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Nuclear Energy Agency

Organisation for Economic Co-operation and Development

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LEGISLATIVE AND REGULATORY ACTIVITIES

• *Argentina*

THIRD PARTY LIABILITY

Bill on the Third Party Liability of Operators of Nuclear Power Stations

The Argentine Atomic Energy Commission Services have prepared a Bill on the Third Party Liability of Operators of Nuclear Power Stations to be submitted shortly for consideration by the competent public authorities.

This Bill is closely patterned on the basic principles of third party liability as laid down by the 1963 Vienna Convention, ratified by Argentina on 25th April 1967. It nevertheless calls for certain comments:

- The Bill defines "the operator" as any public or private body whether corporate or not, domiciled in the territory of the Argentine Republic and designated by a Decree of the National Executive Power as the operator liable for nuclear damage which may occur in a given nuclear installation on the Argentine territory.

- The Executive Power may exclude, on the recommendation of the National Atomic Energy Commission, certain categories of reactor or nuclear installation or certain quantities of nuclear substances due to the low hazard they represent. Research reactors in operation when the Act is published will be excluded from its scope.

- The third party liability of the nuclear operator will be extended to damage to the means of transport of the nuclear substances having caused the incident.

- The Executive Power, following the opinion of the Commission, may authorise the transfer of nuclear liability to the carrier of nuclear substances or to any other person handling radioactive wastes.

- Cases where the nuclear operator is exempted from liability do not differ from those of the relevant traditional provisions

- The maximum amount for which the operator may be liable for each nuclear incident is fixed at 70 million Argentine pesos, exclusive of costs and interest The Executive Power may raise this limit to 100 million pesos provided the Commission gives a favourable opinion

- The operator is required to cover his liability up to 70 million pesos by subscribing to an insurance or by obtaining a guarantee from the State. Such obligation, however, is not incumbent upon public utilities operating a nuclear installation.

- If the insurance or financial security as provided by the Act prove to be insufficient to compensate for the damage caused by a nuclear incident, the State will take responsibility for compensation of physical damage on the basis of the amounts set for compensation under the national social security system.

- Federal Courts under whose jurisdiction lies the nuclear installation at the source of the nuclear incident having occurred on national territory, are competent to settle any action instituted following damage caused by such incident.

- Judgments pronounced by a foreign court against the operator of a nuclear installation situated on Argentine territory will be enforceable in Argentina provided they have been pronounced in a country having entered into a regional or bilateral agreement with Argentina or which is a Party to an international Convention on nuclear third party liability to which Argentina has acceded, or else which provides sufficient assurances of reciprocity.

It is also provided that the National Atomic Energy Commission will not grant licences for the construction of nuclear installations without consulting the various ministries or public bodies having special responsibilities in industry or public health and the protection of workers.

• *Belgium*

NUCLEAR LEGISLATION

Amendment to the Royal Order of 1956 concerning national security in the field of nuclear energy

A Royal Order of 18th October 1974 (Moniteur Belge of 1st November 1974) amends certain provisions of the Royal Order of 14th March 1956 relating to the application of the Act of 4th August 1955 concerning national security in the field of nuclear energy.

The main purpose of this Order is to do away with the references in the Order of 1956 to the various responsibilities of the Commissioner for Atomic Energy, and replacing them by references to the Director for Nuclear Safety or the Minister of Justice. It will be recalled that the function of Commissioner for Atomic Energy (although not the body itself) was suppressed in 1971 (NLB No. 8).

RADIATION PROTECTION

Order of 22nd April 1974 (Belgian Official Gazette of 10th May 1974)

This Royal Order, made in implementation of the Act of 3rd December 1969 empowering the King to establish dues in respect of the application of regulations on protection at work, dangerous substances and ionizing radiations (NLB No. 6), sets dues for the licensing procedure for establishments classified according to the general Regulations for the Protection of the Population and Workers against the Hazards of Ionizing Radiations.

• *Canada*

REGIME OF NUCLEAR INSTALLATIONS

Revision of the Atomic Energy Control Regulations

The Atomic Energy Control Regulations approved by Order in Council P.C. 1960 - 348 of 17th March 1960 (Canada Gazette SOR/60 - 119), were revoked and, in substitution therefor , new Atomic Energy Control Regulations were approved by Order in Council P.C. 1974 - 1195 of 30th May 1974 and have come into force since 3rd June 1974 (Canada Gazette SOR/74 - 334).

The major changes in the revised Regulations are as follows

(1) The provisions relating to radiation protection have been brought up to date in line with the latest recommendations of the International Commission on Radiological Protection

(2) The following Orders previously issued by the Atomic Energy Control Board have been revoked and incorporated in the revised Regulations

- Nuclear Reactors Order
- Prescribed Equipment Export Control Order
- Shipping Containers Order
- Warning Symbol Order
- Particle Accelerators Order
- Industrial Radiography Order

(3) New control concepts have been introduced. These include a change in the definition of atomic radiation workers, provisions for their designation by licensees, provisions for the appointment of inspectors, medical advisers and radiation safety advisers and outlines of their duties.

(4) The provisions set out in more positive terms when a licence is required, what kind of information an applicant is required to provide and the type of conditions that a person seeking a licence can expect to have imposed on him.

(5) The inclusion of a procedure for granting to licensees an opportunity to be heard before a licence is revoked or suspended.

As for the licences issued under the former Atomic Energy Control Regulations, which were in force at the date the revised Regulations came into force, they shall be deemed to have been issued by the Board under the revised Regulations and shall remain in force for the term of the licence subject to the revised Regulations

In addition, various Orders have been newly made under the revised Regulations and published in the Canada Gazette. These Orders respectively concern the designation of the biological effects of ionizing radiations for the purpose of the definition "Rem" referred to in the Regulation, the appointment of officers of the Atomic Energy Control Board as designated officers for the purpose of the Regulations, and finally the designation of a protected place for the purpose of the Regulations

The full texts of new Regulations and Orders made thereunder are set out in the Supplement to this issue of the Nuclear Law Bulletin

• *Denmark*

THIRD PARTY LIABILITY

Act No. 332 of 19th June 1974 concerning Compensation for Nuclear Damage

This Act, which was recently adopted by Parliament and signed by the Queen on 19th June 1974, enabled Denmark to ratify the Paris Convention as well as the Brussels Supplementary Convention and the 1971 Brussels Convention relating to civil liability in the field of maritime carriage of nuclear material (See Chapter "Agreements").

A detailed analysis and the text of the Act will be provided in Nuclear Law Bulletin No. 15

• *Finland*

ORGANISATION AND STRUCTURE

Decree of 21st June 1973 amending the Decree on Atomic Energy

Decree No. 555 of 21st June 1973 was published in the Official Gazette of Finland of 29th June 1973. This text makes a number of amendments to Decree No. 75 on Atomic Energy of 14th February 1958 It specifies in particular that the Institute of Radiation Physics will be the supervisory authority, as provided by Act No. 7 of 12th January 1973 amending the Atomic Energy Act (see NLB No. 11).

• *France*

RADIATION PROTECTION

Order of 29th July 1974 (Official Gazette of the French Republic of 13th August 1974)

Under this Order by the Minister of Health, officials of the Central Service for Protection against Ionizing Radiations (SCPRI) are empowered to establish whether a telegammatherapy device is prohibited from use or whether it is being misused. When they establish that the licence for the use of a telegammatherapy source has been withdrawn or has lapsed, SCPRI officials may seal the facility to prohibit it from being used.

TRANSPORT OF RADIOACTIVE MATERIALS

Order of 24th June 1974 concerning the transport of radioactive materials

This Interministerial Order was published in the Official Gazette of the French Republic on 24th August 1974. It amends Class IV (b) (Radioactive Materials) of the Regulations on the Transport of Dangerous Goods of 15th April 1945 as well as Appendix 10 of the Regulations and the Alphabetical Catalogue.

The amendments are the result of a recent revision of the IAEA Regulations for the Safe Transport of Radioactive Materials, which were first published in 1962. Two subsequent reviews of the IAEA Regulations were carried out in consultation with the IAEA Member States and resulted in the incorporation of additional material, mainly relating to package

testing procedures and to the transport of large radioactive sources. By 1969, the IAEA Regulations had been adopted by almost all international organisations concerned with transport and taken by many IAEA Member States as the basis for their own regulations. In that year, it was considered that the time had come to undertake a comprehensive review of the Regulations in the light of new operating experience The review took place in 1970 and 1971 and the final revised Regulations were approved by the IAEA Board of Governors in September 1972. The guiding principles for the carrying out of the revisions were that the high standard of safety laid down in the Regulations should be maintained and that balance should be struck between the need to take account of the technical advances made and the operational experience gained over a period of almost ten years, and the desirability of providing a fixed and lasting framework for the Regulations

The French Regulations concerning the transport of radioactive materials /Class IV (b) of the Regulations concerning the Transport of Dangerous Goods/ as revised, may be summarised as follows

The radioactive materials are divided into 4 categories according to the hazard they present. This hazard depends on the radiotoxity, the activity, the dispersal propensity and the ability to create a criticality risk of the material in question. The Regulations do not cover radioactive materials whose activities do not exceed the relevant exemption limits listed in the Regulations i.e low specific activity and low-level solid radioactive material. Instruments and articles containing radioactive materials in a not easily dispensable form, such as watches, tubes and electronic instruments, packages having contained radioactive materials and which have been appropriately cleaned, manufactured articles only containing natural or depleted uranium; and articles composed of non-radioactive materials, but which have been externally contaminated by a radioactive substance in a non-easily dispensable form, are exempted from the provisions of the Regulations which concern fissile materials or packages containing highly radioactive materials

The Regulations lay down a number of general packaging and package design requirements, which have to ensure that the transport takes place without exposing transport and storage personnel, as well as members of the public, to radiation in excess of the permitted doses. Accordingly, the packaging must be so designed that the package can be easily handled and can be properly secured in, or on, the conveyance during transport. The Regulations also contain additional requirements applicable to each particular category of radioactive materials. The additional requirements refer, among other things, to the dimensions of the packaging, external surfaces, resistance to variations in temperature, the physical and chemical compatibility of the package with its contents, etc.

