Atomic Energy of 11th July 1969. The amending agreement was signed on 14th June 1974 and entered into force on 8th October 1974 (Federal Gazette for the Republic of Austria, 1974, page 2683; U.S. Treaties and Other International Acts Series (TIAS) 7912). The amendment incorporates new provisions for the supply by the United States of uranium enrichment services to reactor operators in Austria and is intended to reflect the new uranium supply policies adopted by the United States in 1972. The Parties have agreed that IAEA safeguards will continue to apply to materials, equipment and facilities transferred under the agreement.

• *United States-Germany*

RADIOACTIVE WASTE MANAGEMENT

On 20th December 1974, the Federal Ministry for Research and Technology of the Federal Republic of Germany and the United States Atomic Energy Commission concluded a Technical Exchange and Co-operative Arrangement in the Field of Management of Radioactive Wastes. The Arrangement covers broad areas of technical development in the treatment, handling and storage of radioactive wastes resulting from nuclear power operations in the respective countries. The Parties agreed to make available to each other, information in the field of radioactive waste management which they have the right to disclose from the following technical areas:

- disposal of radioactive waste in salt deposits;
- retrievable surface storage facilities;
- waste management research and development;
- waste from decommissioning of nuclear installations;
- operating aspects of storage or disposal of low and intermediate level wastes;
- transportation of radioactive waste.

The Arrangement was concluded for a period of 5 years and may be extended by mutual agreement.

• *United States-Sweden*

CO-OPERATION AGREEMENT ON NUCLEAR ENERGY REGULATORY MATTERS

On 6th December 1974, the USAEC and Sweden signed an Agreement for the reciprocal exchange of information concerning, in particular, problems raised by the licensing procedure for nuclear installations. The Agreement also provides for exchange of technical information on the safety of nuclear installations and their impact on the environment. Furthermore, it encourages co-operation on the elaboration of nuclear safety standards.

This Agreement, which follows similar ones concluded during 1974 with France, Japan and Spain, is valid for five years and is renewable.

• *United States-Switzerland*

CO-OPERATION AGREEMENT ON NUCLEAR ENERGY REGULATORY MATTERS

On 9th December 1974, the USAEC and Switzerland signed an Agreement identical to that concluded with Sweden, referred to in the preceding text.

• *United States-Euratom*

MEMORANDUM OF UNDERSTANDING ON SCIENTIFIC AND TECHNICAL NUCLEAR INFORMATION

A Memorandum of Understanding was concluded on 19th September 1974 between the United States, Euratom, Belgium, Germany, Ireland, Italy, Luxembourg and the Netherlands on co-operation in the efficient dissemination of scientific and technical information in the nuclear field.

The Parties undertake to co-ordinate their efforts to collect, process and disseminate nuclear documentation prepared in their respective territories, and in the case of Euratom, when conducting its research programme. The working methods and technical aspects related to implementation of this Memorandum of Understanding will be contained in an agreement between the USAEC and Euratom, acting on its own behalf and that of the other European Parties. In this connection, the Parties must take into consideration the development of the IAEA International Nuclear Information System (INIS).

Each Party reserves the exclusive right to set the conditions and methods of use of the stock of information within its own territory. This Memorandum is concluded for an initial three-year period as from its signature by the Parties.

• *IMCO*

1971 BRUSSELS CONVENTION

The Brussels Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material of 17th December 1971, was ratified by Sweden on 22nd November 1974.

• *Denmark*

ACT ON COMPENSATION FOR NUCLEAR DAMAGE
NO. 332, OF 19TH JUNE 1974*

CHAPTER I

DEFINITIONS, ETC.

Section 1

For the purposes of this Act:

(a) "Nuclear fuel" means fissionable material in the form of uranium metal, alloy, or chemical compound, and such other fissionable material as the Minister of Education may determine;

(b) "radioactive products" means any radioactive material including waste, produced in, or made radioactive by exposure to the radiation incidental to, the process of producing or utilizing nuclear fuel, but does not include material mentioned in paragraph (a) of this Section;

(c) "nuclear substances" means -

(i) nuclear fuel other than natural uranium and other than depleted uranium;

(ii) radioactive products other than radioisotopes produced for and having reached the final stage of fabrication so as to be usable for any industrial, commercial, agricultural, medical or scientific purpose;

(d) "nuclear reactor" means any structure containing nuclear fuel in such an arrangement that a self-sustaining chain process of nuclear fission can occur therein without an additional source of neutrons;

(e) "nuclear installation" or "installation" means -

(i) any nuclear reactor;

(ii) any factory for the production or processing of nuclear substances;

* Unofficial translation prepared by the Danish authorities.

(iii) any factory for the separation of isotopes of nuclear fuel;

(iv) any factory for the reprocessing of irradiated nuclear fuel;

(v) any facility for the storage of nuclear substances other than storage incidental to the carriage of such substances; and

(vi) such other installations in which there are nuclear fuel or radioactive products, as the Minister of Education may determine;

(f) "Installation State", in relation to a nuclear installation, means the Contracting Party within whose territory that installation is situated or, if it is not situated within the territory of any State, the Contracting Party by which or under the authority of which the installation is operated;

(g) "operator", in relation to a nuclear installation, means -

(i) as concerns installations in this country, the person recognised by the Minister of Education as the operator of that installation or, in the absence of such recognition, the person who operates the installation;

(ii) as concerns installations outside this country, the person responsible for the installation under the legislation of the Installation State;

(h) "nuclear damage" means -

(i) any damage which arises out of or results from radioactive properties or a combination of radioactive properties with toxic, explosive or other hazardous properties of nuclear fuel or radioactive products in a nuclear installation, or of nuclear substances coming from, originating in, or sent to, a nuclear installation;

(ii) any damage arising out of or resulting from any other ionizing radiation emitted by any source of radiation inside a nuclear installation;

(i) "nuclear incident" or "incident" means any occurrence or series of occurrences having the same origin which causes nuclear damage;

(j) "the Paris Convention" means the Convention on Third Party Liability in the Field of Nuclear Energy concluded in Paris on 29th July 1960, as amended by the Additional Protocol of 28th January 1964;

(k) "the Supplementary Convention" means the Convention Supplementary to the Paris Convention concluded in Brussels on 31st January 1963, as amended by the Additional Protocol of 28th January 1964;

(l) "Contracting Party" means a State which is a Party to the Paris Convention;

(m) "units of account" means units of account in accordance with the European Monetary Agreement of 5th August 1955 as defined on 29th July 1960.

Section 2

The Minister of Education may, if in his view the small extent of the risks involved so warrants, exclude, wholly or partly, any nuclear installation, nuclear fuel or radioactive products from the provisions of this Act.

Section 3

The Minister of Education may direct that several of the installations set out in Section 1(e) of this Act which are located at the same site and belong to the same undertaking shall be regarded as a single nuclear installation.

CHAPTER II

COMPENSATION AND INSURANCE

Scope

Section 4

The provisions of this Chapter shall not cover liability for any reactor that is used as a source of power in a vessel or any other means of transport.

Section 5

(1) No person shall be able to claim compensation from the operator of a nuclear installation in this country under the provisions of this Chapter or corresponding provisions of any other Contracting Party for nuclear damage suffered in a State which is not a Party to the Paris Convention, unless such damage was caused by an incident which occurred in this country.

(2) Any injured person shall only be able to claim compensation for nuclear damage caused by an incident that occurred in a State, which is not a Party to the Paris Convention, from the operator of a nuclear installation in this country under the provisions of this Chapter, if -

(i) the damage arose either in a Contracting Party or on the high seas on board a vessel registered in such State, and

(ii) the incident occurred either during carriage of nuclear substances to a consignee in a State which is not a Party to the Paris Convention before the material was unloaded from the means of transport by which it arrived in the territory of that State, or during carriage of nuclear substances from a consignor in such State after

the material was loaded on the means of transport by which it was to have been carried from the State in question.

(3) As concerns the liability of the operator of an installation situated in the territory of any other Contracting Party, the provisions laid down in that State on the territorial extent of his liability shall apply.

(4) Where the legal provisions of a State which is not a Party to the Paris Convention provide for no compensation, or less compensation than under Danish law, for nuclear damage suffered in this country, the Minister of Justice may direct that corresponding rules shall apply to compensation for nuclear damage suffered in that State.

Section 6

The Minister of Justice may direct that, for the purposes of this Chapter, a State which is not a Party to the Paris Convention shall be assimilated to a Contracting Party.

Operator's liability for any incident occurring in an installation

Section 7

Any nuclear damage caused by an incident occurring in an installation shall be compensated by the operator of that installation. Provided that this shall not apply if the damage is solely due to nuclear substances stored in the installation incidental to their carriage to or from a nuclear installation situated in the territory of a Contracting Party.

Incidents occurring in the course of carriage

Section 8

(1) Subject to the provisions of Section 5 of this Act, any nuclear damage caused by an incident occurring in the course of carriage of nuclear substances from an installation situated in this country or in the territory of any other Contracting Party shall be compensated by the operator of that installation.

(2) Where the carriage takes place to an installation situated in this country or in the territory of any other Contracting State, the liability shall attach to the receiving operator

(a) where he has assumed liability by contract in writing and the incident occurs after the time stipulated for transfer of liability;

(b) in other cases, where the incident occurs after he has taken charge of the substances.

(3) In the course of carriage of nuclear substances intended to be used in a nuclear reactor that is used as a source of power in a vessel or any other means of transport, the liability of the sending operator shall end when the person who is duly authorised to operate the reactor comprised in the means of transport has taken charge of the substances.

(4) The Minister of Justice may direct in which cases and under which conditions operators of installations in this country shall or may make such an agreement about the liability as referred to in sub-section (2) of this Section.

Section 9

(1) Where nuclear substances are sent from a State which is not a Party to the Paris Convention to an installation situated in this country or in the territory of any other Contracting Party with the written consent of the operator of that installation, the latter shall, subject to the provisions of Section 5 of this Act, compensate any nuclear damage caused by an incident in the course of carriage.

(2) Where nuclear substances are sent from the operator of a nuclear reactor that is used as a source of power in a vessel or any other means of transport to an installation situated in this country or in the territory of any other Contracting Party, the receiving operator shall be liable as provided in sub-section (1) of this Section from the time when he took charge of the substances.

(3) Any nuclear damage caused by an incident occurring in the course of carriage of nuclear substances through Denmark that is not covered by the provisions of Section 8 of this Act or sub-sections (1) and (2) of this Section shall be compensated by the person who has obtained a licence for the carriage under the Use of Radioactive Substances Act. For the purposes of this Chapter, the licensee shall be regarded as the operator of a nuclear installation in this country.

Section 10

The provisions of Sections 8 and 9 on liability for nuclear damage caused by an incident occurring in the course of carriage of nuclear substances shall apply also to any incident occurring during storage of the substances incidental to their carriage.

Other incidents occurring outside an installation

Section 11

Where in cases other than those referred to in Sections 7 to 10 of this

Act nuclear damage has been caused by nuclear substances coming from or originating in an installation situated in this country or in the territory of any other Contracting Party, or which prior to the incident had been in the course of carriage as referred to in Section 9 of this Act, the liability shall attach to the operator who at the time of the incident had the substances in his charge or, if the substances at that time were not in the charge of any operator, the operator who last had them in his charge before the incident; provided that, where the substances had been in the course of carriage before the incident and not been taken charge of by another operator after the interruption of the carriage, the liability shall attach to the operator who at the time of interruption of the carriage was liable under the provisions of Sections 8 and 9 of this Act for nuclear damage caused by an incident occurring during carriage.

Assumption of operator's liability

Section 12

At the request of a carrier who performs carriage as referred to in Sections 8 and 9 of this Act, the Minister of Justice may permit that, in place of the operator of an installation in this country, the carrier shall be liable for any nuclear damage caused by an incident that may occur in the course of such carriage. Such permission may be granted only with the consent of the operator and if the applicant has shown that insurance has been taken out in accordance with Section 26 or other financial security has been furnished in pursuance of Section 29 of this Act. Where permission has been granted, the provisions on the liability of the operator shall apply to the carrier. This shall apply also where the liability of an operator under corresponding legislation of any other Contracting Party has been transferred to a person other than the operator.

Basis of liability

Section 13

(1) The operator of a nuclear installation shall be liable under the provisions of this Chapter, even if the damage is fortuitous.

(2) No operator of an installation in this country shall be liable under those provisions if the nuclear incident is directly due to an act of armed conflict, hostilities, civil war, insurrection or a grave natural disaster of an exceptional character. As concerns operators of installations situated in the territory of any other Contracting Party, the rules laid down by the Installation State shall apply. The provision of the first sentence of this sub-section shall equally apply to the extent indicated in the Paris Convention, where the legislation of any other Contracting Party is to apply to the liability of a Danish operator.

Excepted damage

Section 14

(1) The liability of an operator under this Chapter shall not cover any nuclear damage caused to the installation itself or to any property on its site which is used or intended to be used in connection with that installation.

(2) The liability of operators of installations in this country shall, in the cases referred to in Sections 8 and 9 of this Act, include also any nuclear damage that is caused to the means of transport upon which the nuclear substances involved were at the time of the incident. If, as a result of the limits of liability under Section 21 of this Act, the claims for compensation cannot be fully met, compensation for damage to the means of transport shall be paid only insofar as this may be done without reducing the aggregate of compensation for other damage below a sum equal to five million units of account. Where the liability attaches to the operator of an installation situated in the territory of any other Contracting Party, the legislation of the Installation State shall determine whether damage to the means of transport shall be covered by the liability of the operator. The provisions of the first and second sentences of this sub-section shall equally apply where the legislation of any other Contracting Party applies to the liability of a Danish operator under the Paris Convention.

Contributory fault on the part of the injured person

Section 15

If the injured person has contributed to the damage intentionally or through negligence, compensation may be reduced or refused, unless he has shown only slight negligence.

Claims against persons other than the operator

Section 16

(1) No person other than the operator concerned shall be liable to pay compensation for any nuclear damage covered by the rules of liability of this Chapter or corresponding provisions of any other Contracting Party. Where, after the death of the operator or the discontinuation of the undertaking, the claim cannot be brought against the operator or his estate, it may be brought against the insurer or the person who has furnished other financial security. Such claim shall not be affected by a preclusion period fixed in any advertisement for creditors of the operator.

(2) Where the operator is not liable for compensation under the said rules pursuant to the provisions of Section 13(2) or Section 14

of this Act or corresponding provisions of any other Contracting Party, only the individual who has caused the damage intentionally may be required to compensate the damage: Provided that the operator shall be liable under the law of torts for such damage to any means of transport which, according to the legislation of the Installation State, is not covered by the liability rules of this Chapter (cf. Section 14(2), third sentence of this Act)

Section 17

(1) No other person than the operator of a nuclear installation shall be liable to pay compensation for any nuclear damage caused by an incident during maritime transport of nuclear substances which is not covered by the liability rules of this Chapter or corresponding provisions of any other Contracting Party, if the operator is liable for the damage under the Vienna Convention of 21st May 1963 on Civil Liability for Nuclear Damage or by virtue of a foreign national law governing the liability for such damage which in all respects is as favourable to persons who may suffer damage as either the Paris or the Vienna Convention.

(2) Compensation cannot be claimed for damage as referred to in sub-section (1) to the nuclear installation itself or to any property on the site of that installation which is used or to be used in connection with that installation, or to the vessel upon which the nuclear substances involved were at the time of the incident, if the operator of the nuclear installation is not liable for the damage according to Article IV.5 of the Vienna Convention or a corresponding provision of a foreign national law

(3) The provision of sub-section (2) shall not apply to any individual who has caused the damage intentionally.

Section 18

The provisions of Sections 16 and 17 shall not apply as far as they are contrary to international agreements concerning damage during transport, which has been accepted by Denmark.

Subrogation of claims of the injured person against the operator etc.

Section 19

(1) Any person who has to pay compensation for nuclear damage pursuant to an agreement referred to in Section 18 of this Act or under the legislation of a foreign State shall acquire by subrogation the claims of the injured person against the operator liable for the damage under the provisions of this Chapter.

(2) Where by reason of the provisions of Section 5 of this Act the operator is not liable to the injured person for any nuclear damage under the provisions of this Chapter, the person who has to pay compensation for the damage and has his principal place of

business within the territory of a Contracting Party or is the servant of a person who satisfies that condition shall acquire the same right against the operator as the injured person would have had but for Section 5: Provided that such right shall not be acquired in the event of carriage of nuclear substances to a consignee in a State which is not Party to the Paris Convention if the incident occurs after the material has been unloaded from the means of transport by which it has arrived in the territory of that State. In the case of carriage of nuclear substances from a consignor in a State which is not a Party to the Paris Convention, such right shall not be acquired if the incident occurs before the material has been loaded on the means of transport by which it was to be carried from the foreign State.

(3) Any claim against the operator under sub-sections (1) and (2) of this Section shall be extinguished insofar as the claimant is himself liable to the operator under Section 24 of this Act.

Nuclear damage in connection with other damage

Section 20

(1) Where nuclear damage covered by the provisions of this Chapter is caused jointly with any other damage and where the nuclear damage and the other damage are not reasonably separable, the provisions on nuclear damage of this Chapter shall apply to the whole of the damage.

(2) Where, however, nuclear damage and damage caused by an emission of ionizing radiation not covered by the rules of liability of this Chapter have been caused jointly, the provision of sub-section (1) of this Section shall not affect the liability of any person who under the law of torts is liable for damage caused by such ionizing radiation.

Limits of operator's liability

Section 21

(1) The aggregate liability under the provisions of this Chapter or corresponding provisions of any other Contracting Party for nuclear damage caused by one and the same incident shall for the operator of an installation in this country be limited to 75 million kr.. Provided that in special cases, having regard to the size and type of the installation, the extent of carriage covered by the liability, and any other relevant circumstances, the Minister of Justice may determine some other maximum amount but not less than a sum equal to five million units of account. As concerns installations situated in the territory of any other Contracting Party, the limits of liability laid down in the legislation of that State shall apply.

(2) The limits provided for in sub-section (1) of this Section shall not include any interest or costs.

Section 22

(1) Where the operators of several installations are liable for the same nuclear damage under the provisions of this Chapter or the legislation of any other Contracting Party, the operators shall be jointly and severally liable to the injured person, but each operator only within the highest amount applicable with respect to him pursuant to Section 21 of this Act. Where the incident occurs in course of carriage of nuclear substances either in one and the same means of transport or, in the case of storage incidental to the carriage, in one and the same nuclear installation, the total liability of the operators shall not exceed the highest amount applicable with respect to any of them pursuant to Section 21 of this Act.

(2) The liability of the operators shall be apportioned between them having regard to the share of each installation in the damage and any other relevant circumstances.

Section 23

(1) Where the nuclear damage caused by a single incident exceeds the amounts provided in Sections 21 and 22 of this Act, the compensation and any interest accruing thereto shall, subject to Section 14(2) of this Act, be reduced proportionally.

(2) Where a reduction under sub-section (1) of this Section is likely to be required, the Minister of Justice may direct that, for the time being, only a specified proportion of the compensation may be paid.

Recourse of the operator

Section 24

(1) Where nuclear damage for which the operator of a nuclear installation is liable under the provisions of this Chapter or corresponding provisions of any other Contracting Party has been caused with intent to cause damage, the operator may claim to be held harmless by the person or persons who brought about the damage with such intent. Similarly, the operator may claim to be held harmless if so expressly provided by contract.

(2) Apart from the claims provided for in Section 20(2) and Section 22(2) of this Act as well as sub-section (1) of this Section, the operator shall have no right of recourse against any third party in respect of any sums he has paid by way of compensation.

Limitation

Section 25

(1) Any claim for compensation against the operator of a nuclear installation pursuant to Sections 7 to 11 and Section 19 of this Act shall be barred under the provisions of the Statute of Limitation of 22nd December 1908, except that the period of limitation shall be three years. As concerns the claims referred to in Section 19 of this Act, the period shall be computed from the time when the person entitled, by exercising usual care, might have enforced his claim by taking legal proceedings against the operator.