The Annexes to the Regulations set out a number of tests to which the different packaging types may be subjected in order to demonstrate the ability of the packaging to prevent loss or dispersal of the radioactive contents and any increase of the maximum radiation level recorded or calculated at the external surface before the test. The tests include testing of the integrity of containment and shielding, tests for demonstrating the ability to withstand normal conditions of transport and tests for demonstrating the ability to withstand accident conditions Certain packaging types have to be approved by the Minister for Transport, who delivers a certificate containing specific information pertinent to the packaging and its contents. A package containing radioactive material may not contain any other items except the articles and documents which are necessary for the use of the radioactive material.

Each package must be marked appropriately with the word "radioactive" and should bear a label of a prescribed colour. In addition, mention should be made of the package type, according to the category of radioactive material it contains.

The Regulations require the approval for the shipment of a number of specified packages. The application for shipment approval must include the period of time for which the approval is sought, the actual contents, the expected modes of transport, the probable or proposed route, etc. For certain groups of radioactive materials, an advance transport notice has to be given to the National Service for Civil Protection.

Radioactive materials, whose activities do not exceed prescribed limits may be sent by post, provided, however, that the materials are deposited by consignors authorised by the Minister for Transport and the Minister for Post and Telecommunications and only in certain indicated post offices.

Packages of radioactive materials may not be loaded in the same means of transport as dangerous goods, which could adversely affect the integrity of the packaging of these radioactive materials under accident conditions. In addition, the quantity of packages, which may be transported on the same means of transport is limited to a certain maximum. Once the vehicle has been loaded, nobody may come near the radioactive materials during the transport.

Finally, if an accident, in particular, fire, occurs on the public road in the course of the transportation of the radioactive materials and if there is a probability of radioactive contamination or radiation danger, the person responsible for the transport must immediately inform the police authorities about the place and nature of the accident, the characteristics of the radioactive materials and the extent of the damage; the consignor must also be informed. At the same time, the place of accident must be isolated. Similar measures apply when the radioactive materials are carried by rail

Following the amendments to Class IV (b) of the Regulations concerning the Transport of Dangerous Goods, a second Order was issued on 12th July 1974 to amend accordingly the other parts of the Regulations, where there is a reference to radioactive materials, (Official Gazette of the French Republic of 15th September 1974)

FOOD IRRADIATION

Order of 6th August 1974 (Official Gazette of the French Republic of 29th August 1974)

Following a first Order of 28th December 1972 relating to official methods for the measurement of gamma radioactivity of strontium 90 and beta radioactivity of potassium 40 in plants, the Minister of Agriculture made a new Order on 6th August 1974 prompting laboratories entrusted with co-operating in the implementation of the regulations on the prevention of fraudulent practices to use an official method to determine the total beta radioactivity in plants, as laid down in the Annex to the Order.

• *Germany*

NUCLEAR LEGISLATION

Amendments to the Atomic Energy Act

The Atomic Energy Act of 23rd December 1959, (Supplement to Nuclear Law Bulletin No 4), last amended by the Act of 23rd June 1970, to Amend Provisions Authorising the Levying of Fees (NLB No 6), was further amended by two Acts - the Act of 15th March 1974 on the Protection Against Harmful Environmental Effects Caused by Air Pollution, Noises, Vibrations and Other Occurrences (Federal Act on Protection Against Nuisances), Federal Gazette 1974 I p 721, and the Introductory Act to the Penal Code of 2nd March 1974, Federal Gazette 1974 I p. 469.

1. The Federal Act on Protection Against Nuisances (Bundes-Immissionsschutzgesetz), which entered into force on 1st April 1974, provides that it shall not apply to installations, equipment, appliances, nuclear fuel and other radioactive substances which are subject to the Atomic Energy Act and any statutory ordinance issued thereunder, as far as the protection against hazards of nuclear energy and the harmful effects of ionizing radiation is concerned The same is stated in the amendment to Section 8 (1) of the Atomic Energy Act. In other words, the provisions of the Federal Act on Protection Against Nuisances concerning non-nuclear effects on the environment are applicable to nuclear installations, provided that they are incorporated in the list of installations requiring a licence which is to be established by the Federal Government after consultation with interested circles and approval of the Federal Council (Bundesrat).

The legislator has, however, refrained from subjecting nuclear installations to a separate environmental licensing procedure under the new Act. A new Section 8 (1a) of the Atomic Energy Act provides that the nuclear licence pursuant to Section 7 includes the licence required under Section 4 of the Federal Act on Protection Against Nuisances. The nuclear licensing authority has to take its decision in agreement with the authority competent for the protection against nuisances and in conformity with the new Act and any statutory ordinances issued thereunder.

The licensing procedure for nuclear installations has slightly changed The amended Section 7 (3) provides that the licensing procedure, in as much as it is not regulated by the Atomic Energy Act, is to be governed by a statutory ordinance based on certain licensing provisions of the Act on Protection Against Nuisances. An amendment to the Nuclear Installations Ordinance (Atomanlagen-Verordnung) will therefore be enacted in the near future Such amendments will extend the period during which applications for a licence may be publicly inspected and objected against to two months, and make it possible to give effect to decisions of the licensing authority by publication rather than by individual service in case of more than 500 interventions.

Minor amendments have been made to Sections 7 (5) and 13 (5) of the Atomic Energy Act where the reference to the Trading and Industrial Code has been replaced by a reference to the Act on Protection Against Nuisances.

2. The Introductory Act to the Penal Code (Einführungsgesetz zum Strafgesetzbuch) repeals Sections 40 to 44, 51 and 52 of the Atomic Energy Act and incorporates these provisions in the Penal Code. Minor amendments are made to Sections 45 and 47 to 49. The new Penal Code will enter into force on 1st January 1975.

THIRD PARTY LIABILITY

Bill to ratify the nuclear Conventions and Bill to amend the Atomic Energy Act

The Parliament of the Federal Republic of Germany is presently considering two Bills

- The Bill relating to the Paris Convention on Third Party Liability in the Field of Nuclear Energy and its Additional Protocol, to the Brussels Supplementary Convention and its Additional Protocol, to the Convention on the Liability of Operators of Nuclear Ships and its Additional Protocol and to the Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material (Bundestags-Drucksache 7/2182);

- The Third Bill Amending the Atomic Energy Act (Bundestags-Drucksache 7/2183).

In the following, the main features of these Bills will be described. Depending on the progress of the legislative procedure, a translation of the amended and newly promulgated Atomic Energy Act will be published as a Supplement to the next issue of the Nuclear Law Bulletin.

I. THE BILL RELATING TO THE PARIS AND BRUSSELS NUCLEAR CONVENTIONS

1. The objective of the Bill, which is accompanied by an Exposé des Motifs and explanatory notes to each Convention, is to "serve the harmonization of international law, to secure the protection of the population living in border regions against the hazards arising from the operation of foreign nuclear installations, to facilitate, in the interest of the peaceful use of nuclear energy, the navigation of nuclear ships and the maritime carriage of nuclear material, and to afford the Federal Republic of Germany an opportunity to work, in revision conferences of the Conventions, in particular towards an increase of the liability limits and an adjustment of the currency provisions to the present parities."

2. Article 1 provides for parliamentary approval of the Conventions referred to in the title and their publication. The Exposé des Motifs points out that with their ratification the Federal Republic of Germany will be integrated into an international system of third party liability for damage caused by nuclear installations and nuclear ships However, as the Conventions were far less favourable for potential victims than the Atomic Energy Act presently in force* as regards liability limits

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* The text of the Act as amended up to 1969 is reproduced in the Supplement to NLB No. 4. For amendments enacted thereafter see below

and compensation for damage, it would be necessary to amend the Act in order to maintain at least the legal situation of potential victims, such an amendment would at the same time adapt German nuclear law to the present state of science and technology.

3 Article 2 authorises the Federal Government to put into force, by statutory ordinance, international agreements concerning the use of foreign territorial waters and ports by German nuclear ships and the use of German territorial waters and harbours by foreign nuclear ships. Such ordinances must meet the following requirements.

- the safety requirements must correspond in substance to the Regulations of Chapter VIII of the International Convention for the Safety of Life at Sea (1960) and the Recommendations contained in Annex C of the Final Act of the 1960 International Conference on the Safety of Life at Sea in their then current form,

- the third party liability provisions must correspond in substance to Articles I paragraphs 4 to 8, II, III paragraph 2, IV, V paragraph 1, first sentence, and paragraphs 2 to 4, VIII, X paragraphs 1 and 2, XI paragraph 4 of the 1962 Brussels Nuclear Ships Convention, and must provide for a limitation of liability at least equal to the amount referred to in Article III paragraphs 1 and 4 not exceeding DM 500 million,

- the liability provisions of the international agreements mentioned above must expressly exclude the application of national or international law on the limitation of the shipowner's liability

II. THE THIRD BILL AMENDING THE ATOMIC ENERGY ACT

1. Objectives and solutions proposed

The Bill, which is the third one containing major amendments to the Atomic Energy Act is accompanied by a detailed Exposé des Motifs, it states its objectives as adapting the national nuclear legislation to the Nuclear Conventions to be ratified, preventing impairment of the national nuclear third party liability legislation because of such ratification, and improvement of the national legislation in the interest of a peaceful use of nuclear energy. The following solutions are proposed to achieve these objectives

- to amend and supplement those provisions of the Atomic Energy Act which are affected by the Conventions to be ratified,

- to make use, as far as possible, of the reservations made by the Federal Republic at the time of signature of the Conventions, with a view to improving the protection of victims,

- to increase the maximum amount of liability from the present DM 500 million to DM 1000 million,

- to increase the financial security required from the present DM 120 million to DM 500 million,

- to shift the present indemnification by the Bund from the present range between DM 120 to DM 500 million to the range between DM 500 million to DM 1000 million with the Länder participating in such indemnification;

- to create a regime of compensation for persons residing in the Federal Republic who suffer damage caused by foreign reactors, with a view to ensuring equal treatment of all persons suffering damage in Germany regardless of whether the nuclear incident occurred in Germany or abroad.

2. General considerations

While the main emphasis of the Bill is put on the amendments to the provisions on third party liability, financial security and state intervention, it contains also amendments to the definitions, the licensing of nuclear installations and the licensing of the use of nuclear fuel outside nuclear installations.

The Bill is conceived in such a way that only the Paris Convention and the Nuclear Ships Convention have a direct influence on the Act. The Brussels Supplementary Convention is treated as establishing rights and obligations at the international level only and not affecting the obligation of the Bund towards the nuclear operator or the victim. The 1971 Brussels Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material has no direct influence on the Act as it contains merely a renvoi to the provisions of the Paris Convention

The Bill does not attempt to incorporate the provisions of the Paris Convention and the Nuclear Ships Convention into the Atomic Energy Act or some other German Law. Both Conventions will be self-executing and therefore directly applicable as German law.

The Exposé des Motifs refers to the controversies in the Federal Republic relating to the principle of legal channelling adopted by the Conventions as opposed to the principle of economic channelling incorporated in the present Atomic Energy Act. It points out that (with the exception of the United States of America) all Western industrialised countries have adopted the former principle in their national legislation . If the Federal Republic were to make use of its reservation with respect to Article 6 (a) and (c) (i) of the Paris Convention and to maintain the latter principle, this would lead not only to a different legal treatment of land-based and ship reactors (no such reservation having been accepted with respect to the Nuclear Ships Convention), but also an isolation of German enterprises and nuclear operators and would endanger the protection of victims in the vicinity of nuclear installations on both sides of the German border. The Federal Republic could not exclude itself from the Paris Convention community which had grown around it during the last ten years. Consequently, the Bill adopts the principle of legal channelling without making use of the reservation mentioned above.

On the other hand, the Bill takes advantage of Germany's reservations with respect to Article 8 (a) of the Paris Convention (extension of the prescription period) and to Article 9 (non-application of the operator's exoneration in cases listed in that Article) It makes further extensive use of the possibilities foreseen in the Paris Convention to go beyond its minimum requirements, such as the extension of the territorial scope /Article 2/, the inclusion of damage caused by ionizing

radiation from sources inside a nuclear installation /Article 3 (c)/ and of damage to the means of transport /Articles 3 (a) (ii) (2) and 7 (c)/, the increase of the maximum amount of the operator's liability /Article 7 (b)/, the establishment of a period of extinction or limitation /Article 8 (c)/. The system of state intervention and compensation is considerably enlarged. Compensation of foreign victims under the Act will in some cases be subject to reciprocity.

3. Proposed amendments to the Atomic Energy Act

3.1 Definitions (Section 2)

The definitions of the Act are clarified. The generic term "radioactive substances" is subdivided into "nuclear fuel" and "other radioactive substances" However, these definitions differ from those contained in Article 1 (a) (iii), (iv) and (v) of the Paris Convention, in particular, nuclear fuel has a narrower definition than in the Paris Convention. In order to avoid an unreasonable expansion of the licensing and control procedure, a double set of definitions is proposed, a narrower one applying to those procedures and a wider one applying to the third party liability provisions. The latter is set forth in Annex 1 to the Bill and corresponds to the definitions contained in Article 1 of the Paris Convention, the definition of "nuclear installation" comprises several installations if they have the same operator and form a geographical unit; this follows the Recommendation of 28th October 1965 by the Commission of the European Atomic Energy Community.*

The Federal Government is authorised to put into force by Statutory Ordinance, with the consent of the Federal Council, decisions of the NEA Steering Committee taken pursuant to Article 1 (a) (ii) and (iii) and Article 1 (b) of the Paris Convention (Section 12 (a).

3.2 Carriage of nuclear fuel /Sections 4, 4 (a) and 4 (b)/

3.2 1 Additional conditions for the granting of a carriage licence are proposed. Carriage must be effected by persons who, with respect to the envisaged carriage of nuclear fuel, have the requisite knowledge of the possible radiation hazards and safety measures to be applied. The choice of the mode, time and route of carriage may not be contrary to overriding public interests In addition to a duplicate or certified copy of the carriage licence, a certificate of financial security meeting the requirements of Article 4 (c) of the Paris Convention must be available during carriage. No financial security is required in case of carriage of small quantities of nuclear substances which are described in Annex 2 to the Bill.

3.2.2 A new Section 4 (a) makes provision for financial security in case of international carriage. The certificate provided for in Article 4 (c) of the Paris Convention may be furnished by an operator of an installation situated in another Contracting State to the Convention. The insurer or guarantor within the meaning of that Article may be a foreign insurer or guarantor only on condition that an insurer or insurance pool licensed in Germany undertakes to share the guarantee.

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* 65/42 EURATOM, Official Journal of the European Communities 1965, p 2995.

Special provisions are made for international carriage of nuclear fuel with respect to those States party to the Paris Convention that are not party to the Brussels Supplementary Convention in case of transit use is made of the possibility foreseen in Article 7 (e) of the Paris Convention· if the country of the foreign operator concerned is not party to the Brussels Supplementary Convention, the transit licence may be made subject to an increase of the maximum amount of liability up to DM 50 million; in case of export from or import into a country party to the Paris Convention but not to the Brussels Supplementary Convention, the transport licence may be made subject to the conveying or receiving German operator assuming liability if the maximum amount of liability in the foreign country is not sufficient.

3.2.3 A new Section 4 (b) takes account of the fact that the definition of nuclear substances is different for the licensing and control requirements and for the liability provisions (see 3.1 above) Therefore, also those persons who carry nuclear substances without being required to obtain a licence (i.e. particularly in the cases of radioactive products and waste) must, before commencing carriage, furnish proof of having adequate financial security. The carrier must obtain and carry with him a certificate conforming to Article 4 (c) of the Paris Convention. The new provisions of the Act on international carriage are applicable. In the case of carriage of small quantities of nuclear substances (Annex 2), Section 4 (b) does not apply.

3.3 Licensing of installations and of other uses of nuclear fuel outside installations (Sections 7 and 9)

3.3.1 The provision on the licensing of installations is amended to include installations for the treatment or processing of nuclear fuel in order to cover installations for the fabrication of fuel elements While under the present Act only the treatment and processing as such have to be licensed, in future the construction and operation of installations for these purposes will be subject to a licence.

3.3.2 As in the case of carriage licences, the Bill introduces the requirement that also personnel not forming part of the management (which is already covered by present provisions) must have sufficient knowledge of possible radiation hazards and applicable safety measures The choice of the place where nuclear fuel is to be used outside installations must not be contrary to public interests, in particular, as regards pollution of water, air and soil.

3.4 Third party liability (Sections 25 to 34)

3.4.1 Nuclear Installations (Section 25)

A completely revised Section 25 provides for the direct application of the provisions of the Paris Convention in conjunction with those of the Act.

As regards the territorial scope of application the operator of a nuclear installation is liable for incidents occurring and damage suffered in non-contracting States (see Article 2 of the Paris Convention).

The operator is further liable for damage arising out of an incident resulting from ionizing radiation emitted by any other source of radiation inside his installation /Article 3 (c) of the Paris Convention and EURATOM Recommendation 65/42 of 28th October 1965/ and

damage to the means of transport [Articles 3 (a) (ii) (2) and 7 (c) and Second EURATOM Recommendation of 6th July 1966].*

Making use of the reservation to Article 9 of the Paris Convention, the Bill provides (in line with the present legal situation) that the operator shall be liable also for damage directly due to an act of armed conflict, hostilities, civil war, insurrection and to a grave natural disaster of an exceptional character The Exposé des Motifs justifies this extension of the operator's liability on two grounds firstly, the terms of exoneration used in Article 9 were not defined sharply enough and might lead to difficulties of interpretation, secondly, the interests of victims required the inclusion into the liability system of damage caused by incidents resulting from the events enumerated in Article 9, as there was a greater likelihood that catastrophic nuclear incidents were caused by such events rather than by human or technical failure There is, however, an exception to this rule. If damage occurs in another country the above extension applies only to the extent that, at the time of nuclear incident, the other country provided for an equivalent system of liability and compensation. The Bill makes use of the possibility provided by Article 4 (d) of the Paris Convention to transfer liability from the operator to the carrier of nuclear substances, in this respect, the Bill follows the First EURATOM Recommendation Such transfer is subject to strict conditions. The carrier may only be a person who is licensed within the Federal Republic of Germany or who has his main place of business therein. If the carrier is substituted for the operator, the competent authority will have to see to it that the financial protection or security is sufficient Such security is fixed when the transport licence is granted and not at the time of substitution. If the financial security proves to be insufficient, the competent authority will not approve of the substitution

The liability provisions described above do not apply if the damage is caused by a nuclear incident resulting from nuclear fuel listed in Annex 2 (small quantities) liability in these cases is covered by the provision on "other cases" (see 3.4.3 below)

3.4.2 Nuclear ships [Section 25 (a)]

As the new Section 25 described above relies on the definitions of Article 1 of the Paris Convention (Annex 1 to the Bill), which do not cover reactors comprised in any means of transport [Article 1 (a) (ii)], the Bill, in order to maintain the present legal situation, introduces a new Section dealing with nuclear ships. Any reference to the Paris Convention in the liability part of the Act is deemed to be replaced by a reference to the Brussels Nuclear Ships Convention. The new liability provisions of the Act as well as those dealing with State intervention are declared applicable with certain exceptions and modifications (see below). The Act is superseded by international agreements which contain mandatory provisions on the liability of operators of nuclear ships

As regards nuclear ships not authorised to sail under the flag of the Federal Republic of Germany, the Act will apply only if they have caused damage in Germany, in this case the German court competent for the place where the damage has occurred has concurrent jurisdiction with the courts of the flag State.