(2) A claim not barred pursuant to the provisions of sub-section (1) of this Section shall be extinguished at the expiry of ten years from the date of the nuclear incident that caused the damage, unless before that time it has been recognized by the operator, or the injured person has taken legal proceedings to enforce it: Provided that, if the damage was caused by nuclear substances that have been stolen, lost or abandoned and have not been recovered at the time of the incident, the limitation shall take effect not later than 20 years after the date of the theft, loss or abandonment.

(3) Where the question as to whether an action shall be brought in this country is to be decided by the Tribunal referred to in Article 17 of the Paris Convention, limitation under sub-sections (1) and (2) of this Section shall not take effect if, before limitation has become effective under the legislation of the Contracting Party concerned, a request has been made to the competent public authority of that State to initiate a decision by the Tribunal or, provided no such decision has been taken, an action is brought in any of the States where this may be done pursuant to that Convention. In these cases, an action shall be brought in this country within such period as may be determined by the Tribunal.

Insurance and security

Section 26

(1) The operator of a nuclear installation in this country shall take out and maintain insurance to cover the liability for nuclear damage which he may incur under this Chapter or under the legislation of any other Contracting Party, subject to the limits laid down in Section 21 of this Act.

(2) The insurance shall be approved by the Minister of Justice. The latter may approve separate insurance to cover liability for nuclear damage as a result of incidents occurring in the course of carriage. The Minister may further approve insurances which do not completely meet the requirements of sub-section (1).

Section 27

In the case of termination of the insurance contract without any new insurance taking effect, the insurer shall continue to be liable for any nuclear damage due to an incident occurring within two months after the insurer has informed the Minister of Justice in writing about the termination of the contract: Provided that, where the insurance relates to damage caused during carriage, the liability of the insurer shall continue until the carriage has been completed.

Section 28

The Minister of Justice may make regulations concerning the types of insurance referred to in Section 26 of this Act.

Section 29

(1) The obligation to insure shall not extend to installations for which the State is liable.

(2) The Minister of Justice may relieve the operator of an installation of the obligation to insure if he provides such security as in the judgment of the Minister is equally adequate.

(3) Where the security is furnished by a person other than the operator, the provisions on insurance of this Act shall apply accordingly.

Compensation payable by the State

Section 30

Subject to the limits laid down in Section 21 of this Act, the State shall pay any compensation for which the operator of a nuclear installation in this country is liable under the provisions of this Chapter or corresponding provisions of any other Contracting Party, if compensation cannot be met out of the funds provided by the operator's insurance or other financial security.

Section 31

(1) Any claim for compensation which cannot be satisfied by reason of the limits of liability under Sections 21 and 22 of this Act shall be met by the State where -

(a) the incident did not occur exclusively in a State which is not a Party to the Supplementary Convention;

(b) an action for compensation may be brought in this country under Section 36 of this Act;

(c) the liability attaches to the operator of a nuclear installation for peaceful purposes that is situated in this country or in any other State which is a Party to the Supplementary Convention and is included in the list referred to in Article 13 of that Convention and

(d) the damage was suffered -

(i) in this country or in any other State which is a Party to the Supplementary Convention; or

(ii) on or over the high seas on board a vessel or aircraft registered in this country or in any other State which is a Party to the Supplementary Convention; or

(iii) on or over the high seas by a State which is a Party to the Supplementary Convention, or by any of its nationals.

(2) Compensation for any damage to a vessel or an aircraft shall, in the cases referred to in sub-section (1)(d)(ii) be payable only if the vessel or aircraft, at the time of the incident, was registered in a State which is a Party to the Supplementary Convention. A partnership, or any public or private body whether corporate or not, established in the territory of a State which is a Party to the Supplementary Convention and, if so determined by that State, any person domiciled therein shall in the mentioned case be assimilated to nationals of that State. Any person domiciled in Denmark shall be treated as a Danish national.

Section 32

(1) The aggregate of compensation payable in consequence of one and the same nuclear incident partly by the operator concerned under the provisions of this Chapter and partly by the State under Section 31 of this Act shall not exceed a sum equal to 120 million units of account. If as a result of the incident compensation is to be paid also by virtue of an agreement which a State Party to the Supplementary Convention has concluded with some other State pursuant to Article 15 of that Convention, such compensation shall equally be included in the said maximum amount.

(2) The limit provided for in sub-section (1) of this Section shall not include any interest or costs.

(3) Where the claims cannot be satisfied out of the sums referred to in sub-section (1) of this Section, the provisions of Section 23 of this Act shall apply accordingly.

Section 33

Compensation pursuant to Sections 30 and 31 of this Act shall not be paid for any nuclear damage due to an incident that occurred under the circumstances referred to in Section 13(2) of this Act.

Section 34

(1) Where a claim for compensation in respect of any nuclear damage caused in this country by an incident for which the operator of an installation in this country is liable has been extinguished pursuant to Section 25(2) of this Act or a corresponding provision of the legislation of any other Contracting Party, compensation shall be paid by the State. Such claim against the State may be brought only if it is excusable that no legal proceedings were taken against the operator prior to the termination of his liability under the said provisions. The claim shall be barred under the provisions of the Statute of Limitations of 22nd December 1908, except that the period of limitation shall be three years, and shall be extinguished not later than 30 years after the date of the nuclear incident that caused the damage. Where other similar claims have been reduced by virtue of Section 23(1) or Section 32(3) of this Act, or corresponding provisions of any other Contracting Party, the compensation referred to in this sub-section shall be reduced correspondingly.

(2) The Minister of Justice may direct that compensation under the provisions of sub-section (1) of this Section shall be paid also for damage being caused outside this country.

Recourse of the State

Section 35

(1) Any amount paid by the State pursuant to Sections 30, 31 or 34 of this Act, or otherwise paid under the provisions of the Supplementary Convention, to cover any nuclear damage for which the operator of an installation in this country is liable under the legislation of any other Contracting Party may be recovered from the person or persons who have caused the damage intentionally.

(2) Any amount paid pursuant to Section 30 of this Act may further be recovered -

(a) from a person who as insurer or financial guarantor or by express agreement has assumed liability for the damage (cf. Section 24(1)(ii) of this Act);

(b) from an operator who pursuant to Section 22(1) of this Act is jointly liable for the damage to the extent to which liability under Section 22(2) of this Act attaches to him;

(c) from the operator himself if the expense is due to his failure to take out and maintain duly approved insurance or other financial security, or to the fact that the security has proved unsound.

Jurisdiction of Danish Courts

Section 36

(1) Any action against the operator of a nuclear installation, or - in the case referred to in Section 16(1)(ii) of this Act - against an insurer or financial guarantor, for compensation for nuclear damage under Sections 7 to 11 or Section 19 of this Act may be brought in this country -

(a) if the nuclear incident that caused the damage occurred, wholly or partly, in this country; or

(b) if the claim brought against the operator of an installation in this country and the incident occurred entirely outside the territory of any Contracting Party, or the place of the incident cannot be established with certainty.

(2) Where in a case referred to in sub-section (1) of this Section it is decided pursuant to Article 13 of the Paris Convention by the Tribunal referred to in Article 17 of that Convention that an action shall be brought in some other Contracting State, jurisdiction over actions shall no longer lie with the courts of this country.

(3) Any petition for a case to be decided under the provision referred to in sub-section (2) of this Section shall be addressed to the Minister of Justice.

Enforcement of foreign judgments

Section 37

(1) Any judgment relating to compensation for nuclear damage entered by a court of a Contracting Party in accordance with Article 13 of the Paris Convention and enforceable under the legislation of that State may, subject to the limits laid down in Section 21 of this Act, be enforced in this country.

(2) The provision of sub-section (1) shall not apply to interim judgments

(3) Any petition for enforcement of a judgment referred to in sub-section (1) of this Section shall be accompanied by a certified copy of the judgment and a declaration on the part of the competent public authority of the State concerned to the effect that the judgment relates to claims for compensation in respect of damage covered by the Paris Convention and that it is enforceable under the legislation of that State. It may be required that the copy and the declaration be accompanied by a certified translation into Danish.

(4) In case the bailiff does not feel capable, as matters stand, of rejecting an objection based on the Convention, he may refer the claimant to ordinary legal proceedings.

(5) The provisions of sub-sections (1) to (4) of this Section shall apply correspondingly to any settlement effected or confirmed before the said courts.

Certificates

Section 38

(1) Where nuclear substances are sent from or to an installation in this country to a consignee or from a consignor in some other State, and where such material is sent through the territory of this country from or to an installation in the territory of another Contracting Party, the operator liable shall provide the carrier with a certificate issued by the insurer or the person who has furnished other financial security to cover the liability. The carrier shall not be allowed to carry out the carriage in this country before he has received the certificate, which on demand shall be shown to the competent public authority.

(2) The certificate shall state the name and address of the operator liable, indicate the substances and the carriage to which the security applies, as well as the amount, type and duration of the security. The certificate shall also include a statement by the Atomic Energy Commission or, as far as foreign operators are concerned, from the foreign competent public authority that the operator named in the certificate is an operator of a nuclear installation within the meaning of the Paris Convention.

(3) The person issuing the certificate shall be responsible for the correctness of its data concerning the name and address of the operator, as well as the amount, type and duration of the security.

(4) The provisions of sub-sections (1) to (3) of this Section shall equally apply to the carriage of nuclear substances referred to in Section 9(3) of this Act. Regulations may be made by the Minister of Justice on the subject.

(5) The Minister of Justice may make regulations concerning the form of the certificate.

Nuclear-propelled means of transport

Section 39

The Minister of Justice may make regulations on the rules governing compensation for nuclear damage involving nuclear-propelled means of transport.

CHAPTER III

RELATIONS TO OTHER LEGISLATION; PENALTY PROVISIONS; FINAL PROVISIONS

Section 40

Any person who is employed at a nuclear installation and covered by an industrial injuries insurance taken out by the responsible operator under the Industrial Injuries Act shall be entitled to compensation under this Act only insofar as his loss is not covered by such insurance Notwithstanding the provision of Section 4 of the Industrial Injuries Act, the insurance company shall have no right of recourse against the operator for any benefit paid by the company to such persons.

Section 41

(1) Infringement of Sections 26 and 38(1) and (4) shall be punishable by fine or simple detention.

(2) Regulations made under this Act may prescribe the penalties of a fine or simple detention for any infringement of the regulations.

(3) A fine may be imposed on the operator of an installation, even if the offence cannot be imputed to him as intentional or negligent. As concerns offences committed by a joint-stock company, a co-operative society or the like, a fine may be imposed on the company or society as such. There shall be no alternative penalty for the imposition of fines under the provision of this sub-section.

Section 42

(1) The entry into force of this Act shall be determined by the Minister of Justice.*

(2) The Nuclear Installations (Atomic Plants) Act, No. 170 of 16th May 1962, except Section 1(d), Sections 2, 4 to 8, 9 (part 1), and 37 to 39, is hereby repealed.

Section 43

This Act shall not extend to the Faroe Islands but may by Royal Order be put into force for the Islands, subject to the modifications required by the special conditions prevailing in that territory.

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* The present Act cam into force on 18th September 1974, with the exception of Clauses 31 and 32, which came into force on 4th December 1974

STUDIES AND ARTICLES

ARTICLES

NUCLEAR INDEMNITY LEGISLATION IN THE UNITED STATES

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The Price-Anderson Regime

The existing U.S. nuclear indemnity legislation, the so-called "Price-Anderson Act" (1), had its genesis in 1957. It had two basic objectives. The first was to assure the availability of funds to the public in the unlikely event of a serious nuclear incident. The second was to remove a deterrent to participation by the private sector in the development of atomic energy. The basic provisions of the 1957 Act (2) requiring each AEC licensee authorized to construct or operate a "production" or "utilization" facility to maintain underlying financial protection, such as liability insurance, remain unchanged (3). For large power

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* The views expressed are those of the author and not necessarily those of the U.S. Nuclear Regulatory Commission. The article is taken from a paper presented to the International Conference on Nuclear Insurance and Indemnity held in London from 10th to 13th September 1974 and organised by Atomic Industrial Forum, Inc., and British Nuclear Forum

(1) 42 USC 2210.

(2) Public Law 85-256 (71 Stat. 576).

(3) In 1964 the Act was amended to make it clear that a production or utilization facility for which the AEC had issued a construction permit prior to the date on which its authority to require financial protection and execute indemnity agreements expired, would be afforded Price-Anderson indemnity coverage extending through the period of plant operation regardless of when the operating license for the facility was issued. Public Law 88-394 (78 Stat. 376).

reactors, the financial protection must be equal to the amount of liability insurance available from private sources. The amount of liability insurance available from the insurance pools has increased from $60 million in 1957 to $110 million this year. The AEC has discretionary authority to require other licensees to maintain financial protection but has, thus far, not done so

An important aspect of the 1957 Act which has been unaffected by subsequent legislative amendments is the so-called "omnibus coverage" feature. Since "person indemnified" means the person with whom an indemnity agreement is executed and any other person who may be held legally liable, the combined insurance-indemnity system protects not only the licensee but also other persons such as the manufacturer of a component part, who could conceivably be held liable for a nuclear incident. In effect, the practical result has been de facto chanelling since, regardless of who actually causes the incident, the suit is likely to be brought against the utility operator.

The 1957 Act contained what is probably one of the more interesting provisions of the Price-Anderson scheme - the limitation of liability provisions (4) The aggregate liability for a single nuclear incident of all persons who might be liable in damages was limited to $500 million in overriding Government indemnity plus the amount of underlying financial protection. Thus, the original limitation of liability was calculated by adding the $500 million in Government indemnity to the amount of financial protection required. It is interesting to note that had this provision remained unchanged, the present limitation on aggregate liability for a single nuclear incident would be $610 million ($500 million in Government indemnity plus $110 million in liability insurance) rather than the existing aggregate limit of $560 million established in 1965. In 1962 this Section was amended (5) for incidents occurring outside the United States involving an AEC indemnified contractor activity to limit the aggregate liability for a single incident to $100 million rather than the original $500 million. This Section was again amended in 1965 (6) to limit the aggregate liability for a single incident of all persons indemnified to $560 million. The 1965 amendments also reduced the Government's indemnity obligation of $500 million by the amount that the financial protection required of the licensee exceeds $60 million, in recognition of the fact that the capacity of the private insurance pools was growing and that in 1957 the Congress had expressed the hope that eventually Government indemnity would be unnecessary because private insurance would be available to cover the entire risk. Since $110 million in private liability insurance is now available to licensees of large power reactors, the Government indemnity for these licensees is reduced to $450 million (7).

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(4) 42 USC 2210(e).

(5) Public Law 87-615 (76 Stat. 409).

(6) Public Law 89-210 (79 Stat. 855).

(7) Initially, on-site property owned by the licensee was not protected by the underlying financial protection but was considered to be protected by Government indemnity. However, the Act was amended in 1961 to exclude such indemnity protection for a licensee's on-site property which might be damaged by an incident at his facility. Public Law 87-206 (75 Stat. 475).

The 1966 amendments (8)

In order to better assure prompt and adequate financial compensation to persons who might suffer damage from a nuclear incident, in 1966 the U.S. Congress enacted what is commonly termed the "waiver of defenses" amendments to Price-Anderson Act. The Act does not establish the legal basis for liability in the event of a nuclear incident. Under our legal system this matter is traditionally left to the laws of the individual States. The Price-Anderson Act does not effectuate any change in State law except to limit to $560 million the aggregate amount in liability claims that may be recovered for a single incident. The principal criticisms of the system focused on the lack of uniform laws that might be applied by the States after an incident. Claimants in a State applying a strict liability doctrine would be more likely to be recompensed for damages than claimants in a State applying a negligence theory. Similar inequitable treatment of claimants could also result from differing lengths of the applicable State statutes of limitations.

The 1966 "waiver of defenses" amendments were intended to remedy these potential inequities in the event of an "extraordinary nuclear occurrence" (a statutorily defined term designed to exclude minor nuclear incidents) by permitting the AEC to incorporate provisions in its indemnity agreements, and to require provisions in the underlying financial protection, which waive the following:

(1) any issue or defense as to conduct of the claimant or fault of persons who may be liable for damages;

(2) any issue or defense as to charitable or governmental immunity, and

(3) 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, but in no event more than 10 years after the date of the nuclear incident

Thus, without the enactment of a Federal statute imposing strict liability or establishing a uniform statute of limitations and without disrupting the tort law of the States, the U.S. Congress effectively achieved, through contractual waivers, the same result that would have been derived from such statutes. To recover, a claimant need only establish that he suffered damages which were caused by a nuclear incident related to the licensed activity and the amount of those damages. The Price-Anderson Act does, however, bar recovery for damage or injury intentionally sustained by the claimant or resulting from a nuclear incident intentionally or wrongfully caused by the claimant.

The 1966 amendments also added important procedural provisions permitting the consolidation of all liability actions arising out of or resulting from an extraordinary nuclear occurrence in a single U.S. district court in the district where the nuclear incident occurred If this court determines that the total payments to be made in satisfaction of the liability claims resulting from the nuclear incident are likely to

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(8) Public Law 89-645 (80 Stat. 891).

exceed the limitation of liability (i.e., $560 million), then the court would be required to adopt a plan for the distribution of the funds available, including an allocation of appropriate amounts for personal injury, property damage, and latent injury claims that might not be discovered until a later time. No payments in excess of 15 percent of the limit of liability (i.e., $84 million) are authorized without prior approval of the district court based upon the court's determination that such payments would be consistent with the court's plan of distribution. These provisions help to assure that all claimants will receive equitable treatment.

Current Revisions under Consideration

The Price-Anderson Act was enacted in 1957 for a ten-year term but in 1965 was extended for another ten years (9). It is due to expire on 1st August, 1977. It was the judgment of the Congress at the time of the 1965 extension that the nuclear industry had not matured sufficiently to warrant the repeal or expiration of Price-Anderson and that the nuclear liability insurance industry had not accumulated sufficient actuarial experience which could be used as a basis for expansion of private nuclear liability insurance capacity to supplant Government indemnity.

In 1972 the AEC began considering various alternatives to the existing Price-Anderson system that would eliminate Government indemnity to the fullest extent possible while assuring that funds would continue to be available to satisfy public liability claims in the highly unlikely event of a catastrophic nuclear incident. Studies were performed by the AEC staff (10) and the Columbia University Legislative Drafting Research Fund (11) to examine the various alternatives and their advantages and disadvantages.

Four principal matters were carefully scrutinized during consideration of the various alternatives. These were (a) the need to assure that funds would be available to compensate the public for damages sustained in the event of a nuclear incident, (b) a phasing-out of Governmental indemnity as early as practicable, (c) possible modification of the limitation of liability provision, and (d) the duration of any proposed extension of a Price-Anderson scheme in any form. Other considerations included (a) possible legal or Constitutional impediments inherent in the adoption and implementation of any particular alternative, (b) whether other licensees in the nuclear fuel cycle such as fuel fabricators (and non-licensees such as manufacturers) should be required to maintain some form of financial protection, (c) extension of coverage beyond the territorial limits of the United States in connection with floating nuclear power plants and the transportation of new and spent reactor fuel from one licensed facility to another, and (d) whether size and siting of a nuclear power plant should affect the amount of financial protection required of the licensee.

(9) Public Law 89-210 (79 Stat. 855).

(10) "AEC Staff Study of the Price-Anderson Act" (January, 1974).

(11) "Issues of Financial Protection in Nuclear Activities" (21st December, 1973).

Alternative 1 Simple extension

One obvious alternative was a simple extension of the Price-Anderson Act in its present form for another ten years or longer or permanently. With respect to the paramount objective of public protection, this alternative had two principal advantages. First, it provided a sure source of funds in the event of a nuclear incident Second, such features as the waiver of defenses provisions and omnibus coverage removed technical but potentially significant legal and practical obstacles to recovery, which I will explain in discussing the next alternative

A simple extension, however, would have retained the $560 million limitation on liability. The original justification for establishing the limit at this level was that this amount was large enough to cover possible public liability claims resulting from a nuclear incident without unduly disrupting the Federal budget for any one fiscal year Some have argued that even if $560 million were sufficient in 1957, the larger sizes of the current generation of reactors and inflation make the $560 million limitation inadequate. In this connection, it should be noted that the $560 million limitation on liability is not a bar to further compensation to injured claimants but a point at which Congress has on several occasions stated its intent to reassess the situation and appropriate additional funds as warranted. In addition, this alternative fails to further the objective of phasing out Government indemnity by having the nuclear industry assume an additional portion of the risk

Alternative 2· Inaction

Under this alternative Congress would permit the Price-Anderson Act to expire on 1st August, 1977. This alternative would have the effect, among others, of removing the limitation on liability. If claimants were unable to recover from the facility operator, they might seek to proceed against the manufacturer or designer of the facility or its components. Legal defenses such as contributory negligence and assumption of risk or statutes of limitations might be raised in such actions. Even if a claimant were successful in obtaining a judgment, there could be serious difficulty in finding assets from which the judgment could be satisfied. If the accident were severe, the assets of the person held liable might be insufficient to compensate all persons who had been injured. In short, the public protection now offered by the Price-Anderson system would be lacking.

Alternative 3 The Green Proposal

Professor Harold Green (12) proposed a scheme to modify the existing Price-Anderson system by incorporating an "industry-liability corridor". The approach would force the nuclear industry to assume an additional risk of $25 million or more, depending upon the size of this corridor or layer, by directly subjecting a utility's assets to public liability claims resulting from a nuclear incident. The total amount of funds available to pay public liability claims would thus consist of three elements· (a) financial protection in the form of nuclear liability insurance required of the licensee, (b) a fixed amount of the licensee's assets, and (c) Government indemnity. The net effect would be to increase the limitation on liability by the amount of the licensee's assets that

(12) Mr. Harold Green is a professor of law at the George Washington University Law School in Washington, D.C. He first suggested his proposal in an article in the Michigan Law Review entitled "Nuclear Power Risk, Liability and Indemnity" (January, 1973).

were exposed. Taking the $25 million figure mentioned by Professor Green (which is merely illustrative), the aggregate limitation on liability for a single nuclear incident would be $560 million plus $25 million for a total of $585 million.

The theory underlying this proposal is not that a significantly larger source of funds would be available to satisfy public liability claims, but that directly exposing a utility's assets might deter some persons from conducting the activity because of the financial risk involved. The principal argument against this premise is that, in the unlikely event of a catastrophic nuclear incident, the facility licensee stands to lose a substantial sum from damage to uninsured on-site property as well as the loss of profits from operating revenues. Whether the "corridor" would provide a significant additional incentive for safe operation or serve as a meaningful deterrent to conduct of the activity would seem highly questionable.

Alternative 4 Contingency Fee Plan

The so-called contingency fee plan was developed by the AEC staff as a basis for discussion with members of the public, the nuclear industry, and the nuclear insurance pools as a possible alternative to the existing Price-Anderson system. While phasing out Government indemnity, this approach would retain the basic features of the system such as omnibus coverage, required waivers of defenses, and court and claims settlement procedures. The limitation on liability would be allowed to "float" upward from the present $560 million as more and more facilities become licensed. Eventually, the entire risk of loss, up to the limit on liability, would be placed on the industry.

This alternative involved AEC establishment of an annual fee for each large nuclear power reactor licensee based upon the rated capacity of the facility in thermal kilowatts. There would be no cash flow from the licensees to the Government unless an incident occurred. If a nuclear incident occurred, damage claims, in the order of their source of payment, would be paid (as required) from (a) the underlying financial protection (nuclear liability insurance policies), (b) Government funds not to exceed the aggregate contingency fee pool accumulated among the licensees and for which the licensees would be obligated to reimburse the Government, and (c) Government indemnity if the first two sources of funds did not yet total $560 million. When the aggregate contingency fee pool plus the required financial protection reached $560 million, Government indemnity would terminate. The limitation on liability would increase until the sum of the contingency fee pool plus the required financial protection reached one billion dollars (or some other fixed amount) that had been set as the limitation on liability. Then, as still more facilities were licensed, the assessment per thermal kilowatt of operating capacity for each licensee could be proportionally reduced. In the event of a loss, the contingency fees would be recomputed to replenish the pool to its previous level. To assure reimbursement by licensees, the AEC would have a claim to the assets of the licensee which would have priority over all debts except wages and taxes.

It was assumed, under this alternative, that persons receiving construction permits or operating licences before 1st August, 1977 would not be compelled to transfer from the existing Price-Anderson system to the contingency fee system during the 40-year term of their licence. They would be encouraged, however, to transfer to the new system so that two different systems would not be in place at the same time and so that Government indemnity could be phased out as quickly as possible.

Alternative 5 Insurance Pools' Proposal

An approach advanced by the nuclear liability insurance pools (13) was in many respects similar to the contingency fee plan. The insurance pools' approach contemplated the availability of three tiers of funds in the event of a nuclear incident. The first or base layer would consist of the financial protection required by the AEC which would be increased from the present $110 million to $125 million The second (or retrospective premium) layer would consist of retrospective insurance for which a premium of $2 million per power reactor per incident would be assessed as required. The pools would assume 100 percent of the risk with respect to the base layer and somewhere between 50 and 100 percent of the risk of loss (utility default) in the retrospective premium layer. For losses exceeding this amount, the pools proposed that the Government either offer reinsurance to the pools or a "drop down" in its indemnity to cover the unassumed loss. Until the sum of the base and retrospective premium layers reached $560 million, Government indemnity would form the third layer. The pools proposed to retain the $560 million limitation on liability.

This approach would also retain the major features of the existing Price-Anderson Act such as the omnibus coverage, the waivers of defenses, and the court and claims settlement procedures. Government indemnity would terminate when the sum of the primary and secondary layers reached $560 million. However, some form of stand-by Government participation would be called for to provide for the contingency of utility defaults in the secondary layer that were not totally absorbed by the pools.

All affected licensees could be brought under a single system since both the primary and retrospective insurance layers may be properly regarded as constituting "financial protection" as that term is defined in the Act. The Act authorizes the AEC to prescribe both the type and amount of financial protection required.

Legal Issues

During consideration of the various alternatives, several legal issues were identified. A brief description of the more significant issues follows.

First, the Act limits the liability of persons indemnified to $560 million. The question was raised whether this limitation of liability was "implied into" the indemnity agreements between the AEC and its licensees by the law existing at the time of execution of the contracts In other words, did those licensees have a vested right in the limitation that would preclude its statutory removal or increase in violation of the due process clause of the Fifth Amendment of the United States Constitution? It would appear that Congress may increase or repeal the limitation of liability without violating the licensee's Fifth Amendment rights since, among other grounds, the limitation is provided for only by statute and is not an express term of the indemnification agreement.

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(13) Nuclear Energy Liability Insurance Association (NELIA) and Mutual Atomic Energy Liability Underwriters (MAELU).

Second, the Act provides that the AEC shall indemnify licensees and other persons indemnified from public liability arising from nuclear incidents in excess of the amount of financial protection required up to $500 million. The contingency fee approach would eliminate indemnity and substitute a contingency fee pool made up of contributions from licensees. Do licensees who have executed indemnity contracts under the existing Price-Anderson Act have vested rights under the contracts so that enactment of amendments to the Act, retroactively applied, which substantially alter its indemnity provisions constitute a violation of the due process clause of the Fifth Amendment? It can be argued that a Constitutional problem does exist since the promise to indemnify is a principal feature of the legislation on which the indemnity contract is based. On the other hand, it may also be argued that reallocating the liability risk in this manner does not run afoul of the Constitution since it serves a substantial public interest-improvement of cost internalization.

Finally, there was the question of whether municipal utilities would be precluded from participating in either the contingency fee plan or the retrospective premium plan because of various State laws and constitutional provisions prohibiting (a) the "lending of credit" by State agencies or (b) expenditures not for a "public purpose". This problem was eventually addressed by the inclusion of a provision in the legislation now before the Congress, requiring that the licensee participate in the retrospective premium layer of financial protection and authorizing the AEC to set a limit on the total amount of retrospective premiums that must be paid by a licensee in a single year.

U.S. Atomic Energy Commission's Legislative Proposal

On 22nd April 1974 the AEC transmitted to the U.S. Congress its legislative proposal to modify and extend the Price-Anderson Act (14). The AEC proposed to retain intact most of the major features of the existing Price-Anderson Act by extending the system for another ten years with only three major changes (a) to phase out Government indemnity for most licensed commercial facilities as private funds become available to cover claims that are presently covered by indemnity as well as financial protection, (b) to raise the amount at which liability is limited as increased private insurance becomes available, and (c) to extend indemnity coverage to certain nuclear incidents occurring outside the territorial limits of the United States. The phasing-out of Government indemnity is consistent with the Congressional intent, expressed at both the time of enactment and the 1965 extension of the Price-Anderson Act, that such indemnity should be discontinued when private insurance of the entire risk appears possible. The increased coverage that the nuclear insurance pools are prepared to make available indicates that the goal is now within sight.

The nuclear insurance pools have indicated that they will be able to issue third party nuclear liability insurance (base layer) to licensees operating large nuclear power reactors in the amount of $125 million plus $2 million for each such reactor. The $2 million per operating power reactor would be assessed as a retrospective premium against the utilities in the event of a nuclear incident that resulted in public liability claims in excess of $125 million. Since estimates indicate that there will be 90 power reactors in operation by 1978, the initial amount of financial protection available should be in the

(14) This legislative proposal was introduced in the U.S. Senate as S 3452 and in the U.S. House of Representatives as H.R. 14408.

neighbourhood of $125 million plus 90 times $2 million or a total of $305 million, as compared with the present amount of private insurance available - $110 million. The insurance pools propose to increase the amount of financial protection available for each successive year by annually making available an additional amount for each incident equal to $2 million times the number of power reactors and fuel reprocessing plants for which the AEC issued an operating licence during the previous 12-month period.

Depending upon the level at which the retrospective premium is established, the phase-out of Government indemnity could occur upon commencement of the new system or at a later point in time. If retrospective premiums were set at $5 million per reactor, it is estimated that Government indemnity could be phased out immediately upon commencement of the new system. According to other estimates, a retrospective premium of $3 million per reactor would enable Government indemnity to be terminated in 1981, while a retrospective premium of $2.5 million per reactor would enable Government indemnity to be phased out in 1983. The insurance pools have proposed a retrospective premium of $2 million per reactor which, according to their calculations, would permit phase-out of Government indemnity in 1985. There does not appear to be a sufficient data base at this time to firmly establish the amount at which the retrospective premium should be set.

The amendments to the Act proposed by the AEC would authorize the AEC to prescribe the terms and conditions of financial protection, including the amount of the retrospective premium. The establishment of the premium will require a balancing of the objective of phasing out Government indemnity as early as practicable on the one hand with an establishment of a potential financial obligation that is reasonable and does not in itself present a barrier to entry to nuclear power generation by the utility industry, especially the smaller utilities. Another consideration is that the higher the retrospective premium established, the higher the amount of financial protection that will be required for a given number of reactors, and consequently the higher the limitation of liability.

Presently, the Act requires any person issued a construction permit or an operating licence for a production or utilization facility to maintain the financial protection required by the AEC to cover public liability claims. The AEC has discretionary authority, which it has yet to exercise, to require other licensees to maintain such financial protection. When the AEC requires a licensee to maintain financial protection, it must execute an indemnity agreement with the licensee in accordance with the other provisions of the Price-Anderson Act. The proposed legislation provides that when the AEC requires financial protection of a licensee, execution of an indemnity agreement would be discretionary with the AEC. Thus, if a licensee were required to maintain financial protection in an amount of $560 million or more, execution of an indemnity agreement would no longer be mandatory.

The Act presently requires persons licensed to operate large power reactors to maintain financial protection equal to the maximum amount of liability insurance available from private sources. For other licensees required to maintain financial protection, the AEC may require a lesser amount on the basis of specific written criteria. The financial protection required of a licence may include private insurance, private contractual indemnities, self-insurance, other proof of financial responsibility or a combination of such measures.

The AEC proposal would amend the Act to give the AEC explicit authority to prescribe the terms and conditions of the required financial protection. The provision in the Price-Anderson Act which limits the liability of persons indemnified to $560 million for each nuclear incident would be amended. Under the amended provisions, after the amount of financial protection available exceeds $560 million, the public liability of a reactor licensee required to maintain the maximum amount of financial protection available would no longer be limited to $560 million but would be the maximum amount available, with no upper limit of liability specified. This amount would continue to "float" upward annually as more power reactors and fuel reprocessing plants are licensed to operate.

The provision authorizing the AEC to collect fees from persons with whom it executes indemnity agreements, would be modified to permit the AEC to reduce the amount of the fee as the amount of financial protection available increases. Thus, once the amount of private financial protection available reached $560 million, it could be assumed that no indemnity agreements would be executed nor fees collected. The phase-out of Government financial participation would apply principally to large power reactors and fuel reprocessing plants, the expectation being that indemnity agreements would continue to be executed with licensees of other kinds of facilities.

The AEC proposal would also permit certain activities conducted outside the U.S. territorial limits to be brought within the coverage of the Price-Anderson system - principally, the operation of floating nuclear power plants and certain ocean shipments of reactor fuel or spent fuel between licensees This new coverage would not apply to an occurrence resulting from the use of a nuclear power reactor to propel a U.S merchant ship, although nuclear material transported on such a ship as cargo would be covered in the same manner as cargo carried on conventionally powered ships.

We turn now to the legislative arena.

Congressional Action on the AEC's Legislative Proposal

The Joint Congressional Committee on Atomic Energy (JCAE) had conducted preliminary hearings in January and March of 1974 on the matter of Price-Anderson extension and revision. In May 1974 the JCAE held public hearings on the AEC's legislative proposal. As a result of these hearings the JCAE modified the proposal in certain respects, although the basic approach was not changed.

The changes in the Bill as reported to the U.S. House of Representatives may be summarized as follows (15)

(1) The JCAE proposed extending the Price-Anderson system as modified for 20 years (to 1st August, 1997) rather than 10 years, but prior to consideration of the Bill in the House the 10-year provision was reinserted,

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(15) The JCAE revised Bill was introduced in the U.S. House of Representatives as H.R. 15323.

(2) the term "person indemnified" would be modified to include persons required by the AEC to maintain financial protection as well as persons with whom the AEC executed indemnity agreements, thereby clarifying that all affected licensees would be subject to the limitation of liability provisions and the omnibus coverage of the Act after Government indemnity had been phased out and indemnity agreements were no longer executed,

(3) the Bill prescribed upper and lower limits on the amount of the retrospective premium as $5 million and $2 million, respectively, and required the AEC to determine the exact amount through rule making before 1st August, 1976;

(4) all licensees required to maintain the maximum amount of financial protection would be required to supply the secondary layer through retrospective premium insurance but could supply the primary layer through any method acceptable to the AEC,

(5) the AEC would be authorized to reduce the amount of the retrospective premiums for individual facilities on the basis of such factors as their size and location;

(6) the AEC would be authorized to provide reinsurance or otherwise assure that adequate funds were available in the event of licensee defaults in the retrospective premium layer, with a right to reimbursement from the licensee whose financial obligation was assumed by the AEC, as well as the right to assert a lien upon the property and revenues of the licensee,

(7) in the event of an extraordinary nuclear occurrence, the U.S. district court having jurisdiction over public liability suits would be required to include in its plan for distribution of funds a system of priorities between claimants and classes of claims to ensure the most equitable allocation of available funds; and

(8) the AEC would be required to submit to Congress by 1st August, 1983, a detailed report concerning the need for continuation or modification of the Price-Anderson system along with its recommendations.

Bill Passed by the U.S. House of Representatives

The revised Bill was favourably reported to the House which debated its provisions on 10th July, 1974. Before defeating a proposed amendment to extend the Price-Anderson system as modified for 18 months, rather than 10 years, pending the completion and evaluation of a study to assess the probable consequences of a nuclear incident (16), the House added three amendments to the Bill reported out by the JCAE

(16) The AEC commissioned Dr. Norman Rasmussen, a professor of physics at the Massachusetts Institute of Technology, to perform a reactor safety study on the probability of a nuclear occurrence and the probable damage due to such a nuclear incident. This study, entitled "An Assessment of Accident Risks in U.S. Commercial Nuclear Power Plants", AEC Report Number WASH-1400, was recently released in draft form.

(1) A new Section was added to the Bill providing that the legislation could not become effective until Dr. Rasmussen's Reactor Safety Study was completed and the JCAE had reported to the Congress its evaluation of the results of the study;

(2) Language was added to make the indemnification provisions of the Act inapplicable to a nuclear incident occurring in any nation other than the United States, and

(3) The AEC Bill specified that licensed nuclear material used outside of the United States "for nuclear ship propulsion" was not covered by Price-Anderson indemnity. The House inserted language having the same effect but without specific reference to "nuclear ship propulsion".

The amended Bill was overwhelmingly passed by the House - 360 votes for and 42 votes against.

Bill Passed by the U.S. Senate

The Bill passed by the House was then referred to the Senate. The first House amendment was clarified by adding the exact title of Dr. Rasmussen's study and the AEC report number to the language of the Bill. The second House amendment making the indemnity provisions of the Act inapplicable to nuclear incidents occurring within any nation other than the U.S. was deleted as being unnecessary. The language of the third House amendment was deleted and replaced by the language originally contained in the Bill reported to the House by the JCAE. This Bill was considered by the full U.S. Senate on 8th August, 1974. The following amendments were added to the Bill by the Senate

(1) The definitions of "nuclear incident" and "extraordinary nuclear occurrence" were amended so that indemnity coverage would be provided in the event that nuclear material from an indemnified facility site was illegally diverted from its place of confinement and subsequently was the cause of a nuclear incident,

(2) After an attempt to amend the bill so that the modified Price-Anderson system would be extended for only 2 years (to 1st August, 1979), the Senate agreed upon a compromise amendment extending the system for 5 years (to 1st August, 1982) and requiring the AEC to report to the Congress by 1st August, 1979 on the need for continuation or modification of the Act, together with the AEC's recommendations,

(3) The section of the Bill concerning the JCAE report to Congress on Dr. Rasmussen's Reactor Safety Study was revised by the insertion of a provision which would provide, in effect, that the Congress by concurrent resolution could repeal the Bill, after it had been enacted, within 30 days after the JCAE submits its evaluation of the study.

A fourth amendment was proposed which would have allowed the States to impose additional requirements upon licensees in the area of financial protection. This proposed amendment was defeated.

The amended Bill was passed on a voice vote by the Senate and referred to a joint House-Senate conference committee to resolve the differences in the Bill as passed by the House and Senate.

Conference Committee Action

On 20th August, 1974 the members of the JCAE met as a Conference Committee to resolve the differences between the Price-Anderson legislation as passed by the House and the Senate. The following compromises were agreed to by the Committee members

(1) The Senate amendment requiring Price-Anderson coverage for damages resulting from a nuclear incident caused by illegal diversion of indemnified nuclear material was deleted,

(2) the Senate amendment extending the Act for five years instead of ten was retained;

(3) the Senate amendment permitting Congress to reject the legislation by concurrent resolution within 30 days after the JCAE submits its evaluation of the Rasmussen study to Congress if Congress finds the report unfavourable was retained;

(4) the House amendment which deleted the specific language in the definition of "nuclear incident" relating to licensed "import or export" of nuclear material and "nuclear ship propulsion" and substituted language of a clarifying nature without any change in the originally intended effect was retained, and

(5) the House amendment to the limitation of liability provision prohibiting the application of Price-Anderson coverage to nuclear incidents occurring in any nation other than the United States was deleted.