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* Official Journal of the European Communities 1966, p. 2553

If international agreements exclude liability for nuclear damage directly due to an act of armed conflict, hostilities, civil war, insurrection or a natural disaster, such exclusion shall not apply (if permissible under the agreements) to means of transport licensed, registered, being constructed or equipped with a reactor in Germany If in such cases damage is suffered in another State, compensation is payable only on condition that the other State had assured reciprocity at the time of the nuclear incident.

3.4.3 Other cases (Section 26)

The provisions governing liability for damage to which the Paris Convention in conjunction with Section 25 does not apply remain, in principle, unchanged the holder of nuclear substances (in particular small quantities) is absolutely liable, but no financial security is required. The new Section 26 clarifies that liability is also incurred for damage resulting from ionizing radiation emitted by an accelerator

3.4.4 Several persons liable

A new Section 34 improves the present provisions and states that the liability of these persons towards the victim shall be joint and several without prejudice to Article 5 (d) of the Paris Convention

3.4.5 Maximum amount of liability (Section 31)

The Bill proposes to raise the maximum amount of the operator's liability from the present DM 500 million to DM 1000 million The Exposé des Motifs justifies this duplication on several grounds. The capacity of modern power reactors had increased more than tenfold vis à vis the reactors planned at the time of the entry into force of the Atomic Energy Act on 1st January 1960; this had led to an increase of the hypothetical extent of nuclear damage. DM 500 million no longer had the value they had in 1960. It would therefore be in the interest of potential victims to double the present maximum amount. As financial security from private sources would not be obtainable beyond an amount of DM 500 million, the operator would be required to cover only this amount while the State would intervene in the case of damage exceeding DM 500 million and up to DM 1000 million (see below).

If the nuclear operator is liable for damage occurring in other States, the maximum compensation is subject to reciprocity as follows

- for damage occurring in a Contracting State to the Brussels Supplementary Convention, any compensation exceeding 120 million EMA u/a; and

- for damage occurring in any other State (including Contracting Parties to the Paris Convention only) any compensation exceeding 15 million EMA u/a,

will be payable only if the State concerned has provided, at the time of the nuclear incident, an equivalent system of liability and State intervention in relation to the Federal Republic of Germany. The same applies with respect to the amount exceeding the maximum amount under the Brussels Nuclear Ships Convention /Section 25 (a)/.

3.4.6 Financial security (Section 13)

The amended provisions on financial security state the principle that the operator of a nuclear installation and the licensee (operator) of a reactor comprised in a means of transport must provide financial security which corresponds to the hazards of his installation or activities, as a rule, such security must be equal to the maximum cover obtainable on the insurance market at reasonable conditions but may not exceed DM 500 million. In the case of transport of nuclear fuel, financial security may not be fixed above DM 50 million.

Thus, the operator of a nuclear installation is liable up to DM 1000 million but has to cover his liability only up to DM 500 million, the difference being guaranteed by the State (see below).

According to the Exposé des Motifs, the considerable increase of financial security to be provided has been made possible by the readiness of the utility companies and the insurance market to cover the nuclear risk up to this amount, and in as much not to insist on State intervention Financial coverage will be provided partly by third party liability insurance, the extent of which will be much higher than heretofore, and partly by a liability coverage pool of the utility companies Details will have to be fixed in an amendment to the Financial Security Ordinance (Deckungsvorsorge-Verordnung).

3 4.7 Extent of compensation

The Bill deletes the provision of the present Act which had fixed the maximum amount of periodic payments to be made in case of death or injury at DM 15,000 annually, this deletion follows the Second EURATOM Recommendation of 6th July 1966 In the case of personal injury, an equitable compensation may be claimed for non-financial (moral) damage, provided that the damage has been caused intentionally or by negligence of the operator himself or third persons (Section 29). The Exposé des Motifs points out that, under the present Act, victims of a nuclear incident may claim compensation including compensation for non-financial damage from the operator and third persons not only under the Act but also under the rules of common law if the operator or such persons were at fault. With the introduction of the principle of legal channelling such claims would no longer be possible. The new provision, being in accordance with Article 11 of the Paris Convention, would preserve the position of victims without unduly burdening the nuclear operator, whose maximum liability would be limited.

3.4.8 Limitation periods (Section 32)

Following Article 7 of the Brussels Supplementary Convention and the First EURATOM Recommendation, the Bill fixes the limitation period under Article 8 (c) of the Paris Convention at three years. The period under Article 8 (a) of the Paris Convention (and Germany's reservation to that Article) is fixed at 30 years and the period under Article 8 (b) at 20 years, both are construed as limitation periods and not as extinction periods.

3.5 State intervention

3.5 1 Indemnification

The amendment to Section 36 adapts the conditions of indemnification to the new liability provisions while generally preserving the present scheme Insofar as the operator's liability under the Act or

any applicable foreign law is not covered or cannot be met by the financial security provided, the operator will be indemnified up to DM 1000 million or, in the cases described under 3.4.5 above, up to 120 or 15 million EMA u/a, respectively. As regards nuclear ships, Section 36 applies only to those ships authorised to sail under the German flag. If a nuclear ship is built in Germany for another State or a person domiciled in that State Section 36 applies until registration in that State or authorisation to sail under its flag. A novel feature is the proposal to distribute the financial burden between the Bund and the Land in which the nuclear installation concerned is situated, or which has licensed the nuclear ship, at a ratio of 65·35.

The Exposé des Motifs points out that, in view of the substantially increased financial security, indemnification will be necessary only for damage exceeding DM 500 million, and below that amount only in exceptional cases such as bankruptcy of the insurer and non-insurable risks, in particular the cases enumerated in Article 9 of the Paris Convention which has been declared inapplicable (see 3.4.1 above).

The operator's right to be indemnified is construed as to exist independently of the provisions of the Brussels Supplementary Convention which govern only the international relationship between its Contracting Parties (see 2 above). Therefore, the obligation arising under Article 3 (e) of the Brussels Supplementary Convention not to make use of the right provided for in Article 15 (b) of the Paris Convention is considered inapplicable. New Section 36 (2) establishes certain obligations of the operator if, after a nuclear incident, it is to be expected that indemnification will be necessary. The operator has to notify this to the competent Federal Minister and the authorities designated by the Länder and has to inform them of all claims raised and all procedures initiated against him. He is to follow the Minister's instructions in case of negotiations with victims and must not acknowledge or satisfy a claim without the Minister's consent, except in the case of obvious inequity

The Bund and the Land concerned which have indemnified the operator have a right of recourse against the operator if he has not fulfilled his obligations under Section 36 (2), if he has caused the damage wilfully or by gross negligence and if indemnification had to be paid because the extent and amount of the financial security provided did not correspond to the one determined by the competent authority /Section 38 (a)/.

3.5.2 Compensation (Section 39)

The Bill provides for compensation or supplementary compensation up to DM 1000 million by the Bund in those cases where damage was suffered on German territory but, by reason of the applicability of foreign law, either no compensation can be obtained or the compensation is not equivalent to the one afforded by the Act.

In the first place, such compensation is payable if the victim cannot obtain compensation under the applicable laws of another Contracting State to the Paris Convention because·

- the nuclear incident has occurred in a non-contracting State /Article 2 of the Paris Convention, Section 25 (5) of the Act/,

- nuclear damage was caused by a nuclear incident directly due to an act of armed conflict, civil war, insurrection or a grave natural disaster of an exceptional character /Article 9 of the Paris Convention, Section 25 (4) of the Act in conjunction with the Federal Republic of Germany's reservation to Article 9 of the Paris Convention/,

- the applicable law does not cover damage to the means of transport /Articles 7 (c) and 3 (a) (ii) (2) of the Paris Convention, Section 25 (3) of the Act/;

- the applicable law does not provide for the operator's liability for damage by ionizing radiation by any other source of radiation inside his installation /Article 3 (c) of the Paris Convention, Section 25 (1) of the Act/,

- the applicable law contains a shorter extinction or limitation period than the Act,

- the total sum available for compensation falls short of the amount under Section 31 (1) of the Act.

Secondly, compensation is generally provided for in cases where any applicable foreign law (i.e. either that of a Contracting or non-contracting State to the nuclear Conventions) or any international agreement provide for compensation falling considerably short of the compensation available under the AEA with respect to its nature, extent and amount.

The provisions described above are applicable irrespective of nationality, domicile and residence, if the damage was suffered on German territory However, with respect to foreign nationals who do not have their habitual residence in Germany, these provisions are applicable only if their own country has assured reciprocity.

Claims have to be brought before the Federal Agency for Administration (Bundesverwaltungsamt) within three years after the regulation of damage under the foreign law has become final and unappealable.

3.6 Apportionment procedure and rank of claims

The present provision dealing with the apportionment procedure in case of claims exceeding the maximum amounts of liability remains unchanged in substance. The apportionment is to be regulated by an Act and, pending enactment, by statutory ordinance (Section 37).

However, the Bill proposes to accord a lower rank to certain types of damage and excludes them from State compensation, or makes State compensation subject to certain conditions.

3.6.1 Joint enterprises and industrial installations in the vicinity of a nuclear installation (Section 15)

The operator's financial security may be used to satisfy the claims of the following (moral) persons only on condition that the compensation of other victims is not thereby prejudiced

- persons forming with the liable operator of a nuclear installation (including a reactor comprised in a means of transport) a joint enterprise (Konzernunternehmen) within the meaning of Section 18 of the Stock Corporation Act (Aktiengesetz),

- industrial installations in the vicinity of the nuclear installation concerned, if the site of the industrial installation has been chosen to utilize energy from the nuclear installation for production processes.