The next step is for both Houses of Congress to consider the Conference Committee version of the Bill.*

Conclusion

The turns and twists in the wording of the Bill as it wends its way through the legislative process point up some of the policy issues on which there have been some differences of opinion - for example, the duration of the extension. These, however, should not obscure the fact that the basic parameters of the amendments have remained largely unchanged since the bill was first introduced. The salient features of this unique scheme for public protection are still intact

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* Between September 1974 when this paper was presented and publication of this issue of the Bulletin, the Conference Committee version of the Bill was adopted by Congress and forwarded to the U.S President for approval. While approving its substance, the President vetoed the bill on constitutional grounds and returned it to Congress (see NLB No. 13) At the time of publication of this issue Congress has apparently not yet considered a revised version of the Bill (Note by the Secretariat)

THIRD UNITED NATIONS CONFERENCE ON THE LAW OF THE SEA AND THE USE OF NUCLEAR ENERGY

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The wide variety of subjects on the agenda of the Third United Nations Conference on the Law of the Sea, aimed at creating a new and comprehensive legal framework covering the sea, the sea-bed and the marine environment, includes a series of points relating to certain aspects of the peaceful uses of atomic energy. These concern the construction and operation of offshore nuclear power stations, the disposal of radioactive waste in the sea, nuclear ships and the transport by sea of radioactive substances. Proposals have already been made on some points affecting the peaceful uses of atomic energy but others have only been touched on briefly or not dealt with at all. However, the introduction of the controversial economic zone is expected to have more significant implications.

The first stage of the United Nations Conference on the law of the sea came to an end in Caracas on 29th August 1974 (1). The agenda of this Conference, which was not only the largest but also, from the long-term standpoint, the most important held by the United Nations, contained more than 100 subjects. The aim was to create a new legal system to cover the sea, the sea-bed and the marine environment which would replace or complete the existing law of the sea, in particular the four Conventions concluded as a result of the first and second United Nations Conferences on the law of the sea held in 1958 and 1960 (2). At first sight none of these subjects appear to be of special relevance to lawyers concerned with nuclear law. However, closer acquaintance with the subject-matter soon makes it clear that decisions made at the Conference will affect future uses of atomic energy. There are essentially four fields in which the new convention on the law of the sea envisaged by the Conference is likely to influence the use of atomic energy for peaceful purposes, namely:

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(1) See detailed report by Vitzthum, Platzöder and Kehnden in "Vereinte Nationen" 5/74 (October 1974) pp. 129 et seq.

(2) Convention of 29th April 1958 on the Territorial Sea and the Contiguous Zone, UNTS Vol. 516, p. 205; Convention of 29th April 1958 on the Continental Shelf, UNTS Vol. 499, p. 311, Convention of 29th April 1958 on the High Seas, UNTS Vol. 450, p. 11; Convention of 29th April 1958 on Fishing and Conservation of the Living Resources of the High Seas, UNTS Vol. 559, p. 285, Original text and German translation in Hoog G., Die Genfer Seerechtskonferenzen von 1958 und 1960, Frankfurt/Berlin 1961.

- the construction and operation of offshore nuclear power stations;

- the dumping of radioactive waste in the sea, navigation of nuclear ships;and

- the maritime transport of radioactive materials.

A. OFFSHORE NUCLEAR POWER STATIONS

The construction and operation of offshore nuclear power stations has not up till now been dealt with as a separate subject by the Conference. The problems of maritime law which are involved are nevertheless included in discussions on the subject of "artificial islands and installations". This concept includes "artificial offshore islands, facilities, or similar devices, other than those which are mobile in their normal mode of operation at sea" (3). This very broad definition includes offshore nuclear power stations.

There are three main questions to be considered·

(a) Who may construct and operate offshore nuclear power stations?

(b) What law governs their construction and operation?

(c) What are the minimum licensing conditions to be imposed?

In each case distinctions are made between the various maritime zones, i.e. the territorial sea, economic zone/continental shelf or the high seas. At the present stage of the discussions precise answers can only be given to some aspects of these questions. However, possible solutions to the remaining problems are taking shape and these will be discussed below with reference to the existing legal situation.

1. Offshore nuclear power stations in the territorial sea

For technological and economic reasons the first offshore nuclear power stations are likely to be built in close proximity to the coast, i.e. within what is known as the territorial sea. For example, the two nuclear power stations, Atlantic-1 and -2 to be built by Offshore Power Systems will be situated within three nautical miles of the New Jersey coast (4). In these circumstances the legal situation of nuclear power stations constructed in the territorial sea is of primary interest.

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(3) IWP No. 12 of 20th August, 1974, provision V, formula B

(4) D.P Maniago, Kernkraftwerk im Meer - eine amerikanische Realität, Atomwirtschaft 19, pp. 125 et seq. (March 1974). R. Franzen, and R. Taurit, Kernkraftwerke in der Nordsee, Atomwirtschaft 19, p. 586 (December 1974).

1. The extent of the territorial sea differs from country to country. In the case of the Federal Republic it is 3 nautical miles, and this also applies to the USA, Great Britain and France. Under the present legal situation, offshore nuclear power stations may only be constructed and operated within this limit with the consent of the coastal state concerned (5). This follows from Article 1 of the 1958 Convention on the Territorial Sea under which the sovereignty of a State extends to its territorial sea adjacent to its coast. Who is to be licensed to construct and operate offshore nuclear power stations in the territorial sea and in particular whether this should be done by foreign nationals or companies is, from the standpoint of international law, a matter within the discretion of the coastal State. The construction and operation of such power stations is also subject to the law of the coastal State, in particular its nuclear, environmental and water protection laws. However the coastal State can only grant the licences required under its laws if such offshore nuclear power stations do not hinder the innocent passage of foreign ships through its territorial sea (which is doubtful in the case of power stations constructed in the close vicinity of busy shipping lanes). The State concerned must also give due notice of any danger to its own and international shipping (in particular the danger of collisions) before construction work begins.

2. The discussions which have so far taken place at the Conference on the Law of the Sea have demonstrated that the legal position described above is not to be changed but merely given a more complete and concrete form. However, it should be noted that the extent of the territorial sea will in all probability be increased to 12 nautical miles, so that the geographical area of application of the present Convention on the Territorial Sea and the Contiguous Zone and the fuller and more concrete provisions of the proposed new Convention will be significantly increased. At the centre of the discussions to amend the existing law is a Belgian proposal submitted in July 1973 to the United Nations Sea-Bed Committee engaged in preparatory work for the Conference on the Law of the Sea (6).

According to this proposal the coastal State may permit the construction of nuclear power stations in its territorial sea only when the power station does not impede access to the ports of neighbouring States or cause damage to the marine environment of the territorial seas of neighbouring States. This amendment would apply in particular to cases where offshore nuclear power stations are to be constructed close to international frontiers. Belgium has furthermore suggested the introduction of a kind of international plan reporting procedure. The English version of the proposal reads as follows

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(5) See D. Okrent and others, Environmental, Technical, Legal and Safety Aspects Related to Floating Nuclear Power Plants Off the Coast of California, UCLA, April 1973, see also T. Clingan, The Santiago Conference of 1974 - How It Will Affect the Use and Protection of the Oceans, and H. Shapar, Legal Implications of AEC Licensing of Nuclear Power Reactors to be Operated in an Ocean Environment, Transactions of the ANS, Volume 6, first supplement, Legal and Political Aspects, Washington 1973.

(6), A/AC 138/91 of 11th July, 1973, for the background to this proposal see Platzöder/Vitzthum, Zur Neuordnung des Meeresvölkerrechts auf der dritten Seerechtskonferenz der Vereinten Nationen, Ebenhausen 1974, p. 121.

"Before commencing the construction of artificial islands or installations as mentioned in the preceding article, the coastal State shall publish the plans thereof and take into consideration any observations submitted to it by other States. In the event of disagreement, an interested State which deems itself injured may appeal to IMCO, which though not empowered to prohibit the construction, may prescribe such changes or adjustments as it considers essential to safeguard the lawful interests of other States".

Whether this interesting proposal will obtain sufficient support for its inclusion in the new Convention on the Law of the Sea appears highly dubious in view of the far-reaching restrictions on the sovereignty of coastal States which it involves. In any event, it would have to be supplemented by provisions concerning the procedure under which IMCO would decide on requisite amendments to construction plans and the enforcement of these amendments vis-à-vis coastal States. Up to the present time the Belgian proposal has not received express support from any other State.

II. Offshore Nuclear Power Stations in the Economic Zone

1. Existing maritime law does not recognise any preferential rights of coastal States over what are known as economic zones extending beyond the territorial sea. The position is that the high seas are immediately adjacent to the territorial sea. They are governed by the principle of the freedom of the high seas. This means that, according to the present position under international law, other States as well as the coastal State or its nationals are entitled to construct and operate offshore nuclear power stations outside the territorial sea. All that is necessary when such power stations are built and operated is that due regard should be paid to the interests of other States using the high seas, e.g. shipping or fishing interests (7). This also applies to offshore nuclear power stations constructed on the continental shelf, since Article 5(2) of the Convention on the Continental Shelf which limits the very free and imprecise terms of the Convention on the High Seas in favour of the exclusive right of the coastal State applies only to installations and other devices necessary for the exploration of the continental shelf and the exploitation of its natural resources but does not apply to installations such as permanently fixed offshore nuclear power stations which merely use the continental shelf as their base.

2. The law in this respect will be changed. It is certain that the Conference on the Law of the Sea will decide to establish an economic zone of 200 nautical miles in breadth, which will comprise the continental shelf or sea floor up to the 200 nautical mile limit, together with the water covering this area. Within this zone, artificial islands and installations are to be constructed and operated only by the coastal State itself or with its authorisation irrespective of whether they are attached to the continental shelf or not and irrespective of their specific purpose. This is at any rate the import of proposals made by several States at the Caracas stage of the Conference. Thus, for example, under a proposal by the USA on the subject of economic zones and the continental shelf made on 8th August, 1974, the coastal State would have the exclusive right to permit and regulate the construction, operation and exploitation of artificial islands and installations in the economic zone as well as

(7) Articles 1 and 2 of the Convention on the High Seas.

on the continental shelf. This would not merely be the case where such offshore installations were designed for exploring and exploiting the natural resources of the sea or of the continental shelf but also where they were used "for other economic purposes" as is the case with offshore nuclear power stations" (8). The USA left no doubt that this provision was also designed to cover the construction and operation of offshore nuclear power stations outside the territorial sea where such power stations were not intended to be fixed firmly to the sea floor - as is the case, for example, with the proposed nuclear power stations Atlantic-1 and -2(9). Similar views are contained in a proposal made on 26th August, 1974 by 17 African States and in a joint paper submitted by Kenya and Mexico on 13th August, 1974 (10).

On the other hand, a proposal by the socialist countries and a proposal by Nigeria on the subject of economic zones suggest that the law of the coastal State should apply only to artificial islands and installations constructed "for the purposes of exploration and exploitation of the natural resources of the economic zone" (11). Underlying this restriction, which would presumably exclude offshore nuclear power stations in economic zones from the operation of the proposed provisions, are considerations of principle - at least so far as the proposal by the eastern block is concerned - to the effect that coastal tates should not be granted preferential rights in economic zones extending beyond the economic exploitation of the natural resources of such zones. Whether this concept will prevail in the case of artificial islands and installations is extremely doubtful in view of intensive efforts, particularly by the developing countries, to obtain for coastal States the most far-reaching privileges possible in economic zones.

Hand in hand with the efforts to enable the exclusive rights of coastal States, which, under the Convention on the Continental Shelf, are limited to the construction and operation of "installations for the exploitation of the continental shelf" to be extended to all artificial offshore installations in the economic zone, proposals are also being made to establish safety zones for such installations in the economic zone. The figure adopted for this zone would normally be the 500 metres laid down in the Geneva Convention on the Continental Shelf. The zone would have to be respected by ships of all nationalities (12).

What minimum conditions, if any, should be imposed by coastal tates when authorising the construction of offshore nuclear power stations in the economic zone is still an open question. Some developing countries oppose such restrictions on the sovereign rights of coastal tates, not for economic reasons but on grounds of national independence. Their view is that the construction of artificial islands and installa-

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(8) A/CONF. 62/C. 2/L 47, Articles 3 and 28.

(9) United States Mission/ Press Release, Geneva 18th July, 1973, p. 4

(10) A/CONF. 62/C 2/L 42/Rev. 1 of 13th August, 1974 and A/CONF. 62/C. 2/L 82 of 26th August, 1974.

(11) A/CONF. 62/C. 2/L 21 of 25th July, 1974 and A/CONF. 62/C. 2/L 38 of 5th August, 1974.

(12) IWP No. 12/REV. 1 of 22nd August, 1974, provision III, provision VII, formula B.

tions even in the economic zone is a matter within the exclusive jurisdiction of the coastal State and that this should not be curtailed in any way. The majority nevertheless consider that the construction of artificial offshore installations in the economic zone must be subject to the same minimum conditions as are already imposed by the Convention on the Continental Shelf on "installations for the exploitation of the continental shelf" (prohibition in cases where installations interfere with the use of important shipping lanes, due notification of building plans, permanent warning arrangements, disposal of abandoned installations). In addition Belgium proposes the application of the international plan reporting procedure to the economic zone or to the continental shelf within this zone (13).

It has not yet been established whether the continental shelf will be subject to special provisions if it extends beyond the 200 mile limit. The answer to this question is only of secondary importance so far as the construction of offshore nuclear power stations is concerned as for the foreseeable future it is hardly likely that power stations will be constructed seaward of the 200 mile limit.

III. Offshore nuclear power stations on the high seas

In view of the small likelihood that artificial islands and installations and more particularly offshore nuclear power stations will be constructed outside the 200 mile limit within the foreseeable future, this question has hitherto hardly been discussed. Only Belgium has made a proposal in this field which envisages the use of the proposed international machinery for the sea-bed which has still to be set up. The proposal reads:

> "Any construction of an artificial island or immovable installation on the high seas beyond the limits of the continental shelf shall be subject to the authority and jurisdiction of the international machinery for the sea-bed. The international authority may authorise a State to erect such islands or installations and delegate jurisdiction over such structures to that State" (13)

B. THE DUMPING OF RADIOACTIVE WASTE IN THE SEA

The dumping of radioactive waste in the sea may well be considered the most dangerous type of "nuclear exploitation" of the sea in the long term owing to the difficulties involved and the adverse effects on the marine environment and on man. For this reason this particular subject was dealt with in detail at the first United Nations Conference on the Law of the Sea in 1958 (14).

1. The present legal position (15) is that the dumping of radioactive waste in the territorial sea is in principle governed by the law of the coastal states concerned. Exceptions to this may arise from the rights of other States to innocent passage of their ships in the territorial

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(13) See footnote 6.

(14) Hoog, loc. cit. p. 39.

(15) See Pelzer, N., "Rechtsprobleme der Beseitigungradioaktiver Abfalle in das Meer", Göttingen 1970.

sea and from "other rules of international law" such as the right to mutual protection between neighbouring tates or restrictions introduced under special conventions already in force.

A first approach to regulate the dumping of radioactive waste on the high seas is contained in Article 25 of the Geneva Convention on the High Seas of 1958. The parties to this Convention are obliged to take measures to prevent the pollution of the seas and co-operate to this end with the competent international organisations. However, as regards permission to dump radioactive waste in the sea, this provision merely invokes the general duty to pay reasonable regard to the interests of other tates using the high seas. Attempts to establish at least general basic principles were at first unsuccessful. Only recently has it been possible, by way of supplementing the 1972 London Convention on the dumping of waste in the sea (16), to agree on a threshold for the dumping of radioactive waste in the sea which must not be exceeded, and also on detailed recommendations concerning the granting of permits for dumping waste in circumstances where this is still considered tolerable (17).

2. The Third United Nations Conference on the Law of the Sea has not so far dealt with the special problem of the dumping of radioactive waste in the sea. The Third Committee, whose terms of reference included questions of marine pollution, has so far only been able to touch on the question of marine pollution due to the dumping of waste. It is nevertheless considered certain that this Committee will deal with these problems in detail at the Geneva stage of the Conference and give its attention to pollution due to the dumping of radioactive waste. As regards the dumping of such waste in the territorial sea it may be assumed that the existing law will remain unchanged, apart from the extension of the territorial sea to 12 nautical miles. As regards the high seas, Article 25 of the 1958 Convention on the High Seas will probably be taken as a basis, presumably amended on the lines of the 1972 London Convention. A reference to the latter convention would also be possible.

The crucial point once again concerns the economic zone. It is doubtful whether the developing countries will accept an international agreement on the lines of the London Convention in respect of this area of the sea. Thus, for example, at discussions in the IAEA Board of Governors on the document prepared by that Organisation concerning the 1972 London Convention the Chilean Representative criticised the fact that this document did not contain any reference at all to the concept of the economic zone and pointed out that the dumping of radioactive material regarded as permissible in the document would, if at all, be permissible only seaward of the 200 mile economic zone (18). The question also remains to be decided as to who is to supervise the dumping of radioactive waste in this zone, i.e. whether this is the right and duty of the coastal State or the State in which the ship concerned is registered. The answer to this question will only emerge when general agreement has been reached among the participants at the Conference concerning the legal form to be taken by the economic zone. It is not at present possible to say whether such agreement is likely at the Geneva stage of the Conference.

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(16) Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter of 29th December, 1972, IAEA document INFCIRC/205.

(17) IAEA document GOV/1688 of 7th August, 1974, Appendix p. 3.

(18) IAEA document GOV/OR 470 of 13th September, 1974, para. 13.

C. NAVIGATION OF NUCLEAR SHIPS

1. The First United Nations Conference on the Law of the Sea also touched on the problems arising under international law as regards the navigation of nuclear ships (19). It was not, however, possible to reach agreement on special legal provisions relating to navigation of nuclear ships. The Geneva Conventions therefore provide only general indications regarding the conditions under which nuclear ships may cross the territorial sea of a foreign State or the high seas. In accordance with the Geneva Conventions and the practice hitherto adopted by States the position is as follows access by nuclear ships to foreign ports and the passage through the territorial sea which this entails is only possible with the express permission of the coastal State concerned and after compliance with any special conditions which that State may impose. The passage of nuclear ships across the high seas is lawful provided that the nuclear ship complies with the provisions of the SOLAS Convention (20) and is covered by insurance which complies at least with the provisions of the Brussels Nuclear Ships Convention (21). At the present time the legal position is not clear as regards the passage of nuclear ships through the territorial sea of foreign States without entering port. On the one hand it is asserted that nuclear ships are also entitled to innocent passage and may therefore pass through foreign territorial seas without the consent of the coastal State provided that they comply with the above-mentioned safety and liability requirements and the conditions of passage fixed by the coastal State and thus is not prejudicial to the good order or security of the coastal State within the meaning of Article 14(4) of the Geneva Convention on the Territorial Sea. On the other hand some States insist that transit through their territorial sea requires authorisation even when the conditions relating to safety and liability are complied with (22).

2. At the Third United Nations Conference on the Law of the Sea three proposals have so far been put forward containing express provisions relating to the navigation of nuclear ships. All three proposals concern the so far unclarified question of passage through the territorial sea of foreign States: the most liberal of these is contained in a paper submitted by four socialist countries according to which nuclear ships would have to take special precautionary measures during passage and carry documents issued on the basis of international agreements relating to nuclear ships (23). This reference to documents obviously relates to

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(19) A/CONF. 13/C. 1/L 6 of 14th March, 1958 and A/CONF. 13/39, pp 79, 80, 96, 100.

(20) International Convention for the Safety of Life at Sea, 1960, UNTS 536, pp. 27 et seq. - BGBL 1965 II, pp. 480 et seq

(21) Convention of 25th May, 1962 on the Liability of Operators of Nuclear Ships - BT-Drucks. 7/2182.

(22) As to the present legal situation see: Boulanger, W."Shall Nuclear Ships be Stranded for Lack of Relevant Legal Provision?";Peaceful Uses of Atomic Energy, Proceedings Series, Volume 3, New York/Vienna 1972, pp. 465 et seq.; Pelzer, Rauschning, Zieger, Die völkerrechtliche Stellung von Reaktorschiffen in fremden Territorial - und Eigengewässern, Proceedings of the Symposium on Nuclear Ships, Volume 2, Munich 1971, pp. 971 et seq.

(23) A/CONF. 62/C. 2/L 26 of 29th July, 1974, Article 17.

the safety assessment under Regulation 7 and the safety certificate under Regulation 10 of Chapter VIII of the SOLAS Convention. At the other end of the scale is a proposal by Oman which is believed to have been prepared by Yale University (24). According to this proposal the coastal State can either make the passage of nuclear ships through its territorial sea subject to prior notification or - and this is a substantially different matter - to prior authorisation by its competent authorities. The introduction of even the possibility of such authorisation being required would mean the end of the right to innocent passage which is claimed as a basic principle applying to nuclear ships as to others. In between these two official proposals is a project put forward under the heading "formulation of main trends" which corresponds to the proposal by Oman with one important exception it submits that passage should be subject to notification but not to authorisation. The notification procedure should not lead to the passage being unreasonably delayed (25). Reference should also be made in this connection to a proposal by Cyprus, Greece, Indonesia, Malaysia, Morocco, the Philippines, Spain and Yemen previously submitted to the United Nations Sea-Bed Committee under which the coastal State may also require prior notification or authorisation for the passage of nuclear ships (26).

As regards the question the navigation of nuclear ships in the economic zone and on the high seas no official proposals were made in Caracas. It is nevertheless likely that similar restrictions will be claimed in the case of passage through economic zones as for passage through the territorial sea.

D. THE MARITIME TRANSPORT OF RADIOACTIVE MATERIALS

1. The maritime transport of radioactive materials is at present governed by detailed safety regulations drawn up as supplements to the SOLAS Convention jointly by ICRP, IAEA and IMCO and which are continuously revised to take account of latest scientific developments. The present legal position regarding the transport of radioactive materials in the territorial sea is that, provided these safety regulations are observed, there is a right to innocent passage (which includes the observance of the specific laws and regulations of the coastal State) while beyond the territorial sea the transport of radioactive materials is governed by the principle of the freedom of the high seas (27).

2. In Caracas three official proposals were made on this subject, all of which related only to the territorial sea. In the proposal mentioned above by the four socialist States (23), the observance of special precautionary measures and the possession of documents issued on the basis of international agreements on the maritime transport of radioactive materials were also required for the transport of radioactive materials in the territorial sea. This is probably a reference to the

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(24) A/CONF. 62/C. 2/L 16 of 22nd July, 1974, Article 8.

(25) IWP No. 1/Rev. 2 of 1st August, 1974, provision XXXIV.

(26) A/AC. 138/SC. II/L 18 of 27th March, 1973, Article 14.

(27) On the present legal position see Pelzer, N. Die friedliche Verwendung der Kernenergie und das SeeVölkerrecht, Jahrbuch für Internationales Recht 15 (1970), pp. 489 and 501.

SOLAS Convention and the "IAEA Regulations for the Safe Transport of Radioactive Materials". Under a proposal by Fiji, on the other hand, the transport of radioactive materials through the territorial sea of a foreign State would be made subject to prior notification to the coastal State of the passage and the use of special shipping lanes (28) This last condition is also required in an official proposal by Oman (24)

The transport of radioactive materials in the economic zone or on the high seas was not discussed in Caracas. No official proposals were made in this respect.

E. PROSPECTS

The prospects of reaching agreement on all the questions mentioned in this article at the next stage of the Conference* are slender. Agreement is clearly only possible within the framework of a package deal which would tie together the main subjects of contention at the Conference, such as the establishment and legal form of the economic zone, passage through straits and the regime governing the sea-bed. It is not possible to say at present whether such a solution will be reached in Geneva.

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(28) A/CONF. 62/C. 2/L 19 of 23rd July, 1974, Article 6.

* The next session of the Third United Nations Conference on the Law of the Sea was opened in Geneva on 17th March 1975 and is scheduled to last until 10th May (Note by the Secretariat).

COMMENTS ON THE ITALIAN REGULATIONS ON THE SAFETY OF NAVIGATION AND LIFE AT SEA WITH PARTICULAR EMPHASIS ON NUCLEAR SHIP PROPULSION

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SOURCE AND VALIDITY OF REGULATIONS

The Regulations on the safety of navigation and of life at sea (1) came into force about two years ago. They were made in implementation of the Act of June 1962 (2) bearing the same name but which did not cover nuclear ship propulsion.

The ten years which elapsed between adoption of the Act and that of the Regulations have enabled introduction into the latter of standards taking into account developments in the various sectors of activity in the broader sense, including nuclear ship propulsion.

It should be recalled that, as regards nuclear reactors installed on ships, specific risks arising from the possibility, low as it may be, of a nuclear incident at sea, with its multiple consequences, should be added to the usual risks connected with ordinary navigation.

In fact, the interest in our country in this type of navigation has not notably increased since 1962 until the entry into force of these Regulations, although a project for a nuclear ship was recently begun in Italy. It should be pointed out that the origin of the Regulations dates back to the well-known London Convention of 1960 (Safety of Life at Sea, SOLAS), ratified by Italy in 1966 (3), which devotes a Chapter to nuclear ships: consequently, promulgation of the Regulations meets the need to regulate all aspects involving the safety of navigation from the viewpoint of relationships between States, including nuclear navigation in Italian territorial waters.

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* The ideas expressed and the facts given in this article, are under the sole responsibility of the author.

(1) Approved by Decree No. 1154 of the President of the Republic of 14th November 1972.

(2) Act No. 616 of 5th June 1962 on the safety of navigation and life at sea (Sections 7 and 35 in particular).

(3) Act No. 538 of 26th May 1966: Ratification and enforcement of the Convention on the Safety of Life at Sea, signed in London on 17th June 1960.

The SOLAS Convention lays down that, in order to harmonise basic safety standards regarding the entry of nuclear ships into territorial waters as well as foreign ports, prior authorisation must be requested from the Host State. This authorisation is subject to consideration of special documents demonstrating the existence of safety measures, the validity of which is decided by the maritime authorities of the State concerned. The purpose of the Regulations is therefore to provide a series of standards to regulate these matters.

STANDARDS FOR NAVAL NUCLEAR INSTALLATIONS AND "SAFETY STANDARDS" OF THE REGULATIONS

1. Before considering the standards in the Regulations which concern nuclear aspects, mention should be made of provisions on naval nuclear installations already laid down in our legislation. There are not many, it is true, and those there are may be found in the Act of 1962 on the Peaceful Uses of Atomic Energy (4). While indicating the authorities competent for the adoption of measures relating to the naval installations concerned, they make provision for the promulgation (which has not yet taken place) of technical and administrative standards on nuclear ship propulsion (Section 12); it should be recalled that the Act of 1962 also makes provision for the promulgation of regulatory standards governing the recognition of qualifications and licences for the operation of nuclear installations on board ships (Section 9).

The former provision (Section 12), which is clearly more important, calls for some brief comments. Although it is not intended here to interpret or analyse it in depth, or even to assess its validity, it should be noted that where mention is made of "nuclear ship propulsion" it refers in fact to the construction (projects, testing etc) and operation of nuclear ships; this is why the gap in the Act is simply of a literal or textual nature.

Consequently, the "technical and administrative standards" which have just been issued will concern the measures to be taken in matters of nuclear safety and health protection against ionizing radiation during the operation of nuclear ships as well as in the design, construction and testing stages of naval nuclear installations, in parallel with provisions of the Act of 1962 for land-based installations and its implementing Decree of 1964 (5).

All these aspects require detailed procedures similar to those provided by the 1964 standards for land-based installations. In fact the same Section 12 refers the concrete measures and administrative actions (including those covering technical control as well as monitoring and inspection) to the authorities competent for land-based reactors (Ministry for Industry and National Committee for Nuclear Energy) in addition to the essential participation of the Ministry of the Merchant Navy. Standards concerning the above-mentioned measures can only be issued in the frame of the "technical and administrative" standards in Section 12.

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(4) Act No. 1860 of 31st December 1962 on the Peaceful Uses of Atomic Energy.

(5) Decree No. 185 of the President of the Republic of 13th February 1964: Safety of installations and the health protection of workers and the population against the hazards of ionizing radiations arising from the peaceful uses of nuclear energy (Chaper VII - Installations).

2. The provisions in the Regulations concerning the safety of nuclear ships are numerous and cover mainly documents on navigational safety (certificate and safety report, operating manual etc); they also indicate the authorities and bodies responsible for special controls of the access to, the stay and movements of nuclear ships in territorial waters.

It goes without saying that most of these standards are based, or more precisely, must comply with the general and specific principles sanctioned by the SOLAS Convention, because, as already mentioned, the Act of June 1962 which the Regulations implement contains no provisions covering nuclear navigation.

The Regulations stress that nuclear ships wishing to enter national harbours are required (Section 34) to obtain prior authorisation (SOLAS Convention, Chapter VIII, Article 4) granted by the Ministry of the Merchant Navy, and must submit to a special control (Article 11, ibid) carried out by the ad hoc Commission to ensure that there is on board a valid safety certificate for a nuclear-powered ship (for the purposes of national and international navigation) and that there is no unacceptable level of radiation or other hazards of a nuclear nature at sea or in the harbour, liable to endanger the crew, the population, waterways, foodstuffs and waters. The safety certificates are issued by the maritime authorities, in accordance with the 1962 Act.

Under the Regulations, the nuclear ship must have a "safety report" (Section 40) enabling an assessment to be made of the intrinsic safety of the installation as well as of any other conditions involving radiation or hazards of a nuclear nature. The report, which must be approved by the Ministry and be constantly brought up to date, should be made available to the Governments of the countries which the ship wishes to visit sufficiently in advance so as to enable them to study it appropriately (SOLAS, Chapter VIII, Article 7).

The "operating manual" is also submitted to approval by the Ministry and must also be constantly brought up to date (Article 41); the manual contains data and instructions on operating the nuclear installation especially in connection with safety standards (Chapter VIII, Article 8, ibid) (6).

2.1 Article 10(3) of the Regulations contains the provision which has the most direct bearing on the new standards mentioned in paragraph 1; it lays down that the Ministry of the Merchant Navy shall establish by Decree the instructions to be complied with in respect of the following matters involving nuclear ships:

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(6) Another provision in Section 39 of the Regulations should be recalled here; it is based on Article 10(b) in Chapter VIII, which requires a safety certificate demonstrating that all prescriptions for nuclear ships are complied with, including those for passenger ships.

(a) contents of safety report (Section 40);

(b) contents of operating manual (Section 41);

(c) measures to be taken with a view to special controls (Section 34);

(d) general safety principles;

(e) requirements prior to the installation of nuclear power;

(f) shielding and envelope of reactor;

(g) screen and protection against radiation;

(h) radioactive waste;

(i) loading and maintenance of reactor;

(j) crew.

The contents of all these safety standards seem to correspond for the most part to the standards to be adopted for naval nuclear installations (see paragraph 1) which, when they are promulgated, might lead to problems of co-ordination, in particular with Section 10, and also with other more specific provisions in the Regulations (e.g. Sections 39, 40 and 41) mainly for two reasons: in the first place, the safety and protection standards (5) which were promulgated for land-based installations a long time ago - and which will undoubtedly be very similar to the ones for naval installations - cover many aspects already dealt with by the Regulations (e.g. safety report, operating manual, radioactive waste etc). Secondly, there is the question of CNEN intervention in the bodies designated by the Act to formulate "technical and administrative standards" for the construction and operation of naval nuclear installations (7).

The Ministerial provisions in Section 10 consequently provide instructions "in principle" for bodies and their subordinate services with a view to establishing safety and protection measures for nuclear ships in the frame of the Regulations, taking into account the safety and protection standards which have already been prescribed as well as those to be prescribed for naval nuclear installations under Section 12 of the 1962 Act. Moreover, these standards will also have to take into account the London Convention (and its recommendations), the Regulations and other "sources" such as the Euratom Treaty (for radiation protection), insofar as the standards in that Convention cover the design, construction testing and other aspects of nuclear ships.

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(7) The Regulations stipulate that the CNEN, through one of its experts, shall take part in the "Special Control" Commission established by Section 34(3), as well as in the "Visiting Commission" referred to in Section 35 of the 1962 Act on which the Regulations are based (see also Section 29(b) of the Regulations).

SAFETY STANDARDS AND THIRD PARTY LIABILITY FOR THE OPERATION OF NUCLEAR SHIPS

Approval of the Regulations on the safety of navigation and of life at sea - which, as noted, require additional standards whose application must be co-ordinated with the above-mentioned specifically nuclear standards - does not strictly resolve technical and administrative problems resulting from nuclear navigation in territorial waters.

It should be pointed out that, up to the present, and in the absence of "ad hoc" standards, entry and stay of nuclear ships such as the Savannah in Italian territorial waters were submitted by analogy to the technical safety and protection requirements - where applicable - for land-based installations (especially with respect to the preparation and approval of the nuclear external emergency plan), according to the procedures laid down by domestic regulations, and the basis of bilateral agreements as was the case for the United States nuclear ship (8).

As for problems of a more strictly legal nature, in particular, that of third party liability for damage caused by naval nuclear installations (although these problems are not of direct interest for this study), it should be recalled that this same Agreement governs the aspects connected with the third party liability raised by damage which might be caused by operation of that ship. When the Nuclear Act of 1962 was elaborated, it seemed that the Brussels Convention on Third Party Liability of Operators of Nuclear Ships of the same year would soon come into force (9): consequently, the 1962 Act did not take that particular problem into account.

Italy, for its part, has undertaken studies for the construction of its first nuclear ship (the Enrico Fermi) on the basis of a co-operation agreement between the CNEN (National Committee for Nuclear Energy) and the National Defense Ministry - Military Navy (Rome, 9th December 1966); this project is at present in abeyance. The project concerns a "pilot ship" rather than a mercantile one, whose travelling, once it is commissioned, might give rise to serious legal problems also connected with the ship's special characteristics.

In any event, the problems which were and continue to be raised for our country in respect of safety and third party liability standards in nuclear navigation concern the entry and stay of foreign ships in Italian waters, namely the Savannah, and more recently, the German ship Otto Hahn which had planned to visit several of our harbours some time ago.

As regards the third party liability of nuclear ships in foreign territorial waters or harbour , it is known that the Brussels Convention of 1962 adopted the principles of the Paris Convention of 1960 on Third

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(8) Agreement between Italy and the United States of America on the utilisation of Italian harbours by the nuclear ship Savannah (Rome 23rd November 1964), updated by an Exchange of Notes of 16th December 1965. The approval and implementation of this Agreement is still in the form of a Bill in Italy.

(9) The Brussels Supplementary Convention is still not in force.

Party Liability in the Field of Nuclear Energy (channelling of liability onto the operator, limitation of liability to the amount prescribed by the Convention, compulsory insurance, State intervention etc). Nevertheless, since the Brussels Convention has not come into force to date (as it has not been ratified by a State having issued an operating licence to a nuclear ship) and nuclear ships are outside the Paris Convention (and the Vienna Convention), third party liability still remains subject to standards in force in the domestic legislation of each country when there is no prior agreement. This is why it has become common practice for the State owning the ship and that to be visited to conclude an agreement.

The Agreement concluded for the Savannah, while obviously preserving the jurisdictional competence of the Italian courts in accordance with Italian laws, deals with both safety and liability matters, it submits the entry of the ship to prior approval by the Italian Government and leaves it to the Italian authorities to decide the more appropriate harbours and to inspect the ship whenever they consider it necessary; for all other safety questions, it refers to the London Convention and assigns to the operator liability to the amount of 500 million dollars while allowing for an extension of the provisions of the United States Act on compensation for damage caused by nuclear ships, to damage caused in Italy, and their application by an Italian judge.

It goes without saying that this solution could not be applied to an Italian nuclear ship, and also, the practice of bilateral agreements which are at present necessary and irreplaceable, usually calls for lengthy and difficult negotiations, raising very complex legal problems, especially in matters of third party liability. Consequently, it is preferable to lay down specific national standards similar to those concerning the 1962 Nuclear Act and governing third party liability in relation to the operation of land-based installations, instead of additional standards (promulgated by the Government) like the technical and administrative rules concerning the navigation of nuclear ships provided by the above-mentioned Section 12.

CLOSING COMMENTS

Traditional standards cannot adequately govern nuclear navigation, undoubtedly in view of the special risks connected with this type of navigation. From the viewpoint of the safety of nuclear ships, and given the mobility of the "source" of danger, the London Convention provides a very important instrument for harmonising standards, as demonstrated by the fact that it has been ratified by more than eighty countries.

The Italian Regulations, while stressing the need for submitting special safety documents (no direct control being provided regarding the ship's nuclear installation) to the discretionary approval of the maritime authorities of the Host country, are based on the concept of "general basic provisions" of the Convention likely to be extended and adapted to the particular requirements of each State, which was in fact the case with the various bilateral agreements concluded.

The implementation of and practical experience with the Regulations' standards will tell some time hence whether the principles established by the Convention have been satisfactorily observed with a view to securing adequate safety of nuclear navigation in the frame of our country's activities.

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Bulletin

SUPPLEMENT TO N° 15

GERMANY

ACT ON THE PEACEFUL USES OF ATOMIC ENERGY AND PROTECTION AGAINST ITS HAZARDS (ATOMIC ENERGY ACT)

Superseded see Supplement to No 36

Revised as of 1st October 1975

July 1975

N O T E

Article 3 of the Third Act Amending the Atomic Energy Act, which will enter into force on 1st October 1975, authorises the Federal Minister of the Interior to publish a revised text of the Atomic Energy Act of 23rd December 1959 (Bundesgesetzblatt I, page 814). The draft of this revised text, unofficially translated by the Secretariat of the OECD Nuclear Energy Agency, incorporates all amendments to the Atomic Energy Act up to 1st October 1975, and notably those introduced by the Third Act Amending the Atomic Energy Act. The asterisks, unless otherwise indicated, refer to notes by the Secretariat.

G E R M A N Y

ACT ON THE PEACEFUL USES OF ATOMIC ENERGY AND PROTECTION AGAINST ITS HAZARDS (ATOMIC ENERGY ACT)

Revised as of 1st October 1975

C H A P T E R I

GENERAL

Section 1 - Purpose of the Act

It is the purpose of this Act:

1. To further nuclear research and development and the use of nuclear energy for peaceful purposes;

2. To protect life, health, and property from the hazards of nuclear energy and from the harmful effects of ionizing radiation, and to provide compensation for damage caused by nuclear energy or ionizing radiation;

3. To prevent danger to the internal or external security of the Federal Republic arising from the use or the release of nuclear energy;

4. To enable the Federal Republic to meet its international obligations in the field of nuclear energy and protection against radiation.

Section 2 - Definitions

(1) "Radioactive substances" within the meaning of this Act mean:

1. special fissionable material (nuclear fuel) in the form of
   - (a) plutonium 239 and plutonium 241;
   - (b) uranium 233;
   - (c) uranium enriched in the isotopes 235 or 233;
   - (d) any substance containing one or more of the aforesaid substances;
   - (e) uranium and substances containing uranium of the natural isotopic mixture of such purity as to enable a continuous self-sustaining chain reaction to be maintained in a suitable installation (reactor).

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

2. Substances which, without being nuclear fuel, emit ionizing radiation spontaneously (other radioactive substances).

(2) For the application of the provisions on liability and financial security, the terms "nuclear incident", "nuclear installation", "operator of a nuclear installation", "nuclear substances" and "units of account" shall have the meaning given to them in Annex 1 of this Act.

(3) "Paris Convention" means the Convention of 29th July 1960 on Third Party Liability in the Field of Nuclear Energy as amended by the Additional Protocol of 29th January 1964 (Bundesgesetzblatt* 1975 II, pages 957, 959, 1007).

(4) "Brussels Supplementary Convention" means the Convention of 31st January 1963 Supplementary to the Paris Convention as amended by the Additional Protocol of 28th January 1964 (BGBl. 1975 II, pages 957,992, 1021).

C H A P T E R II

CONTROL

Section 3 - Import and export

(1) Any person who imports or exports nuclear fuel shall require a licence.