The Exposé des Motifs justifies the lower rank of claims by joint enterprises with the following considerations The damage to joint enterprises could be considered, from an economic point of view, as damage to the nuclear installation itself. This would be the case in two principal situations. Firstly, if the enterprise suffers damage by a nuclear installation which is operated by the enterprise itself or with other enterprises through a legally independent company for the purpose of meeting its own energy demand, secondly, if several nuclear installations cause damage to each other (case of nuclear power parks), the nuclear installations being operated by legally different companies with the participation of one or more utility companies. As in these cases claims made by such enterprises would be very high and the protection of the population would thereby be endangered, claims of such enterprises have been accorded a lower rank. Similar considerations would apply to enterprises which are only geographically joined with the nuclear installation, but which draw direct economic advantages from the vicinity to the nuclear installation as they use energy from the latter for industrial production processes such as process steam and electricity

Both types of claim do not benefit from indemnification and compensation by the Bund /Section 39 (a)/.

3.6.2 Damage to the means of transport

In accordance with Article 7 (c) of the Paris Convention, compensation for damage to the means of transport, upon which the nuclear substances involved were at the time of the nuclear incident, is to be paid only if the satisfaction of other claims has been secured (Section 31).

3.6 3 Non-financial damage

Claims for compensation of non-financial (moral) damage in case of personal injury (Section 29) will only be subject to State indemnification and compensation if this is necessary to avoid serious inequity /Section 39 (a)/.

3.7 Actions against foreign operators (determination of applicable law)

A new Section 39 (b) establishes the principle that the Atomic Energy Act will be applicable in cases where, pursuant to Article 13 of the Paris Convention, a German court has jurisdiction over actions against the operator of a nuclear installation situated in another Contracting State to the Paris Convention. However, the law of the Installation State is declared applicable with respect to the following points in which German law may be stricter

- who is to be considered as operator;
- whether the operator is liable for damages suffered in a non-contracting State to the Paris Convention;
- whether the operator rs liable for damage caused by ionizing radiation emitted by any other source of radiation inside his installation;

- whether the operator is liable for damage to the means of transport,

- the maximum amount of the operator's liability;

- the prescription or extinction periods,

- whether and to which extent nuclear damage is compensated in cases coming under Article 9 of the Paris Convention.

As pointed out above, a victim who has his habitual residence in Germany and has suffered damage on German territory may claim (additional) compensation if the foreign law affords a less favourable protection than the Atomic Energy Act.

• *Japan*

REGIME OF NUCLEAR INSTALLATIONS

Laws on Electric Power Resources Development

The Bill on the Adjustment of Areas adjoining electricity generating plants (see NLB No. 11) and two other related Bills· the Bill on Taxation for the Promotion of Electric Power Resources Development and the Bill on the Special Fund for the Promotion of Electric Power Resources Development (so called "Three Bills on Electric Power Resources Development") were approved and promulgated on 6th June 1974.

The overall purpose of the Laws is to help to overcome the growing difficulties in power plant siting by granting a subsidy to any town, village or community and its environs where a hydroelectrical, thermal or nuclear power plant (including nuclear reprocessing plant), is to be set up.

The three new laws will operate together in regional adjustment projects. The new laws namely provide for

- promotion of adjustments in country areas designated by law or by government ordinance for power development;

- a tax of 85 yen on every 1000 kilowatts of power sold, to be paid by electric utilities, and

- the pooling of such taxes to provide subsidies to the amount of 120 yen per KW per year for hydropower site areas for a period of five years (the period of construction, 200 yen to 300 yen per KW for thermal power site areas for three years, and 300 yen per KW for nuclear site areas for five years.

On the other hand, the Governor of the designated Prefecture which accepts the construction of power plants (any type) and other nuclear installations, draws up a plan of adjustment of the area surrounding the installation. Then a subsidy from the Special Fund will be delivered on condition that the plan of adjustment has been approved by the Prime Minister and the Minister of International Trade and Industry In the granting of subsidies to such site areas, the local government's budgetary situation will be taken into consideration.

The Government is expected to designate the areas for adjustment under the new laws, and the number of areas to be designated will be 75 including 16 areas for nuclear installations.

• *Sweden*

ORGANISATION AND STRUCTURE

The Swedish Nuclear Power Inspectorate

The Swedish Atomic Energy Board (Delegationen för Atomenergifragor) was called the Swedish Nuclear Power Inspectorate (Statens Kärnkraftsinspektion) on 1st July 1974 under Royal Decree No 429 of 31st May 1974.

Royal Decree No. 427, also dated 31st May 1974, which came into force on 1st July 1974 defines the duties of the new body This Decree replaces the preceding Royal Decree No. 490 of 22nd May 1971 concerning the duties of the Atomic Energy Board.

In accordance with the new Decree the duties of the Nuclear Power Inspectorate are·

- to follow developments in the field of nuclear energy, especially with respect to safety problems,
- to examine and grant applications for licences under the Atomic Energy Act to the extent that the Government has authorised the Board to fulfil this duty;
- to carry out such inspections as are referred to in the Atomic Energy Act;
- to perform certain functions under the Royal Decree of 8th March 1968 (No. 46), issued pursuant to the Nuclear Liability Act;
- to exercise such functions with respect to the supervision of the use of crude atomic fuel and special fissionable material as result from Sweden's international commitments,

- to examine the need for research and development with regard to the safety of nuclear installations and safety in connection with transport of fissionable materials and, to the extent this is not the duty of any other authority, to take initiatives in research and development concerning the safety of such nuclear power plants and other nuclear installations for which concession has been granted or for which an application for concession has been filed

Regarding the structure of this new Inspectorate, there is only one change of importance as compared with the former body, the Atomic Energy Board had one Committee whose task was to advise the Board on matters related to the safety of nuclear installations and the handling of nuclear fuels As from 1st July 1974 three Committees have been attached to the Nuclear Power Inspectorate in an advisory capacity one Committee deals with matters related to safety standards and other reactor safety questions, the second deals with matters related to the control of fissionable materials and the third Committee, with matters related to research and development in nuclear safety.

RADIATION PROTECTION

Amendment of the 1958 Act on Protection against Radiation

Act No. 110 of 14th March 1958 on Protection against Radiation was amended by Act No. 1004 of 14th December 1973. These amendments cover mainly drafting points or are intended to bring the Act into line with the new Swedish provisions on customs On the occasion of this amendment, it was decided to reproduce the Act in the "Texts" Chapter of this issue of the Bulletin

• *United Kingdom*

ORGANISATION AND STRUCTURE

The National Radiological Protection Board (extension of functions) Order 1974

This Order, which came into operation on 1st August 1974, extends the functions and powers of the National Radiological Protection Board established by the Radiological Protection Act 1970 (see NLB Nos. 4 and 6) so as to cover research and the giving of advice on the dangers of radiation which is electromagnetic but not ionizing.

RADIATION PROTECTION

Health and Safety at Work etc. Act 1974

The main purpose of this Act is to provide a single comprehensive and integrated system of law dealing with the health, safety and welfare of workpeople, and the health and safety of the public as affected by work activities. The Act places general duties on employers to ensure, so far as is reasonably practicable, the health, safety and welfare at work of their employees, and general duties on employees to take reasonable care for their own health and safety and that of others who may be affected by their activities. Other general duties imposed include a duty on persons controlling prescribed classes of premises to use the best practicable means for preventing harmful emissions into the atmosphere from those premises, and a duty on manufacturers and suppliers of articles and substances for use at work to ensure, so far as is reasonably practicable, that such articles and substances are safe. Section 47, however, provides that breach of these duties shall not confer any right of action for damages in civil proceedings. The "channelling" provisions in Section 12 of the Nuclear Installations Act 1965 are expressly preserved.

The Act establishes a Health and Safety Commission and a Health and Safety Executive to be generally responsible for administering health and safety legislation, including those provisions of the Nuclear Installations Act 1965 governing the licensing of nuclear installations, a function which is at present exercised by the Secretary of State for Energy and the Secretary of State for Scotland. It is expected that the 1965 Act will shortly be amended, by regulations under the new Act, to vest these licensing powers in the Health and Safety Executive.

The Health and Safety Commission is empowered by the Act to direct investigations and enquiries into accidents and occurrences, and to approve and issue codes of practice relating to health and safety requirements. The Health and Safety Executive is empowered to appoint inspectors to whom the Act gives extensive powers of investigation and enforcement. It is envisaged that inspectors appointed by the Executive will take over most of the functions at present performed by the Nuclear Installations Inspectorate appointed by the Secretary of State for Energy. In practice, the staff of the Inspectorate are expected to transfer to the Executive.

The provisions of the Nuclear Installations Acts 1965 and 1969 which give effect to the Paris Convention and the Brussels Supplementary Convention are not affected by the Act.

ENVIRONMENTAL PROTECTION

The Control of Pollution Act, 1974

This Act was passed on 31st July 1974 and will come into force on a date to be appointed by the Secretary of State for the Environment It has 109 Sections and 4 Schedules. It extends and reformulates existing statutory controls relating to the disposal of waste on land (Part I), pollution of water (Part II) and noise (Part III) and the atmosphere (Part IV).

The disposal of waste on land is made subject to a licensing procedure and waste is so defined as not to exclude radioactive waste. It is an offence to allow any poisonous, noxious or polluting matter to enter any stream or controlled waters (i.e. the sea within the 3 mile territorial limits or such other parts of the sea as may be prescribed) without a disposal licence or without consent under the Act (or without a licence granted under the Dumping at Sea Act 1974).

Under Section 30 (5), Part I of the Act (Disposal of Waste on Land) does not apply to radioactive waste within the meaning of the Radioactive Substances Act 1960 but the Secretary of State may make regulations providing for appropriate provisions of the Act to have effect so as to deal with radioactive waste

Similarly under Section 56 (6), Part II of the Act (Pollution of Water) does not apply to radioactive waste within the meaning of the Radioactive Substances Act 1960. Thus authorisations granted under the 1960 Act for Disposal of Radioactive Waste continue to have effect and will continue to be granted, unless and until regulations are made under the Act providing otherwise

In Schedule 2 certain penalties for offences under the Radioactive Substances Act 1960 are increased so as to bring them in line with the penalties under the Control of Pollution Act.

Section 101 provides that, without prejudice to the powers of the United Kingdom Atomic Energy Authority apart from this Section, the Authority shall have power to engage in activities relating to the treatment or disposal of waste and other matter as the Secretary of State may specify, and to do anything appearing to the Authority to be appropriate for the purpose of exercising the above powers.

Section 102 provides that regulations may be made to modify the Act as may be necessary to enable the UK to ratify any international agreement (such as the Convention for the Prevention of Marine Pollution from Land-Based Sources, signed at Paris on 4th June 1974).

• *United States*

NUCLEAR LEGISLATION

Amendments to the Atomic Energy Act

Public Law 93-377 (the "AEC Omnibus Bill"), enacted into Law on 17th August 1974, amended, inter alia, Section 54 of the Atomic Energy Act of 1954 concerning foreign distribution of special nuclear material The amendment establishes, firstly, a new mechanism by which the "ceiling quantities" of special nuclear material (i.e. basically plutonium and enriched uranium) authorised for transfer to "groups of nations" (i.e. IAEA and EURATOM) may be increased Prior to this law, such increases required an Act of Congress, while under the amendment

the Atomic Energy Commission may establish such increases following review by the Congress. Secondly, the AEC* is authorised to distribute and to license others to distribute certain kinds and amounts of special nuclear material to any person outside the United States without the requirement for an agreement for co-operation. This authority will be of special assistance in permitting wider use of plutonium-powered heart pacemaker devices and research equipment which may contain residual quantities of special nuclear material.

ORGANISATION AND STRUCTURE

Abolition of the U.S. Atomic Energy Commission and establishment of the Energy Research and Development Administration (ERDA) and the Nuclear Regulatory Commission (NRC)

On 11th October 1974, the President of the United States signed the "Energy Reorganisation Act of 1974". In December 1973, the House of Representatives had passed a Bill (HR 11510) entitled "Energy Reorganisation Act of 1973" (See NLB No. 13). The Senate made certain amendments thereto with which the House disagreed, the Bill was then referred to a joint Senate/House Conference Committee. The Conference Committee's version of the Bill was passed by the House and the Senate on 8th and 9th October, respectively.

The main purpose of the Act is to ensure the co-ordinated and effective development of all energy sources, to bring together and direct federal activities relating to research and development on the various sources of energy, to increase the efficiency and reliability in the use of energy, as well as to separate the licensing and regulatory functions of the Atomic Energy Commission from its other functions.

The Act therefore establishes an independent executive agency under the name of Energy Research and Development Administration (ERDA) The Atomic Energy Commission is abolished and Sections 21 and 22 of the Atomic Energy Act of 1954 which deal with this Commission and its members are repealed. All functions of the Atomic Energy Commission, except those reserved to the Nuclear Regulatory Commission are transferred to and vested in the Administrator of Energy Research and Development, the Head of ERDA. In addition, a number of functions of the Department of the Interior, the National Science Foundation and the Environmental Protection Agency (See NLB No. 13) are transferred to the new Administration.

The Act establishes in the Executive Office of the President an Energy Resources Council, composed of the Secretaries of State and the Interior, the Administrators of ERDA and the Federal Energy Administration, the Director of the Office of Management and Budget and such other officials of the Federal Government as the President may designate The President has named the Secretary of the Interior to serve as Chairman of the Council. The Council has the duty to co-ordinate the

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* Under the Energy Reorganisation Act of 1974 (see below) these functions of the AEC will be transferred to the Nuclear Regulatory Commission.

work of the federal agencies responsible for the development and implementation of energy policy or for the management of energy resources, to make recommendations to the President and to the Congress for measures to improve such policies and management, and to advise the President in the preparation of his recommendations (which he must transmit to Congress not later than 30th June 1975) regarding organisational arrangements of energy and related functions for the Federal Government, including as to whether or not there shall be established a Department of Energy and Natural Resources, an Energy Policy Council and a consolidation in all or part of the regulatory functions concerning energy. The Energy Resources Council will cease to exist upon enactment of a permanent department responsible for energy and natural resources

The Act further establishes an independent Regulatory Commission to be known as the Nuclear Regulatory Commission (NRC), to which are transferred all the licensing and related regulatory functions of the Atomic Safety and Licensing Board Panel and the Atomic Safety and Licensing Appeal Board (Section 191 of the Atomic Energy Act). The Commission is composed of five members, the President is to designate one member as Chairman who shall be the principal executive officer of the Commission

Three offices each headed by a Director are established within the Commission

- An Office of Nuclear Reactor Regulation, responsible basically for the principal licensing and regulation involving all facilities and materials licensed under the Atomic Energy Act, associated with the construction and operation of nuclear reactors under that Act, and for the review of the safety and safeguards of all such facilities, materials and activities,

- An Office of Nuclear Material Safety and Safeguards, responsible for principal licensing and regulation involving all facilities and materials associated with the processing, transport and handling of nuclear materials, including the provision and maintenance of safeguards against threats, thefts and sabotage of such licensed facilities and materials and for reviewing safety and safeguards of all such facilities and materials licensed under the Atomic Energy Act,

- An Office of Nuclear Regulatory Research which shall develop recommendations for research deemed necessary for performance by the Commission for its licensing and related regulatory functions, and shall engage in or contract for such research.

The Commission shall appoint an Executive Director for Operations who will be the co-ordinating and directive agent below the NRC for the effective performance of the Commission's day-to-day operational and administrative activities.

The Commission is authorised and directed to make a "nuclear energy center site survey" designed to locate and identify possible sites for nuclear energy centers (nuclear power parks). The term "nuclear energy center site" means any site (not restricted to land) which is large enough to support utility operations and for other nuclear facilities (reprocessing, fuel fabrication, enrichment plants, waste storage facilities). The survey shall be conducted in co-operation with other interested Federal, State, or local agencies, the views of interested persons such as local utilities and citizens' groups shall be solicited

and considered. The survey must include, in particular, an evaluation of the environmental impact likely to result from construction and operation of such nuclear energy centers A report on the results of the survey shall be published and transmitted to the Congress and the Council on Environmental Quality not later than one year from the date of the enactment of the Act and shall be made available to the public

The Commission shall submit to the Congress each quarter a report listing for that period any abnormal occurrences at or associated with any facility licensed or regulated pursuant to the Atomic Energy Act or the Energy Reorganisation Act of 1974. An abnormal occurrence is an unscheduled incident or event which the NRC determines as significant from the standpoint of public health or safety.

The Energy Reorganisation Act of 1974 shall take effect 120 days after the date of its enactment (i.e. 8th February 1975), or on such earlier date as the President may prescribe

THIRD PARTY LIABILITY

Revision of the Price-Anderson Act

The existing U.S. nuclear indemnity legislation, the so-called Price-Anderson Act (incorporated in Sections 2, 11, 35 and 170 of the Atomic Energy Act), is due to expire on 1st August 1977. Following extensive studies on alternatives to the Price-Anderson Act or its extension and modification, the Atomic Energy Commission transmitted its legislative proposal to the U.S. Congress in April 1974. The Bill, after revision by the Joint Committee on Atomic Energy (JCAE), was introduced in the House of Representatives as H.R. 15323. It was passed by the House with three amendments and referred to the Senate, which deleted certain of the House amendments and added further ones. The Bill was then referred to a Joint House/Senate Conference Committee to resolve the differences in the Bill as passed by the House and the Senate The Conference Committee, on 20th August 1974, agreed on a number of compromises. The Committee's version of the Bill was then passed by the House and the Senate on 24th and 30th September, respectively, and forwarded to the President for his approval. While approving its substance, the President vetoed the Bill on 12th October 1974, and returned it to Congress with the request to remedy a certain constitutional deficiency (see below).

The essential features of the compromise Bill as passed by the House and Senate are the following

(1) The Price-Anderson Act is extended for 5 years to 1st August 1982. The Commission* is to submit to the Congress, by 1st August 1979, a report and recommendations concerning the need for continuation of, or modification to the provisions of Section 170 of the Atomic Energy

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* Following abolition of the Atomic Energy Commission pursuant to the Energy Reorganisation Act of 1974 (see above) any reference in the Bill to the "Commission" will mean the newly established Nuclear Regulatory Commission.

Act, "taking into account the condition of the nuclear industry, availability of private nuclear insurance, and the state of knowledge concerning nuclear safety at that time".

(2) The definition of "nuclear incident" [Section 11 (q)] as used in Section 170 (c), dealing with Commission licensees, was amended to include occurrences outside the U S or any other nation (e.g. on the high seas) involving nuclear material licensed by the Atomic Energy Commission. The purpose of this amendment is to extend the full aggregate indemnity to offshore nuclear power plants and to shipments between licensees in the United States which are routed beyond territorial waters.

(3) The amendment to Section 170 (b) provides for a phasing out of Government indemnity which is to be achieved by a deferred premium system. The financial protection required from large power reactors would be covered in two layers. The base layer ("primary financial protection") will, in principle, consist of third party liability insurance covering $125 million. The second layer, to be fixed by the Commission not later than 1st August 1976, will be made available under an "industry retrospective rating plan" providing for premium charges deferred in all or major part until public liability for a nuclear incident exceeds or appears likely to exceed the base layer The maximum amount of any deferred premium which may be charged following any nuclear incident under such a plan shall be not less than $2 million nor more than $5 million for each of the facilities which are required to maintain the maximum amount of financial protection The Commission will continue to provide indemnity for payment of damages exceeding the combined primary and secondary layers up to a total of $560 million. As the secondary layer increases, it will gradually phase-out the Government indemnity. The date at which this will occur will depend on the amount of the deferred premium and on the rate at which reactors will be licensed If, for instance, the maximum level per reactor were set at $3 million and a total of 100 reactors will have been licensed, public liability for a nuclear incident would be covered, if necessary, as follows

Insurance	$125 million
Assessment under the industry retrospective rating plan	$300 million
Government indemnity	$135 million
Total	$560 million

(4) The limit on total liability arising from a nuclear incident occurring within the U.S will therefore not be changed immediately from the present $560 million. However, from the point at which the total of primary insurance and assessable retrospective premiums have reached the level necessary to completely replace the Government indemnity, the liability limit will rise correspondingly For example, if the total number of licensed large powered reactors will be 200, with an assessed retrospective premium of $3 million per reactor, the maximum amount of liability would be as follows

Insurance	$125 million
Assessment under the industry retrospective rating plan	$600 million
Government indemnity	$ 0
Total	$725 million

The Commission will have continuing authority to establish a rule reducing the standard maximum deferred premium as appropriate when it determines that the total financial protection has risen to an amount above which further increases are not necessary.