(2) An import licence shall be granted, provided that

1. there are no known facts giving rise to any doubts as to the reliability of the importer, and

2. it is ensured that the nuclear fuel to be imported will be used in conformity with the provisions of this Act, the statutory ordinances made thereunder, and the international obligations of the Federal Republic in the field of nuclear energy.

(3) An export licence shall be granted, provided that

1. there are no known facts giving rise to any doubts as to the reliability of the exporter, and

2. it is ensured that the nuclear fuel to be exported will not be used in such a way as to jeopardise the international obligations of the Federal Republic in the field of nuclear energy, or the internal or external security of the Federal Republic.

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* Bundesgesetzblatt (BGBl.): Federal Gazette.

(4) Nothing herein contained shall affect any other legal provisions on import or export.

(5) Any other conveyance into or out of the realm of this Act shall be deemed to be import or export within the meaning of this Act.

Section 4 - Carriage of nuclear fuel

(1) The carriage of nuclear fuel outside an enclosed area where nuclear fuel is kept in Government custody or where activities licensed under Sections 6, 7 and 9 are being carried out, shall require a licence. Such licence shall be granted to the consignor or the person undertaking the consignment or carriage of the nuclear fuel.

(2) A licence shall be granted, provided that

1. there are no known facts giving rise to any doubts as to the reliability of the applicant, the carrier and the persons actually effecting the carriage,

2. it is ensured that such carriage is effected by persons who, with respect to the planned carriage of nuclear fuel, possess the requisite knowledge of the possible radiation hazards and the safety measures to be applied,

3. it is ensured that the nuclear fuel will be carried in conformity with such legal provisions on the carriage of dangerous goods as are applicable to the particular carrier concerned or, in the absence of such provisions, that otherwise every precaution which is necessary in the light of existing scientific knowledge and technology has been taken in order to prevent damage resulting from the carriage of nuclear fuel,

4. the necessary financial security has been provided to cover all legal liability to pay compensation for damage (sub-section 5 of Section 13),

5. all necessary protection is provided against disturbance or other interference by third persons,

6. the choice of the mode, time and route of the carriage are not contrary to overriding public interests.

(3) Financial security to cover all legal liability to pay compensation for damage required pursuant to sub-section 2, no. 4 shall not be necessary for carriage of the nuclear fuel specified in Annex 2 to this Act.

(4) The licence shall be granted separately for each carriage; a general licence may be granted to an applicant for a period not exceeding three years, provided that this is not contrary to the purposes specified in nos. 2 to 4 of Section 1.

(5) A duplicate or a certified copy of the licence shall be available during carriage. Furthermore, the carrier shall carry a certificate which meets the requirements of Article 4(c) of the Paris Convention unless, pursuant to sub-section 3, financial security is not required for the carriage in question. The licence and the certificate shall be produced, on request, to the competent control authority and its duly authorised agents.

(6) The first sentence of sub-section 5 shall not apply to the carriage by rail by an operator of a railway. Otherwise nothing contained herein shall affect any legal provisions applicable to carriers and relating to the carriage of dangerous goods.

Section 4a - Financial security in cases of international carriage

(1) Subject to sub-sections 3 and 4, the financial security required pursuant to no. 4 of sub-section 2 of Section 4 shall be considered as provided in the case of international carriage, if the certificate required under Article 4(c) of the Paris Convention relates to an operator of a nuclear installation situated in a Contracting State to the Paris Convention.

(2) "Insurer" within the meaning of Article 4(c) of the Paris Convention means:

1. an insurer licensed to carry out his business within the realm of this Act;

2. an insurer licensed outside the realm of this Act, provided that an insurer licensed within the realm of this Act or an association of such insurers undertakes jointly to assume the obligations of a third party liability insurer.

Some other form of financial security may be permitted in lieu of insurance if it is guaranteed that the person required to provide security is in a position to meet his legal obligation to pay compensation for damage within the determined amount of security for as long as it is to be expected that claims may be raised against him.

(3) If the Brussels Supplementary Convention is not yet in force for a Contracting State to the Paris Convention, the granting of a licence pursuant to Section 4 for the transit of nuclear fuel may be made subject to the condition that the maximum amount of liability of the operator of a nuclear installation provided for in such Contracting State may be increased to DM 50 million with respect to nuclear incidents occurring during carriage within the realm of this Act, if this is necessary in view of the amount and nature of the nuclear fuel and the safety measures applied. The operator of the nuclear installation shall be required to furnish proof of the financial security thus increased by producing a certificate issued by the competent authority of such Contracting State.

(4) In case of import or export of nuclear fuel into or from another Contracting State to the Paris Convention for which the Brussels Supplementary Convention is not in force, the licence pursuant to Section 4 may be made subject to the condition that the operator of the nuclear installation situated in the realm of this Act to whom or from whom the nuclear fuel is to be carried undertakes to assume liability, in accordance with the provisions of this Act, for nuclear incidents occurring during carriage within the realm of this Act, if the maximum amount of liability provided in the other Contracting State to the Paris Convention is not adequate in view of the amount and nature of the nuclear fuel and the safety measures applied.

Section 4b - Transport of nuclear substances in special cases

(1) Any person who carries nuclear substances without requiring a licence pursuant to Section 4, shall furnish proof to the competent authority, before commencement of the carriage, that the financial security required to cover legal liability to pay compensation has been obtained. If such financial security offered is insufficient, the authority shall determine the necessary amount according to the principles laid down in no. 1 of sub-section 2 of Section 13. The second and third sentences of sub-section 5 of Section 4, and Section 4a shall apply.

(2) Sub-section 1 shall not be applied in the case of carriage of nuclear substances which are specified in Annex 2 to this Act.

Section 5 - Custody, possession and surrender of nuclear fuel

(1) Nuclear fuel shall be kept in Government custody. Such precautions as are necessary in the light of existing scientific knowledge and technology shall be taken to prevent damage resulting from such keeping in custody, and the necessary protection shall be provided against disturbance or other interference by third persons.

(2) No persons shall be permitted to have nuclear fuel in his immediate possession outside Government custody, unless he

1. stores nuclear fuel by virtue of a licence granted under Section 6,

2. treats, processes or otherwise uses nuclear fuel in an installation licensed under Section 7 or by virtue of a licence granted under Section 9,

3. is entitled to carry nuclear fuel by virtue of Section 4.

(3) Any person who is in immediate possession of nuclear fuel, without being authorised under sub-section 2, shall surrender it to the custodial authority without delay.

(4) The obligation to surrender nuclear fuel shall cease to apply if the fuel is transferred to a carrier licensed under Section 4,

1. for the purpose of export licensed under Section 3, or

2. for the purpose of delivery to a consignee licensed under no. 1 or 2 of sub-section 2.

(5) Nuclear fuel in Government custody under sub-section 1, or in licensed storage under Section 6 shall be delivered only if

1. the consignee is authorised to have nuclear fuel in his possession under no. 1 or 2 of sub-section 2,

2. nuclear fuel is to be carried, for the purpose of export, under a licence pursuant to Section 4.

Section 6 - Licences for the storage of nuclear fuel

(1) Any person who stores nuclear fuel outside Government custody shall require a licence.

(2) A licence shall be granted if there is need for such storage, provided

1. there are no known facts giving rise to any doubts as to the reliability of the applicant or of the persons responsible for administration and control of the storage, and such latter persons possess the requisite competence,

2. every necessary precaution has been taken in the light of existing scientific knowledge and technology to prevent damage resulting from such storage,

3. the necessary financial security has been provided to cover all legal liability to pay compensation for damage,

4. all necessary protection is provided against disturbance or other interference by third persons.

Section 7 - Licences for installations

(1) Any person who constructs, operates or otherwise holds a stationary installation for the production, treatment, processing or fission of nuclear fuel, or for the reprocessing of irradiated nuclear fuel, or who materially alters such installation, or its operation, shall require a licence.

(2) A licence may be granted only if

1. there are no known facts giving rise to any doubts as to the reliability of the applicant and of the persons responsible for the construction and management of the installation and the control of its operation and such latter persons possess the requisite competence,

1a. it is ensured that the persons who are otherwise engaged in the operation of the installation possess the necessary knowledge concerning the safe operation of the installation, the possible hazards and the safety measures to be applied,

2. every necessary precaution has been taken in the light of existing scientific knowledge and technology to prevent damage resulting from construction and operation of the installation,

3. the necessary financial security has been provided to cover all legal liability to pay compensation for damage,

4. all necessary protection is provided against disturbance or other interference by third persons,

5. the choice of the site of the installation, in particular with respect to non-contamination of water, air and soil, is not contrary to overriding public interests.

(3) All authorities of the Bund,* the Länder,* the communities and other regional authorities whose jurisdiction is involved, shall take part in the licensing procedure. In case of a difference of opinion between the licensing authority and any federal authority concerned, the licensing authority shall obtain instructions from the Federal Minister competent for nuclear safety and radiation protection. In all other respects, the licensing procedure shall be governed by statutory ordinance in accordance with the principles laid down in Section 8, sub-sections 1 to 4 and 6 to 8 of Section 10, and Section 18 of the Federal Act on Protection Against Nuisances of 15th March 1974 (BGBl. I, page 721).**

(4) Sub-sections 1 to 3 shall apply analogously to non-stationary installations. However, the statutory ordinance referred to in the third sentence of sub-section 3 may provide that the project shall not be publicly announced and the documents shall not be laid open for public inspection and that in such case objections shall not be heard orally.

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* "Bund": The federal State; "Länder" (singular "Land"): States forming the Federal Republic of Germany.

** Gesetz zum Schutz vor schädlichen Umwelteinwirkungen durch Luftverunreinigungen, Geräusche, Erschütterungen und ähnliche Vorgänge (Bundes-Immissionsschutzgesetz).

(5) Section 14 of the Federal Act on the Protection Against Nuisances shall apply analogously if other premises are affected by a licensed installation.

Section 7a - Provisional decision

(1) Upon application, a provisional decision may be rendered with respect to separate questions which are conditional for the granting of a licence for an installation pursuant to Section 7, in particular with respect to the choice of the site. The provisional decision shall become invalid if the applicant does not apply for the licence within two years from the date at which such decision has become final; upon application, this period may be extended for up to a further two years.

(2) Sub-sections 3 and 4 of Section 7 and Sections 17 and 18 shall apply accordingly.

Section 7b - Public announcement: interventions by third parties

(1) After a procedure pursuant to Section 7 or Section 7a, including public announcement of the project and public inspection of documents, has been completed, a certified copy of the decision rendered, together with an instruction as to the right of appeal, shall be laid open for public inspection during a period of two weeks; the period and place of public inspection shall be announced in the same way as the project itself. With the expiry of this period, the decision shall be considered as having been served on third parties who have not intervened in the procedure; this shall equally be announced.

(2) To the extent that a decision rendered in a procedure covering a partial licence or a provisional decision pursuant to Section 7 or Section 7a has become final, third parties shall be precluded, in any further licensing procedure, from intervening on the basis of facts which had already been presented or which such parties could have presented in view of the document or the decision laid open for public inspection.

Section 8 - Relation to the Federal Act on Protection Against Nuisances and the Trading and Industrial Code*

(1) The provisions of the Federal Act on the Protection Against Nuisances concerning installations requiring a licence and the prohibition of the further operation of such installations, shall not apply to installations requiring a licence pursuant to Section 7 as regards protection against the hazards of nuclear energy and the harmful effects of ionizing radiation.

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* Gewerbeordnung.

(1a) If an installation requires a licence pursuant to Section 4 of the Federal Act on the Protection Against Nuisances as well as pursuant to Section 7 of this Act, the latter licence shall include the former. The nuclear licensing authority shall take its decision in accordance with the authority of the Land competent for protection against nuisances and in compliance with the provisions of the Federal Act on the Protection Against Nuisances and the statutory ordinances issued thereunder.

(2) With respect to installations subject to control under Section 24 of the Trading and Industrial Code which are used in installations requiring a licence under Section 7, the licensing authority may grant exemption, on a case-by-case basis, from the legal provisions issued under Section 24 of the Trading and Industrial Code, if such exemption is warranted by the special technical character of the installation subject to Section 7.

Section 9 - Treatment, processing and other uses of nuclear fuel outside of installations requiring a licence

(1) Any person who treats, processes or otherwise uses nuclear fuel outside of installations specified in Section 7 shall require a licence. Furthermore, a licence shall be required by any person who applies a method of treating, processing or otherwise using nuclear fuel in a way materially different from that specified in the licence, or who materially alters the installation or its location as specified in the licence.

(2) A licence may be granted only if

1. there are no known facts giving rise to any doubts as to the reliability of the applicant or of the persons responsible for the administration and control of the use of nuclear fuel, and such latter persons possess the requisite competence,

2. it is ensured that the persons otherwise engaged in the intended use of nuclear fuel dispose of the requisite knowledge of the possible hazards and the safety measures to be applied,

3. every necessary precaution has been taken in the light of existing scientific knowledge and technology to prevent damage resulting from the use of nuclear energy,

4. the necessary financial security has been provided to cover all legal liability to pay compensation for damage,

5. all necessary protection is provided against disturbance or other interference by third persons,

6. the choice of the place where the nuclear fuel is to be used is not contrary to overriding public interests, in particular with respect to non-contamination of water, air and soil.

Section 10

Exemptions from the provisions of Sections 3 to 7 and 9 may be granted by statutory ordinance, provided that only such quantities or types of nuclear fuel are involved or that such protective measures or equipment are applied which make it unlikely that damage will be caused by a self-sustaining chain reaction or the effects of ionizing radiation, and provided further that such exemptions are not contrary to the purposes stated in nos. 3 and 4 of Section 1.

Section 11 - Enabling provisions (licences, notifications, general permits)

(1) Unless special provision for nuclear fuel and installations within the meaning of Section 7 has been made under this Act, it may be provided by statutory ordinance with a view to achieving the purposes specified in Section 1

1. that prospecting for or handling of radioactive substances (extraction, production, storage, treatment, processing or any other use or disposal), transactions in radioactive substances (acquisition, or delivery to others), the carriage and import or export of such substances shall require a licence or notification,

2. that the construction or operation of an installation for the production of ionizing radiation shall require a licence or notification,

3. that a general permit may be issued for installations, apparatus and equipment containing radioactive substances or producing ionizing radiation after their design and construction have been examined by an authority to be specified in such statutory ordinance, which shall also specify the notifications to be made by the operators of such installation, apparatus and equipment,

4. that radioactive substances shall not be used in certain ways, to the extent that such prohibition is required for the enforcement of decisions by international organisations of which the Federal Republic of Germany is a member.

(2) The statutory ordinance may make the granting of licences and general permits subject to personal and objective requirements within the purposes of this Act, and may regulate the procedure for such licences and general permits.

Section 12 - Enabling provisions (safety measures)

(1) To achieve the purposes specified in Section 1, the following may be provided by statutory ordinance

1. the precautionary and control measures to be taken for the protection of individuals and of the general public in regard to the handling of and transactions in radioactive substances, the construction, operation and possession of

installations as specified in Section 7 and no. 2 of sub-section 1 of Section 11, the handling of and transactions in installations, apparatus and equipment as specified in no. 3 of sub-section 1 of Section 11,

2. the precautions to be taken in order to ensure that specified radiation doses and concentrations of radioactive substances in air and water are not exceeded,

3. that no person shall be employed in areas exposed to radiation hazards unless he produces a certificate issued by a specially authorised medical practitioner, and that if any objections be raised to such employment for reasons of health, the supervisory authority shall decide after consulting medical experts,

4. that persons who stay or have been staying in areas exposed to radiation hazards shall be under obligation, the extent to be specified, to have the radiation doses at their bodies measured, to undergo medical examination and, insofar as the protection of other individuals or the general public so requires, to undergo medical treatment, such examination or treatment being applied by specially authorised medical practitioners,

5. that, as to be specified, records shall be kept and reports submitted on the production, extraction, acquisition, possession, delivery and location of radioactive substances, as well as on the measurement of doses and dose rates of ionizing radiation,

6. that reports shall be submitted to the supervisory authority on any accident or harmful occurrence during the handling of radioactive substances, during the operation of an installation as specified in Section 7 and no. 2 of sub-section 1 of Section 11, during the handling of installations, apparatus and equipment as specified in no. 3 of sub-section 1 of Section 11,

7. that, as to be specified, radioactive substances which are no longer in use shall be stored, surrendered, disposed of or be secured by the appropriate authority,

8. the manner in which radioactive substances and installations within the meaning of Section 7 and no. 2 of sub-section 1 of Section 11, shall be protected against disturbance or other interference by third persons,

9. that the supervisory authority may issue directions for the implementation of any provisions made under nos. 1 to 8.

Nos. 1 and 6 of the first sentence shall apply analogously to the carriage of radioactive substances to the extent that the purposes stated in Section 1 nos. 1, 3 and 4 are to be achieved.

(2) The fundamental right to physical inviolability (first sentence of Section (2) of Article 2 of the Basic Law*) shall be restricted under the terms of no. 4 of sub-section 1.

* Grundgesetz (Constitution of the Federal Republic of Germany).

Section 12a - Enabling provision (Decision of the Steering Committee)

The Federal Government is authorised, with the consent of the Federal Council, to put into force by statutory ordinance decisions of the Steering Committee of the European Nuclear Energy Agency, or its successor, pursuant to Article 1(a)(ii) and (iii) and Article 1(b) of the Paris Convention, as well as to amend or repeal nos 2 and 3 of sub-section 1 of Annex 1, and Annex 2 of this Act, if this is necessary to fulfill the purposes stated in Section 1 of this Act.

Section 13 - Financial security to cover legal liability to pay compensation for damage

(1) In the licensing procedure, the public authority shall determine the type, terms and amount of financial security to be provided by the applicant to cover his legal liability to pay compensation for damage. Such determination shall be renewed every two years and in the event of any material change in circumstances; the public authority shall prescribe an appropriate time-limit within which the person under obligation to provide financial security must furnish proof that he has done so.

(2) The financial security to be provided pursuant to sub-section 1 shall

1. in the case of installations and activities involving liability under the Paris Convention in conjunction with sub-sections 1 to 5 of Section 25, under Section 25a or under an international agreement referred to in sub-section 2 of Section 25a, be in due proportion to the hazards of the installation or activities; as a general rule it shall not fall short of the maximum insurance cover obtainable on the insurance market at reasonable conditions but may not exceed the amount of DM 500 million; in case of carriage of nuclear substances, the financial security may not be fixed above DM 50 million,

2. in case of other activities requiring a licence pursuant to this Act or a statutory ordinance issued thereunder, ensure fulfillment of the legal liability to pay compensation for damage to the extent appropriate to the circumstances.

(3) Within the limits laid down by sub-section 2, and in order to achieve the purposes specified in Section 1, more detailed provisions may be made by statutory ordinance concerning financial security to cover legal liability to pay compensation for damage.

(4) The Bund (with the exception of the Federal German Railways* in the case of carriage in public transport) and the Länder shall not be required to provide financial security. Insofar as a Land may be held liable under the Paris Convention in conjunction with sub-sections 1 to 5 of Section 25, under Section 25a or under an international agreement referred to in sub-section 2 of Section 25a, the licensing authority, in analogously applying

* Deutsche Bundesbahn.

sub-sections 1 and 2 and the statutory ordinance issued under sub-section 3, shall determine to what extent and amount the Land shall guarantee, by means of indemnification pursuant to Section 34, to compensate damage not covered by financial security. In applying this Act, such guarantee shall be equal to financial security.

(5) For the purposes of this Act legal liability to pay compensation shall mean the liability to pay compensation for damage as laid down in private law. This term shall not include obligations of the nature specified in Sections 640, 641 of the Insurance Code*, and shall include obligations to hold harmless pursuant to sub-section 5 of Section 7 of this Act in conjunction with Section 14 of the Federal Act on Protection Against Nuisances, as well as similar obligations to pay indemnities or compensation only insofar as the damage or impairment has been caused by an accident.