(5) The last Section of the Bill provides that the Congress is enabled to prevent the coming into effect of the Act by a concurrent resolution passed within 30 days after submission of JCAE's report to the Congress on its evaluation of the so-called Rasmussen Study*

It is this last provision upon which the United States President based his veto. In his view, this provision would be in violation of Article I Section 7 of the United States Constitution since it would in fact require the final approval of the President to the legislation before the Congress had given its final approval.

The further development of the revisions to the Price-Anderson Act will be reported in the next issue of the Nuclear Law Bulletin, together with an article on the evolution of nuclear indemnity legislation in the United States.

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* Reactor Safety Study, An Assessment of Accident Risks in United States Commercial Nuclear Power Plants, Atomic Energy Commission Draft Report WASH 1400.

CASE LAW AND ADMINISTRATIVE DECISIONS

ADMINISTRATIVE DECISIONS

• *Sweden*

ORGANISATION AND STRUCTURE

The setting up of a Governmental Committee under the Minister of Industry to consider the problems caused by high-level wastes produced by nuclear power plants has already been reported in Nuclear Law Bulletin No. 12. The Committee, which issued a first report on the status of highly-radioactive waste management in Sweden and elsewhere, has had its terms of reference extended by Decision of the Swedish Government on 10th May 1974, to cover the study of problems raised by the treatment and storage of low and medium-level wastes.

INTERNATIONAL ORGANISATIONS AND AGREEMENTS

INTERNATIONAL ORGANISATIONS

• *International Atomic Energy Agency*

XVIIITH REGULAR SESSION OF THE GENERAL CONFERENCE

Membership of the Agency

The XVIIIth Regular Session of the General Conference was held in Vienna from 16th to 20th September 1974. Upon recommendation of the Board of Governors, it approved the Democratic People's Republic of Korea and Mauritius for membership in the Agency; this will bring the number of members of the Agency to 106 countries.

Rules of Procedure of the Conference

As reported in issue No. 14 of the Bulletin, at its Seventeenth Regular Session, the General Conference adopted certain amendments to its Rules of Procedure which were then required as a result of the entry into force in June 1973 of the amended version of Article VI.A.2 of the Agency's Statute.

At its Eighteen Regular Session, the General Conference adopted further amendments to its Rules of Procedure, designed to streamline and simplify the work of the General Conference. The salient features of those amendments are as follows:

(a) the replacement of the two main committees of the Conference (the Programme, Technical and Budget Committee and the Administrative and Legal Committee) by a single Committee of the Whole;

(b) the transfer of the functions of the Credentials Committee to the General Committee, which consists of the President, the eight Vice-Presidents, the Chairman of the Committee of the Whole and five additional members,

(c) the election of the eight Vice-Presidents of the Conference, the Chairman of the Committee of the Whole and the five "additional" members of the General Committee, by the General Conference upon the proposal of the President, hitherto such officers had been separately proposed and seconded by delegations

New Composition of the Board of Governors

The Board of Governors will now be composed as follows until the end of the next General Conference

Argentina
Australia
Brazil
Bulgaria
Canada
Costa Rica
France
Gabon
German Democratic Republic
German Federal Republic
Hungary
India
Iran
Iraq
Italy
Japan
Korean Republic
Pakistan
Peru
Philippines
South Africa
Spain
Sudan
Sweden
Switzerland
Thailand
Turkey
Union of Soviet Socialist Republics
United Kingdom of Great Britain and Northern Ireland
United States of America
Uruguay
Venezuela
Zaire Republic
Zambia

SAFEGUARDS

In connection with the Treaty on the Non-Proliferation of Nuclear Weapons

At its meeting in June 1974 the Board of Governors approved safeguards agreements to be concluded with·

(a) Ecuador in connection with the Treaty for the Prohibition of Nuclear Weapons in Latin America and the NPT,

(b) Jordan in connection with the NPT;

(c) Panama in connection with the Treaty for the Prohibition of Nuclear Weapons in Latin America.

At its meeting in September 1974 the Board approved safeguards agreements to be concluded with

(a) El Salvador in connection with the Treaty for the Prohibition of Nuclear Weapons in Latin America and the NPT; and

(b) Honduras in connection with the Treaty for the Prohibition of Nuclear Weapons in Latin America and the NPT

Under Agency's Former Safeguards System

At its meeting in June 1974 the Board of Governors also approved safeguards agreements under INFCIRC/66/Rev.2 between the Agency and:

(a) Chile (in respect of a quantity of enriched uranium),

(b) South Africa and the United States of America (to amend the existing Safeguards Transfer Agreement),

(c) Spain (in respect of a quantity of enriched uranium), and

(d) Spain and the United States of America (to amend the existing Safeguards Transfer Agreement).

THE IAEA RECOMMENDATIONS FOR THE PURPOSES OF THE LONDON CONVENTION OF 1972

A set of draft recommendations prepared by the IAEA Secretariat for the purposes of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter was considered by the Board of Governors in June. In the light of the views expressed by Governors on that occasion, a Group of Experts was convened in July to refine the draft recommendations in taking into account, to the extent possible, all the written comments received from Member States and international organisations on previous drafts.

As a result of its work, the Group of Experts adopted a set of Provisional Definition and Recommendations Concerning Radioactive Wastes and Other Radioactive Matter Referred to in Annexes I and II to the Convention, which the Group considered as reflecting a general consensus and as being responsive to the purposes and requirements of the Convention.

The Board of Governors considered the Provisional Definition and Recommendations on 13th September 1974 and authorized the Director General to transmit them to the United Kingdom Government, which is the Depositary performing secretariat duties under the Convention pending the entry into force of the latter. In so deciding, the Board also requested the Director General to inform that Government that the said Provisional Definition and Recommendations, which should not be construed as encouraging in any way the dumping at sea of radioactive wastes and other radioactive matter, will be subject to periodic review and revision by the IAEA, the first of such reviews being already scheduled for early 1975.

NUCLEAR EXPLOSIONS FOR PEACEFUL PURPOSES

The Board of Governors, at its meeting on 13th September 1974, took a number of steps in connection with the Agency's role in respect of nuclear explosions for peaceful purposes (PNE). This followed on a meeting of experts held from 22nd to 26th April 1974 in order to advise

on procedures for responding to requests from Member States for assistance in obtaining services in connection with PNE The Group had concentrated on the procedures which would apply at the early stages of a potential PNE project, including the formulation of guidelines for requesting States and the procedures the Agency should follow before the conclusion of an "Observation Agreement" between the Agency and the State or States concerned

The Board took note of the procedures suggested by the Group of Experts and approved the approach outlined in their report to be used by the Agency in responding to requests for PNE related services in the early stages of such projects Further, it requested the Director General to communicate these procedures to all members of the Agency as well as to the Secretary-General of the United Nations for transmission to the General Assembly. The Board also requested the Director General to keep under review the status of the technology of nuclear explosions for peaceful purposes and to study the legal and health and safety aspects of such explosions under the auspices of the Agency

It will be recalled in this context that in June 1972 the Board approved guidelines for the international observation by the Agency of nuclear explosions for peaceful purposes under the provisions of the Treaty on the Non-Proliferation of Nuclear Weapons or analogous provisions in other international agreements. These guidelines were published in Agency Document INFCIRC/169.

NUCLEAR THIRD PARTY LIABILITY

A Restricted Working Group of the Standing Committee of the Vienna Convention on Civil Liability for Nuclear Damage met in Vienna from 7th to 9th May 1974 to analyse and discuss possible solutions to problems arising from the relationship between the Vienna and Paris Conventions on nuclear third party liability. The Working Group agreed that problems might arise from the existence of these two similar Conventions and underlined the interest of achieving a uniform and world-wide regime of nuclear third party liability.

The Group analysed a number of possible solutions and came to the conclusion that the most promising among them was that of a joint protocol to the Vienna and Paris Conventions. Although it was recognized that even this solution was not perfect it would, nevertheless, be a step forward and would be much better than leaving the situation as it was. It appeared to solve all conflicts between the two Conventions and would undoubtedly serve as an incentive to bring about further ratifications of the Conventions.

It is foreseen that a meeting of the full Standing Committee will be convened to consider this problem further. This will depend largely, however, on the results of the work now underway within the NEA Group of Governmental Experts in which the IAEA is collaborating.

AGREEMENTS

• *Denmark-NEA*

RATIFICATION OF THE PARIS CONVENTION

Following the adoption of the Atomic Energy Act by Parliament, Denmark ratified the Paris Convention and its Additional Protocol on 4th September 1974. In addition, Denmark has notified the Secretary-General of OECD that the Paris Convention will also apply to Greenland, but not to the Faroe Islands. The ratification by Denmark of the Paris Convention brings the number of Contracting Parties to that Convention to ten.