Section 14 - Third party liability insurance and other forms of financial security

(1) Where, in the case of installations and activities involving liability under the Paris Convention in conjunction with sub-sections 1 to 5 of Section 25, under Section 25a or under an international agreement referred to in sub-section 2 of Section 25a, financial security is provided by third party liability insurance, Sections 158c to 158h of the Insurance Contracts Act** shall apply as appropriate provided that the period of sub-section 2 of Section 158c of the latter Act shall be two months and its expiry shall be delayed, in case of liability for the carriage of nuclear substances, for the duration of the carriage; if sub-section 4 of Section 158c of the Insurance Contracts Act is applied, indemnification by the Bund pursuant to Section 34 shall not be taken into account. Sub-section 3 of Section 156 of the Insurance Contracts Act shall not be applicable.

(2) Where financial security is not provided in the form of third party liability insurance, but by indemnification or guarantee of a third person, sub-section 1 shall apply analogously.

Section 15 - Rank of satisfaction of claims through financial security

(1) If the operator of a nuclear installation obliged to provide financial security and a person suffering damage are, at the time of the nuclear incident, combined enterprises within the meaning of Section 18 of the Stock Corporation Act***, the operator's financial security may be used to satisfy legal claims for compensation of that person only on condition that the satisfaction of claims of other victims is not thereby prejudiced. Nuclear installations within the meaning of the foregoing sentence shall include reactors comprised in a means of transport.

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* Reichsversicherungsordnung.
** Gesetz über den Versicherungsvertrag.
*** Aktiengesetz.

(2) If damage was caused to an industrial installation in the vicinity of the nuclear installation, the first sentence of sub-section 1 shall apply accordingly if the site of the industrial installation serves to utilise energy originating from the nuclear installation for production processes.

(3) Claims having a lower rank under sub-sections 1 and 2 shall rank equally amongst each other.

Section 16 - Repealed

Section 17 - Restrictions, conditions, revocation, designation as operator of a nuclear installation

(1) Licences and general permits granted under this Act or under a statutory ordinance made thereunder shall be issued in writing. They may contain restrictions, and may be subject to certain conditions, with a view to achieving the purposes specified in Section 1. Conditions may subsequently be imposed so far as may be necessary to achieve the purposes specified in nos. 2 and 3 of Section 1. Licences, other than those issued under Section 7, and general permits may be granted for a fixed period of time.

(2) Licences and general permits may be withdrawn if one of their conditions had not been complied with at the time of granting.

(3) Licences and general permits may be revoked if

1. they have not been used within a period of two years, unless otherwise provided in the licence or general permit,

2. one of their conditions has subsequently ceased to exist, and no remedial action has been taken within a reasonable period, or

3. the provisions of this Act or statutory ordinances made thereunder, orders or directions issued by the supervisory authorities, or the terms and conditions contained in the licence or general permit, have been seriously or repeatedly violated, or a condition subsequently imposed has not been complied with and no remedial action has been taken within a reasonable period.

(4) Licences shall be revoked if the financial security provided does not comply with the determination made under sub-section 1 of Section 13, and the person liable for financial security fails to furnish proof, within a reasonable period to be fixed by the public authority, that he has complied with such determination.

(5) Licences or general permits shall also be revoked whenever such revocation is necessary to avoid substantial risks to employees, third persons or the general public, and conditions subsequently imposed cannot provide a remedy within a reasonable period.

(6) When activities are licensed which authorise the operation of a nuclear installation, the licensee shall be expressly designated as operator of a nuclear installation in the licence.

Section 18 - Reparation

(1) If a licence or general permit granted under this Act or a statutory ordinance issued thereunder is withdrawn or revoked, appropriate reparation shall be paid to the licensee. If the withdrawal or revocation is effected by a federal autnority, the Bund shall be liable for the reparation; if effected by an authority of a Land, the Land concerned shall be liable. The amount of reparation shall be determined with due regard to the public interest and that of the persons concerned, and shall take into account the reasons which have led to such withdrawal or revocation. The reparation shall be limited to the expense incurred by the person concerned and in the case of an installation to its current value. In the event of dispute as to the amount of reparation, recourse may be had to the civil courts.

(2) There shall be no liability to pay reparation if

1. the holder of the licence or general permit has obtained such licence or general permit by making substantially incorrect or incomplete statements,

2. the holder of the licence or general permit, or persons carrying out activities in his interest thereunder, have by their conduct given cause for revocation of the licence or general permit, in particular by serious and repeated violation of the provisions of this Act, or of statutory ordinances made thereunder, or of orders and directions issued by the supervisory authority, or of the terms and conditions of the licence or general permit, or by non-compliance with conditions subsequently imposed,

3. the revocation had to be ordered because employees, third persons or the general public were subsequently exposed to serious hazards arising from the licensed installation or activity.

(3) Sub-sections 1 and 2 shall apply correspondingly to conditions subsequently imposed under the third sentence of sub-section 1 of Section 17.

(4) If a Land is liable for reparation, the Bund or another Land shall be obliged to contribute thereto, according to their overall interests in the withdrawal or revocation. The same shall apply if the Bund is liable for reparation.

Section 19 - Government supervision

(1) Any handling of or transactions in radioactive substances, the construction, operation and possession of installations of the type specified in Section 7 and no. 2 of sub-section 1 of Section 11, any handling of or transactions in installations, apparatus and equipment of the type specified in no. 3 of sub-section 1 of Section 11, as well as the carriage of such substances, installations, apparatus and equipment, shall be subject to Government supervision. In particular, the supervisory authorities shall ensure compliance with the provisions of this Act and of statutory ordinances made thereunder, with such orders and directions as are issued by the supervisory authorities pursuant thereto, and with the terms and conditions of the licence or general permit, as well as with any conditions subsequently imposed. The provisions of Section 139b of the Trading and Industrial Code shall apply correspondingly to the powers and duties of the supervisory authorities.

(2) Any person commissioned by the supervisory authority, and any expert called in by the said authority pursuant to Section 20, or any person commissioned by other authorities called in, shall at all times have access to places where there are radioactive substances, installations of the type specified in Section 7 and no. 2 of sub-section 1 of Section 11, or installations, apparatus or equipment of the type specified in no. 3 of sub-section 1 of Section 11, or to places where there is radiation originating therefrom, and to places where there is reason to believe that such conditions exist; and such persons shall have authority to carry out at such places all examinations necessary for the performance of their duties. They may request the persons in charge, or employees of such places, to provide them with any information that they may require in the course of such examination. Otherwise, Section 24b of the Trading and Industrial Code shall apply correspondingly. The fundamental right to inviolability of domicile as laid down in Article 13 of the Basic Law, shall be restricted so far as may be necessary for the exercise of these powers.

(3) The supervisory authority may order that a situation be discontinued which is contrary to the provisions of this Act or to statutory ordinances issued thereunder, to the terms and conditions of the licence or general permit, or to any condition subsequently imposed, or which might endanger life, health or property through the effects of ionizing radiation. In particular, the supervisory authority may order that

1. safety measures shall be taken, and may specify such measures,

2. radioactive substances shall be stored, or kept in custody, in a place designated by it,

3. the handling of radioactive substances, the construction or operation of installations of the type specified in Section 7 and no. 2 of sub-section 1 of Section 11, or the handling of installations, apparatus or equipment of the type specified in no. 3 of sub-section 1 of Section 11 shall be suspended temporarily, or permanently, if the requisite licence has not been granted or finally been revoked.

(4) Nothing herein contained shall affect the supervisory powers conferred by other legal provisions, or such general powers as result from the legislation of the Länder.

Section 20 - Experts

Experts may be consulted by the competent authorities in the licensing and control procedure under this Act and any statutory ordinances issued thereunder. Section 24b of the Trading and Industrial Code shall apply correspondingly.

Section 21 - Costs

(1) Costs (fees and expenses) shall be charged for licences under Sections 4, 6, 7 and 9, for the provisional decision under Section 7a and for Government custody of nuclear fuel (sub-section 1 of Section 5).

(2) The following fees shall be charged:

1. for the licence to construct and operate an installation within the meaning of Section 7, 1.5 per thousand of the costs of the construction;

2. for any other licence under Section 7 or a provisional decision under Section 7a, DM 100 to 20,000;

3. for licences under Sections 4, 6 and 9, as well as for licences implementing statutory ordinances issued under Sections 10 to 12 of this Act, DM 10 to 10,000;

4. for Government custody of nuclear fuel, 0.2 per thousand of the value of the nuclear fuel for each begun month of custody; in the case of irradiated nuclear fuel, 0.2 per thousand up to 10 per thousand of the value which the nuclear fuel had before irradiation.

If the construction costs of the installation exceed DM 10 million, the fees under no. 1 above shall be reduced to one fifth for the amount exceeding DM 10 million and to one tenth for the amount exceeding DM 100 million.

(3) In case of Government supervision those expenses shall be reimbursed which are due to the consultation of experts pursuant to Section 20 or to extraordinary measures taken by the supervisory authority if the person concerned has caused such measures to be taken.

(4) Experts' fees shall be reimbursed if limited to amounts constituting appropriate consideration for the experts' activity, taking into account his requisite expert knowledge and any particular complexity of his opinion.

(5) Details shall be determined by statutory ordinance in accordance with the principles of the Act on Administrative Costs* of 23rd June 1970 (BGBl. I, page 121). Such statutory ordinance may provide that certain expenditures shall not be considered as construction costs of the installation (no. 1 of sub-section 2).

(6) To the extent that the authorities of the Länder carry out statutory ordinances issued under Sections 10 to 12 of this Act, the regulations concerning costs of the Länder shall apply, subject to sub-sections 3 and 4.

(7) Expenditures for safety measures and medical examinations carried out pursuant to this Act or a statutory ordinance issued thereunder, shall be borne by the person requiring a licence under this Act or a statutory ordinance issued thereunder for the activity which makes such safety measure or medical examination necessary.

C H A P T E R III

PUBLIC AUTHORITIES

Section 22 - Competence for import and expert licences, import and export control

(1) The Federal Office for Trade and Industry** shall decide on applications for licences under Section 3, and on the revocation of licences already issued. The same shall apply where statutory ordinances issued under Section 11 provide for import and export licences.

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* Verwaltungskostengesetz.

** Bundesamt für gewerbliche Wirtschaft.

(2) The Federal Minister of Finance*, or the customs authorities designated by him, and in the free port of Hamburg the Free Port Authority of the Free and Hanseatic City of Hamburg**, shall be responsible for import and export control.

(3) Insofar as the Federal Office for Trade and Industry makes any decisions by virtue of sub-section 1, it shall be bound by the technical instructions issued by the Federal Minister competent for nuclear safety and radiation protection, notwithstanding its subordination to the Federal Minister of Economics*** and his powers to issue instructions based on other legal provisions.

Section 23 - Competence for custody and for carriage and storage licences

The Federal Institute of Physics and Technology**** shall be competent for Government custody of nuclear fuel, for the issue of licences for the carriage of nuclear fuel and large sources, for the issue of licences for storage of nuclear fuel other than in Government custody, and for the revocation of such licences; large sources shall mean radioactive substances whose activity per consignment or package exceeds the values set forth in marginal 2450(5) of Annex A to the European Agreement of 30th September 1957 concerning the International Carriage of Dangerous Goods by Road (ADR), BGBl. 1969 II, page 1491. In carrying out these functions, the Institute shall act in accordance with the technical instructions of the Federal Minister competent for nuclear safety and radiation protection.

Section 24 - Competence of the authorities of the Länder

(1) All other administrative functions under Chapter II and any statutory ordinances made thereunder shall be discharged by the Länder on behalf of the Bund. Control of any carriage of radioactive substances by rail and by ship which is effected by the German Federal Railways shall, however, be exercised by such bodies of the German Federal Railways as have been designated by the Federal Minister of Transport*****.

(2) The supreme authorites of the Länder designated by their governments shall be competent to grant, withdraw and revoke licences under Sections 7, 7a and 9. These authorities shall exercise control over installations coming under Section 7, and over the use of nuclear fuel outside such installations. In particular cases, they may delegate their functions to subordinate authorities. Any complaints against their orders shall be decided upon by the supreme Länder authorities. Insofar as provisions other than those laid down in this Act confer supervisory powers on any other authorities, their competence shall not be affected.

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* Bundesminister der Finanzen.
** Freihafenamt der Freien und Hansestadt Hamburg.
*** Bundesminster für Wirtschaft.
**** Physikalisch-Technische Bundesanstalt.
***** Bundesminister für Verkehr.

(3) In matters related to the service of the Federal Armed Forces*, the Federal Minister of Defence**, or the offices designated by him, shall discharge the functions referred to in sub-sections 1 and 2, in agreement with the Federal Minister competent for nuclear safety and radiation protection.

C H A P T E R IV

LIABILITY

Section 25 - Liability for installations

(1) If damage is caused by a nuclear incident originating from a nuclear installation, the liability of the operator of a nuclear installation shall be governed by the provisions of the Paris Convention as supplemented by the provisions of this Act. The same shall apply if damage arises out of or results from ionizing radiations emitted by any other source of radiation inside the nuclear installation.

(2) Where in case of carriage of nuclear substances, including storage incidental thereto, the carrier has assumed liability by contract in place of the operator of a nuclear installation situated in the realm of this Act, such carrier shall be considered as operator of a nuclear installation from the moment at which he has assumed liability. The contract shall be made in writing. Such assumption of liability shall be valid only if it has been authorised, upon application of the carrier, by the authority competent under Section 4 before commencement of the carriage of nuclear substances or any storage incidental thereto. Such authorisation may be granted only if the carrier has been licensed as such or has his main place of business within the realm of this Act and the operator of the nuclear installation has declared his consent to the authority.

(3) The provisions of Article 3(a)(ii)2 of the Paris Convention concerning the exoneration of the operator for damage to the means of transport shall not apply.

(4) The provisions of Article 9 of the Paris Convention concerning the exoneration for damage caused by nuclear incidents directly due to an act of armed conflict, hostilities, civil war, insurrection, or a grave natural disaster of an exceptional character, shall not be applicable. If the damage is suffered in another State, the first sentence shall apply only to the extent that the other State, at the time of the nuclear incident, has provided a system of compensation in relation to the Federal Republic of Germany which is equivalent as to its nature, extent and amount.

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* Bundeswehr.
** Bundesminister für Verteidigung.

(5) The operator of a nuclear installation shall be liable without the territorial restrictions provided for in Article 2 of the Paris Convention.

(6) The operator of a nuclear installation shall not be liable under the Paris Convention if the damage has been caused by a nuclear incident involving nuclear substances specified in Annex 2 to this Act.

Section 25a - Liability for nuclear ships

(1) The provisions of this Chapter shall apply to the liability of an operator of a nuclear ship with the following modifications:

1. The provisions of the Paris Convention shall be replaced by the corresponding provisions of the Brussels Convention on the Liability of Operators of Nuclear Ships.

2. If the damage is suffered in another State, the first sentence of sub-section 1 of Section 31 shall be applicable as regards the amount exceeding the maximum amount of liability under the Brussels Convention on the Liability of Operators of Nuclear Ships, only to the extent that the legislation of that State provides, at the time of the nuclear incident, for a third party liability regime for operators of nuclear ships which is applicable in relation to the Federal Republic of Germany and is equivalent as to its nature, extent and amount. The second and third sentences of sub-section 1 of Section 31, Section 36, sub-section 1 of Section 38 and Section 40 shall not be applied.

3. Section 34 shall apply only to nuclear ships authorised to sail under the flag of the Federal Republic of Germany. If, within the realm of this Act, a nuclear ships is built or equipped with a reactor for another State, or persons of another State, Section 34 shall apply until the nuclear ship is registered in the other State or acquires the right to sail under the flag of another State. 75 per cent of the indemnification pursuant to Section 34 shall be borne by the Bund and the remainder by the Land competent for the licensing of the nuclear ship under Section 7.

4. In the case of nuclear ships which are not entitled to sail under the flag of the Federal Republic, this Chapter shall apply only if the nuclear damage caused by the nuclear ship has been suffered within the realm of this Act.

5. The courts of the State under whose flag the nuclear ship is entitled to sail shall have jurisdiction over actions for compensation; in the case referred to in no. 4, the court of the place within the realm of this Act where the nuclear damage was suffered shall equally have jurisdiction.

(2) To the extent that international agreements on the liability for nuclear ships contain mandatory provisions derogating from this Act, such provisions shall take precedence over the provisions of this Act.

Section 26 - Liability in other cases

(1) Where, in cases other than those specified by the Paris Convention in conjunction with sub-sections 1 to 5 of Section 25, loss of life, personal injury, or deterioration of health was caused to any person or damage was caused to property through the effects of any nuclear fission process or radiation from radioactive substances or the effects originating from an accelerator, the holder of the substances affected by the nuclear fission, of the radioactive substances or of the accelerator shall be liable to pay compensation for damage in accordance with Sections 27 to 30, sub-section 2 of Section 31, sub-sections 1, 4 and 5 of Section 32 and Section 34. There shall be no liability to pay compensation if the damage was caused by an event which the holder and such persons as are acting for him in connection with such possession could not avoid, even by taking every reasonable precaution, and which is due neither to a defective condition of the safety devices nor to any failure in their performance.

(2) Sub-section 1 shall apply correspondingly where damage of the nature specified in sub-section 1 was caused by the effects of nuclear fusion.

(3) Any person who has lost possession of the substances, without having transferred them to a person entitled to such possession in accordance with this Act or any statutory ordinance made thereunder, shall be liable as if he were the holder.

(4) The provisions of sub-sections 1 to 3 shall not apply

1. where the radioactive substances or the accelerators have been applied to the injured person by a physician or a dentist, or under the supervision of a physician or a dentist, in the course of medical treatment, and the substances and accelerators used and the necessary measuring apparatus have complied with the current state of science and technology and the damage is not due to the fact that such substances, accelerators or measuring apparatus have not been sufficiently maintained,

2. where a legal relationship exists between the holder and the injured person under which the latter has accepted the risk associated with the substances.

(5) Whoever carries substances on behalf of a third party shall not be liable to pay compensation under the provisions of sub-sections 1 to 3. As long as the consignee has not taken charge of the substances, the consignor shall remain liable under the aforementioned provisions, regardless of whether or not he is the holder of such substances.

(6) Within the scope of application of the first sentence of sub-section 1, no legal provisions shall be affected pursuant to which the holder referred to in sub-section 1 and any person regarded as the holder under sub-section 3, are liable to a greater extent than under the provisions of this Act or pursuant to which another person is liable for the damage.

Section 27 - Contributory fault of the injured person

Where a fault of the injured person has contributed to the injury sustained, Section 254 of the Civil Code* shall apply; in the event of damage to property, the fault of the person in actual control thereof shall be deemed to be that of the injured person.

Section 28 - Extent of compensation in case of death

(1) In the event of death, compensation shall be provided for the costs of any attempted cure as well as for the pecuniary loss sustained by the deceased during his illness by reason of loss or reduction of his earning capacity, increase of his needs or handicap in regard to his career. In addition, the person liable shall refund funeral costs to the person who is under obligation to bear such costs.

(2) If, at the time of the injury, the deceased was, or might have been, under legal obligation to provide maintenance for a third person who loses such maintenance as a result of the decease, the person liable shall pay compensation to such third person, to the extent of the maintenance for which the deceased would have been liable during his expected life. Such liability shall also exist where, at the time of the injury, the third person was conceived but not yet born.

Section 29 - Extent of compensation in case of personal injury

(1) In the event of personal injury or damage to health, compensation shall comprise the costs of the cure and the pecuniary loss sustained by the injured person by reason of temporary or permanent loss or reduction of his earning capacity, increase of his needs or handicap in regard to his career as a result of the injury.

(2) In case of personal injury or damage to health, the injured person may claim adequate compensation also for pain and suffering, if the damage has been caused wilfully or by negligence. Such claims shall not be transferable and inheritable except if acknowledged by contract or subject to an action pending.

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* Bürgerliches Gesetzbuch.

Section 30 - Annuity

(1) Compensation for any loss or reduction of earning capacity, any increase of needs or any handicap in regard to the career of the injured person, and any compensation due to a third person under sub-section 2 of Section 28, shall be provided by means of an annuity.

(2) The provisions of sub-sections 2 to 4 of Section 843 of the Civil Code, and of no. 6 of Section 708 of the Code of Civil Procedure* shall apply correspondingly.

(3) Where the court awarding an annuity has not required a security from the defendant, the plaintiff shall nevertheless be entitled to demand security, if the financial situation of the person liable has considerably deteriorated; accordingly, the plaintiff shall also be entitled to demand an increase in the amount of any security fixed by the judgment.

Section 31 - Maximum amount of liability

(1) The liability of an operator of a nuclear installation under the Paris Convention in conjunction with sub-sections 1 to 5 of Section 25 shall be limited to DM one thousand million per nuclear incident. If the damage is suffered in a Contracting State to the Paris Convention for which the Brussels Supplementary Convention is in force, the first sentence shall apply as regards the maximum amount exceeding 120 million units of account only to the extent that such Contracting State has, at the time of the nuclear incident, provided for a system of compensation in relation to the Federal Republic of Germany which is equivalent as to its nature, extent and amount. If the damage is suffered in any other State, the second sentence shall apply accordingly, provided that the amount of 120 million units of account is replaced by 50 million units of account.

(2) The person liable under the Paris Convention in conjunction with sub-sections 1 to 5 of Section 25, or under Section 26, shall be liable in case of damage to property only up to the ordinary value of the damaged property, plus the cost of protection against radiation hazards originating therefrom. In case of liability under the Paris Convention in conjunction with sub-sections 1 to 5 of Section 25, compensation for damage to the means of transport upon which the nuclear substances involved were at the time of the nuclear incident shall be paid only if satisfaction of other claims out of the maximum amount of liability has been secured.

Section 32 - Periods of limitation

(1) Claims for compensation under this Chapter shall become barred by limitation after three years from the date at which the person entitled to compensation had knowledge or from the date

* Zivilprozessordnung.

at which he ought reasonably to have known of both the damage and the person liable, and irrespective thereof after 30 years from the date of the event which caused the damage.

(2) In the cases specified in Article 8(b) of the Paris Convention, the period of limitation of 30 years established under sub-section 1 shall be replaced by a period of limitation of 20 years from the date of theft, loss, jettison or abandonment.

(3) Actions for death and personal injury under the Paris Convention which are brought before the court against the operator of a nuclear installation within 10 years after the nuclear incident, shall have precedence over actions instituted after expiry of this period.

(4) Where negotiations concerning compensation are pending between the person liable and the person entitled to compensation, the lapse of the limitation period shall be suspended until such time as either party refuses to continue such negotiations.

(5) In all other respects, the provisions of the Civil Code concerning periods of limitation shall apply.

Section 33 - Several persons liable

(1) If several persons are legally liable to pay compensation for damage caused by a nuclear incident or otherwise by the effects of nuclear fission, or radiation emitted by radioactive substances, or the effects of ionizing radiation emitted by an accelerator, they shall be jointly and severally liable, except as otherwise provided in Article 5(d) of the Paris Convention.

(2) In the case of sub-section 1, the amount of compensation due from each of the persons liable shall be apportioned between them according to the circumstances and the extent to which the damage was caused by one or the other, except as otherwise provided in Article 5(d) of the Paris Convention. However, the operator of a nuclear installation shall not be required to pay compensation exceeding the maximum amounts established pursuant to sub-section 1 of Section 31.

Section 34 - Indemnification

(1) Where the operator of a nuclear installation situated in the realm of this Act is legally liable to pay compensation for damage caused by a nuclear incident under the provisions of the Paris Convention in conjunction with sub-sections 1 to 5 of Section 25, or under a foreign law applicable to the incident, the operator shall be indemnified against liability to pay compensation to the extent that such liability is not covered by or cannot be satisfied out of his financial security. The

obligation to indemnify the operator shall be restricted to the amounts referred to in sub-section 1 of Section 31, less the amount which is covered and can be met by the financial security.

(2) If, after a nuclear incident has occurred, it is to be expected that indemnification will be necessary, the operator of the nuclear installation shall be required

1. to notify this without delay to the Federal Minister designated by the Federal Government and to the authorities of the Länder designated by their Governments,

2. to inform without delay the competent Federal Minister and the competent authorities of the Länder of any claims for compensation raised or of any enquiry instituted against him, as well as to provide on request all information which is necessary to examine the circumstances of the case and their legal appreciation,

3. to comply, in the case of negotiations for the settlement of claims for compensation inside or outside of court, with the instructions of the competent authorities of the Länder,

4. to refrain from acknowledging or satisfying any claim for compensation without the consent of the competent authorities of the Länder except if such acknowledgement or satisfaction cannot be refused without obvious inequity.

(3) In all other respects Sections 62 and 67 as well as the provisions of Title 6 of Chapter 2 of the Insurance Contracts Act, except Section 152, shall apply analogously to the obligation to indemnify.

Section 35 - Apportionment

(1) Where legal liability to pay compensation for damage caused by an incident is expected to exceed the amounts referred to in sub-section 1 of Section 31, the apportionment of the sums available as compensation for damage and the procedure to be observed shall be governed by an Act and, pending enactment, by statutory ordinance.

(2) The statutory ordinance referred to in sub-section 1 may only make such stipulations regarding apportionment of the sums available as compensation for damage as are required to avert hardship. Such statutory ordinance shall ensure that satisfaction of the claims of all injured persons will not be unduly prejudiced by the satisfaction of individual claims.

Section 36 - Distribution of the indemnification between the Bund and the Länder

The Bund shall bear 75 per cent of the amount of the indemnification pursuant to Section 34. The remainder shall be borne by the Land where the nuclear installation at the origin of the nuclear incident is situated.

Section 37 - Recourse in the case of indemnification

If the operator of a nuclear installation has been indemnified in accordance with Section 34, recourse may be had against him to the extent that compensation has been paid, if

1. the operator has violated his obligations under sub-sections 2 or 3 of Section 34; however, recourse shall be excluded to the extent that such violations have not influenced the determination of the damage nor the extent of the compensation paid,

2. the operator or, if he is a legal person, his legal representative has, in the discharge of his functions, caused the damage wilfully or by gross negligence,

3. compensation has been paid because the extent and amount of the financial security available have not corresponded to the determination by the competent authority.

Section 38 - Compensation from the Bund

(1) If a person having suffered nuclear damage within the realm of this Act cannot obtain compensation pursuant to the law of another Contracting State to the Paris Convention applicable to the incident because

1. the nuclear incident occurred in the territory of a non-Contracting State to the Paris Convention,

2. the damage was caused by a nuclear incident directly due to an act of armed conflict, hostilities, civil war, insurrection or a grave natural disaster of an exceptional character,

3. the applicable law excludes liability for damage to the means of transport upon which the nuclear substances involved were at the time of the nuclear incident,

4. the applicable law does not provide for the operator's liability for damage caused by ionizing radiation emitted by another source of radiation inside the nuclear installation,

5. the applicable law provides for a shorter period of limitation or extinction than this Act, or

6. the total sum available for compensation falls short of the amount under the first sentence of sub-section 1 of Section 31 of this Act,

the Bund shall grant compensation up to the amount referred to in the first sentence of sub-section 1 of Section 31.

(2) The Bund shall further grant compensation up to the amount referred to in the first sentence of sub-section 1 of Section 31, if the foreign law or the provisions of an international agreement applicable to damage suffered within the realm of this Act provide for compensation to the injured person which as to its nature, extent and amount, falls considerably short of the compensation which the injured person would have obtained had this Act been applied.

(3) Sub-sections 1 and 2 shall not apply to injured persons who are not Germans within the meaning of sub-section 1 of Article 116 of the Basic Law and who do not have their habitual residence within the realm of this Act unless their mother country has provided, at the time of the nuclear incident, a system of compensation which in relation to the Federal Republic of Germany is equivalent as to its nature, extent and amount.

(4) Actions under sub-sections 1 and 2 shall be brought before the Federal Agency for Administration*. They shall be extinguished within three years of the date at which the decision on compensation rendered under foreign or international law has become final.

Section 39 - Exemptions of the Bund and the Länder from the obligation to indemnify

(1) In the case of indemnification under Section 34 and compensation under Section 38, those claims for compensation shall not be taken into account which have been accorded a subsidiary rank under sub-sections 1 and 2 of Section 15.

(2) Compensation under sub-section 2 of Section 29 shall be subject to indemnification under Section 34 and compensation under Section 38 only if the granting of such compensation is necessary to avoid serious inequity because of the particular gravity of the injury.

Section 40 - Actions against the operator of a nuclear installation situated in another Contracting State

(1) If under the provisions of the Paris Convention, a court within the realm of this Act has jurisdiction over actions for compensation against the operator of a nuclear installation situated in another Contracting State to the Paris Convention,

* Bundesverwaltungsamt.

the liability of the operator shall be governed by the provisions of this Act.

(2) Contrary to sub-section 1, the following shall be governed by the law of the Contracting State in which the nuclear installation is situated:

1. who is to be considered as operator,

2. whether the operator's liability extends to damage suffered in a non-Contracting State to the Paris Convention,

3. whether the operator's liability extends to nuclear damage caused by ionizing radiation emitted by another source of radiation inside a nuclear installation,

4. whether and to what extent the operator's liability extends to damage to the means of transport upon which the nuclear substances involved were at the time of the nuclear incident,

5. up to what maximum amount the operator is liable,

6. after what period claims against the operator will become barred by limitation or be extinguished,

7. whether and to what extent nuclear damage is compensated in the cases enumerated in Article 9 of the Paris Convention.

C H A P T E R V

PENALTIES AND FINES

Sections 40 to 44 - Repealed

Section 45 - Punishable handling of nuclear fuel and ionizing radiation

(1) Any person who, without such licence as is required under this Act

1. imports, exports or otherwise conveys nuclear fuel into or out of the realm of this Act,

2. carries nuclear fuel,

3. stores nuclear fuel outside Government custody,

4. constructs, operates or otherwise holds an installation for the production or fission of nuclear fuel, or for the reprocessing of irradiated nuclear fuel, or materially

alters the installation or its operation,

5. treats, processes or otherwise uses nuclear fuel outside an installation for the production or fission of nuclear fuel, or for the reprocessing of irradiated nuclear fuel, or who materially deviates from the procedure laid down in a licence issued under sub-section 1 of Section 9 for the treatment, processing or other use, or who materially alters the installation or its location as specified in the licence,

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

(2) The same penalties shall be incurred by any person who

1. fails to surrender nuclear fuel without delay, in contravention of sub-sections 3 and 4 of Section 5,

2. delivers nuclear fuel to unauthorised persons, in contravention of sub-section 5 of Section 5.

(3) Any person who, by an act specified in sub-section 1 or 2, knowingly endangers, through nuclear fission or ionizing radiation, the life or health of another person, or property of considerable value belonging to another person, shall be liable to imprisonment for a term running between three months and five years.

(4) Any person who, through negligence, commits one of the acts specified in sub-sections 1 and 2 shall be liable to imprisonment for a term not exceeding two years or a fine.

Section 46 - Statutory offences

(1) Any person shall be guilty of a statutory offence who wilfully or negligently

1. carries nuclear substances without having procured the financial security required under sentences 1 or 2 of sub-section 1 of Section 4b,

2. contravenes a determination under sub-section 1 of Section 13, an enforceable condition imposed under the first and third sentences of sub-section 1 of Section 17 or an enforceable order under sub-section 3 of Section 19,

3. contravenes a statutory ordinance issued under sub-section 1 of Section 11 or sub-section 1 of Section 12, or an enforceable order under a statutory ordinance issued pursuant to no. 9 of sub-section 1 of Section 12, provided that such statutory ordinance refers to this Section with respect to a defined act,

4. does not carry the licence contrary to the first sentence of sub-section 5 of Section 4, or does not carry the certificate referred to in the second sentence of sub-section 5 of Section 4, or does not produce on request such licence or certificate contrary to the third sentence of sub-section 5 of Section 4.

(2) The statutory offence shall be punishable with a fine of up to DM one hundred thousand in the cases given in nos. 1, 2 and 3 of sub-section 1 and up to DM one thousand in the case given in no. 4 of sub-section 1.

(3) Administrative authority within the meaning of no. 1 of sub-section 1 of Section 36 of the Act on Statutory Offences* shall be the Federal Office for Trade and Industry as concerns failure to obtain a licence or to notify in the case of import or export of other radioactive substances pursuant to no. 1 of sub-section 11, or to comply with a condition imposed in connection therewith pursuant to sentences 2 and 3 of sub-section 1 of Section 17.

Section 47 - Punishable violation of safety regulations, conditions and orders

Any person who, by a wilful act as specified in nos. 1 to 3 of sub-section 1 of Section 46, wilfully or negligently endangers, through nuclear fission or ionizing radiation, the life or health of another person, or property of considerable value belonging to another person, shall be liable to imprisonment of up to five years or to a fine. Where the offender caused the danger knowingly, the penalty shall be imprisonment for a term of not less than three months and up to five years.

Section 48 - Violation of obligations concerning production and supply

(1) Any person who knowingly produces or supplies defective installations for the production or fission of nuclear fuel, or for the reprocessing of irradiated nuclear fuel, or who produces or supplies defective objects intended for the construction or operation of such installation, and thereby knowingly endangers the life or health of another person, or property of considerable value belonging to another person, such danger being connected with the effects of a nuclear fission process or radiation from a radioactive substance, shall be liable to imprisonment for a term of not less than six months and up to five years.

(2) The attempt shall be punishable.

(3) In particularly grave cases the penalty shall be imprisonment for a term of one to ten years.

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* Gesetz über Ordnungswidrigkeiten.

(4) Any person who, not knowingly, but wilfully or negligently, causes danger in the cases specified in sub-section 1, shall be liable to imprisonment of up to five years or a fine.

Section 49 - Confiscation

Where an offence punishable under sub-sections 1 to 3 of Section 45, Section 47 or Section 48 has been committed,

1. any object produced by such act or which was used or intended for the commission of such act, and

2. any object relating to an offence

may be confiscated. Where a statutory offence under nos. 1 to 3 of sub-section 1 of Section 46 has been committed wilfully, the provisions of no. 2 of the first sentence hereof shall apply accordingly.

Sections 50 to 52 - Repealed

C H A P T E R VI

FINAL PROVISIONS

Section 53 - Registration of damage due to unknown causes

Damage which, in the light of existing scientific knowledge, has been caused by the effects of radiation from radioactive substances but cannot be traced to any particular person, shall be registered with and investigated by the Federal Minister competent for nuclear safety and radiation protection.

Section 54 - Issue of statutory ordinances

(1) Statutory ordinances under Sections 11, 12, 13 and sub-section 5 of Section 21, shall be issued by the Federal Government. The same shall apply to statutory ordinances issued under Section 10, insofar as exemptions are granted from the requirement of a licence under Section 7. All other statutory ordinances provided for under this Act shall be issued by the Federal Minister competent for nuclear safety and radiation protection.

(2) Such statutory ordinances shall require the consent of the Federal Council. This shall not apply to statutory ordinances limited to replacing physical, technical and radiation biology standards laid down in statutory ordinances pursuant to Sections 11 and 12.

(3) The Federal Government may, by statutory ordinance, wholly or partly delegate its powers specified in Sections 11 and 12 to the Federal Minister competent for nuclear safety and radiation protection.

Section 55 - Repeal of legal provisions
(not newly published, as obsolete)

Section 56 - Licences issued under Land legislation

(1) Any licences, exemptions or approvals granted under Land legislation for the construction and operation of installations within the meaning of Section 7, shall continue to have effect. They shall be deemed equivalent to licences granted under Section 7, and the conditions attaching to them shall be equivalent to such conditions as are imposed under sub-section 1 of Section 17. Insofar as a licence issued under Land legislation includes stipulations concerning the provisions of financial security by the operator of the installation to cover legal liability to pay compensation for damage, such stipulations shall, subject to the provisions of sub-section 2, be considered a determination within the meaning of sub-section 1 of Section 13.

(2) Within three months after the coming into force of this Act, the public authority (sub-section 2 of Section 24) shall determine the amount which the operator of the installation must provide as financial security. The latter half of the second sentence of sub-section 1 of Section 13 shall apply correspondingly. Where a guarantee is determined pursuant to sub-section 4 of Section 13, such guarantee shall be retroactive as from the date of the coming into force of this Act.

Section 57 - Exclusion of certain legal provisions

Sections 1 to 4 of the Act on the Criminal Use of Explosives Constituting a Public Hazard of 9th June 1884* (Reichsgesetzblatt, page 61), as amended by the Ordinance of 8th August 1941 (Reichsgesetzblatt 1, page 531), and such legal provisions as are made under the said Act, as well as legal provisions of the Länder concerning explosives, shall not apply to any handling of nuclear fuel.

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* Gesetz gegen den verbrecherischen und gemeingefährlichen. Gebrauch von Sprengstoffen.

Section 58 - Application in Berlin

In accordance with sub-section 1 of Section 13 of the Third Transition Act* of 4th January 1952 (BGBl. I, page 1), this Act shall also be applied in the Land Berlin. Statutory Ordinances made under this Act shall apply to the Land Berlin in accordance with Section 14 of the Third Transition Act.

Section 59 - Entry into force**

This Act shall come into force on the day following its promulgation; Sections 40 to 52 shall not come into force in the Land Berlin, however, until the day after promulgation of the Application Act*** in the Official Gazette of Berlin.

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* Drittes Überleitungsgesetz.

** Section 59 deals with the entry into force of the original Act. The dates of entry into force of the subsequent amendments are fixed by the Amending Acts (official note).

*** Übernahmegesetz.

A N N E X 1

Definitions pursuant to sub-section 2 of Section 2

(1) The terms set forth below shall have the following meaning:

1. "Nuclear incident": Any occurrence or succession of occurrences having the same origin which causes damage, provided that such occurrence or succession of occurrences, or any of the damage caused, arises out of or results from the radioactive properties, or a combination of radioactive properties with toxic, explosive, or other hazardous properties of nuclear fuel or radioactive products or waste or with any of them;

2. "Nuclear installation": Reactors other than those comprised in any means of transport; factories for the manufacture or processing of nuclear substances; factories for the separation of isotopes of nuclear fuel; factories for the reprocessing of irradiated nuclear fuel; facilities for the storage of nuclear substances other than storage incidental to the carriage of such substances; a nuclear installation may consist of several installations referred to above if these are operated by the same person or persons and are located at the same site;

3. "Nuclear fuel": Fissionable material in the form of uranium metal, alloy, or chemical compound (including natural uranium), plutonium metal, alloy, or chemical compound;

4. "Radioactive products or waste": Any radioactive material produced in or made radioactive by exposure to the radiation incidental to the process of producing or utilising nuclear fuel, but does not include

   (a) nuclear fuel

   (b) radioisotopes

   outside a nuclear installation which are used or intended to be used for any industrial, commercial, agricultural, medical or scientific purpose;

5. "Nuclear substances": Nuclear fuel (other than natural uranium and other than depleted uranium) and radioactive products or waste;

6. "Operator of a nuclear installation": The person designated or recognised by the competent public authority as the operator of that installation.

(2) Units of account within the meaning of this Act shall mean units of account of the European Monetary Agreement of 5th August 1955 (BGBl. 1959 II, page 294) as defined at the date of signature of the Paris Convention.

A N N E X 2

Exempted Substances

Nuclear substances within the meaning of sub-section 3 of Section 4, sub-section 2 of Section 4b and sub-section 6 of Section 25, shall mean nuclear substances the activity or quantity of which do not exceed by a factor of 10^5 the exemption limits within a single installation or an independent subsidiary thereof or, in the case of person not carrying out a business, at the place where the applicant carries out his activities. Exemption limit shall mean the activity or quantity of nuclear substances for the handling of which a licence is not required under this Act or a statutory ordinance issued thereunder.