ENTRY INTO FORCE OF THE BRUSSELS SUPPLEMENTARY CONVENTION

On the same day Denmark also ratified the Brussels Supplementary Convention. Since Denmark is the sixth country to ratify the Brussels Supplementary Convention, this Convention will now enter into force, in accordance with Article 20 (c), three months after the deposit of the Danish Ratification Instrument, namely on 4th December 1974

It will be recalled that the Brussels Supplementary Convention of 31st January 1962 establishes a system supplementary to that of the Paris Convention with a view to increasing the amount of compensation to be made available for damage resulting from a nuclear incident To this end, the Parties to the Brussels Supplementary Convention undertake that compensation in respect of nuclear incidents, other than those occurring wholly on the territory of a non-contracting State shall be provided up to the amount of 120 million EMA units of account per incident. This amount is split into three parts:

- an amount of at least 5 million units of account must be provided by insurance or other financial security,
- an amount between 5 and 70 million units of account must be made available out of public funds by the Contracting Party in whose territory the nuclear installation of the liable operator is situated,
- and an amount between 70 million and 120 million units of account is to be provided out of funds made available by the Parties to the Brussels Supplementary Convention, according to a formula specified in the Convention.

This formula is determined as follows: half of the contribution each Contracting Party has to pay will be calculated on the basis of the ratio between the gross national product of the Contracting Party and the total of the gross national products of all Contracting Parties

as shown by the official statistics published by OECD for the year preceeding the year in which the nuclear incident occurs The other half of the contribution is calculated on the basis of the ratio between the thermal power of the reactors situated in the territory of the Contracting Party and the total thermal power of the reactors in the territories of all Contracting Parties. In order to calculate the total thermal power in all Contracting States, each Signatory or acceding Government must, on the deposit of its instrument of ratification or accession, communicate to the Belgian Government (which is the depositary of the Convention) the number of nuclear installations situated in its territory and used for peaceful purposes Any modification in that number following the ratification or accession must be reported accordingly.

The Brussels Supplementary Convention will remain in force until the expiry of the Paris Convention.

• *France*

EUROPEAN FAST NEUTRON NUCLEAR POWER STATION, CO., LTD (NERSA)

A Decree of 13th May 1974, published in the Official Gazette of 14th May 1974, authorised the creation of the European Fast Neutron Nuclear Power Station Co Ltd. (NERSA) (Centrale Nucléaire Européenne à Neutrons Rapides S.A.).The Decree also approved its Statute and submits the Company to economic and financial control by the State.

NERSA was set up between Electricité de France (EDF), Ente Nazionale per l'Energia Elettrica (ENEL) and Reinisch Westfälisches Elektrizitätswerk Aktien Gesellschaft (RWE AG), with the following objectives

- construction and operation in France of

  (1) a sodium-cooled neutron fast breeder nuclear power station, to be an industrial-scale prototype,

  (2) ancillary facilities and services required for operating the station,

- transfer by EDF to its associates of the power produced;

- and generally, any operations of a type to further, directly or otherwise, the achievement of its objects and its development.

The Company is run by a body of three Directors appointed for a period of four years by the Supervisory Board. They must be natural persons. The Supervisory Board consists of twelve members appointed by Ordinary General Assembly, representing the corporate bodies which are shareholders, in proportion to the shares they each hold. The period of office of the Members of the Supervisory Board is six years and the Company's Headquarters are located in Paris.

TREATY FOR THE PROHIBITION OF NUCLEAR WEAPONS IN LATIN AMERICA

In accordance with Decree No 74-741 of 14th August 1974, the French Government, after having ratified it, published in the Official Gazette of the French Republic of 27th August 1974, Protocol No II to the Treaty for the Prohibition of Nuclear Weapons in Latin America of 14th February 1967 (See NLB No. 6, "Agreements")

It is recalled that this Treaty, the so-called Tlatelolco Treaty, is a fairly complex legal instrument, consisting of the Treaty proper and two Protocols which refer to States other than those party to the Treaty. Protocol No. I concerns extracontinental States nevertheless having de jure or de facto responsibility for territories situated within the geographical limits established by the Treaty. Under this Protocol, these States undertake to apply the provisions of the Treaty to such territories

Protocol No. II concerns the nuclear powers which are invited, upon ratification, to observe the denuclearized status of Latin America and to withhold from using nuclear weapons against Parties to the Treaty

Both Protocols have the same duration as the Treaty, of which they are Annexes. The conditions of entry into force of the Treaty are also relatively complex and require in particular ratification of the Treaty and its Protocols by all countries which are respectively likely to become Parties thereto, as well as the conclusion of Safeguards Agreements with the IAEA. However, the Treaty provides that each State, when ratifying it, may wholly or partly waive these requirements and become a Contracting Party without delay. An asterisk placed beside the dates of ratification in the chart below indicates countries which have made use of this waiver.

TREATY

Country	Signature	Ratification
Argentina	27th September 1967	
Barbados	18th October 1968	25th April 1969*
Bolivia	14th February 1967	18th February 1969*
Brazil	9th May 1967	19th January 1968
Columbia	14th February 1967	4th August 1972*
Costa Rica	19th February 1967	25th August 1969*
Chile	14th February 1967	September 1974
Dominican Republic	28th July 1967	14th June 1968*
Ecuador	14th February 1967	11th February 1969*
El Salvador	14th February 1967	22nd April 1968*
Guatemala	14th February 1967	6th February 1970*
Haiti	14th February 1967	23rd May 1969*
Honduras	14th February 1967	23rd September 1968*
Jamaica	26th October 1967	26th June 1969*
Mexico	14th February 1967	23rd September 1967*
Nicaragua	15th February 1967	24th October 1968*
Panama	14th February 1967	11th June 1971*
Paraguay	26th April 1967	19th March 1969*
Peru	14th February 1967	4th March 1969*
Trinidad and Tobago	27th June 1967	3rd December 1970
Uruguay	14th February 1967	20th August 1968*
Venezuela	14th February 1967	23rd March 1970*

PROTOCOL No. I

Country	Signature	Ratification
Netherlands	15th March 1968	26th July 1971
United Kingdom	20th December 1967	11th December 1969

PROTOCOL No. II

China		12th June 1974*
France	18th July 1973	22nd March 1974*
United Kingdom	20th December 1967	11th December 1969
United States	1st April 1968	12th May 1971

• *Germany - Brazil*

NUCLEAR-POWERED SHIPS

The Federal Republic of Germany has ratified the Agreement of 7th June 1972 between the Federal Republic of Germany and the Federative Republic of Brazil Concerning the Entry of Nuclear-Powered Ships into Brazilian Territorial Waters and Ports (Act of 13th May 1974, Bundesgesetzblatt 1974 II, page 685).

The Agreement entered into force on 4th September 1974 with the exchange of the instruments of ratification. It has a duration of three years and will extend automatically for periods of one year each unless either Party objects. Before entry into force of the Agreement the nuclear ship "Otto Hahn" had already entered Brazilian waters and ports under the terms of an exchange of notes (see NLB No. 10).

• *United States*

TREATY BETWEEN THE USA AND THE USSR ON THE LIMITATION OF UNDERGROUND NUCLEAR WEAPON TESTS

Under this Treaty, which was concluded on 3rd July 1974, both Parties undertake to prohibit, prevent and not to carry out any underground nuclear weapon test having a yield of more than 150 kilotons at any place under their jurisdiction or control as from March 1976. In addition, both Parties agree to limit the number of their underground nuclear weapon tests to a minimum. The Treaty does not apply to under-

ground nuclear explosions for peaceful purposes. These will be subject to another agreement to be negotiated at the earliest possible time In order to provide assurance of compliance with the provision of the Treaty, each Party will use national technical means of verification at its disposal in a manner consistent with the generally recognised principles of international law. Each Party may not interfere with the national technical means of verification of the other Party.

The Treaty is supplemented by a Protocol, concluded on the same day, which provides that, for the purpose of ensuring verification of compliance with the Treaty, both Parties must exchange data concerning the geographic co-ordinates of the boundaries of each test site and information on the geology of the testing areas, such as the rock characteristics of geological formations, the basic physical properties of the rock, etc. Other information to be exchanged includes the geographic co-ordinates of underground nuclear weapon tests after they have been conducted and the yield, date, time, depth and co-ordinates for two nuclear weapon tests for calibration purposes from each geophysically distinct testing area where underground nuclear weapon tests have been and are to be conducted. The above data should be exchanged simultaneously with the exchange of the instruments of ratification of the above Treaty. This Treaty shall remain in force for a period of five years which is renewable.

PROTOCOL FOR THE UTILISATION OF ATOMIC ENERGY ON JOINT PROJECTS IN CONTROLLED THERMONUCLEAR FUSION AND PLASMA PHYSICS

The aim of this Protocol, which was concluded between the USAEC and the USSR State Committee on 6th February 1974, is to demonstrate jointly the scientific and technical feasibility of thermonuclear power production through the eventual development of prototype and demonstration-scale thermonuclear reactors. The co-operation between the USAEC and the USRR State Committee for the utilisation of atomic energy will include joint theoretical, experimental and design-construction studies Both Parties will establish a Joint Fusion Project Co-ordinating Committee in implementation of the Protocol. This Committee may organise and convene scientific and engineering working groups and panels for the study of specific areas of research and development in the field of controlled thermonuclear fusion, review the reports issued by such working groups and panels and make recommendations to the USAEC and the USSR State Committee based on these reports.

• *Euratom*

DECISION OF 4TH JUNE 1974 OF THE COUNCIL CONCERNING THE CONSTITUTION OF THE JOINT ENTERPRISE HOCHTEMPERATUR-KERNKRAFTWERK GMBH

In accordance with Article 49 of the Euratom Treaty, the Council of the European Community decided on 4th June 1974, to constitute the Hochtemperatur-Kernkraftwerk GmbH (HKG) as a Joint Enterprise. By the same decision, the Council also approved the Statute of HKG. In another decision, also dated 4th June 1974, the Council granted HKG a number of advantages provided in Annex III to the Euratom Treaty. These advantages essentially concern exemptions from taxation provisions. In exchange for these exemptions the European Commission will have access to all industrial, technical and economic information assembled by HKG.

The possibility of creating Joint Enterprises, is, in fact, provided in Chapter V of the Euratom Treaty for undertakings which are of outstanding importance to the development of the nuclear industry in the Community. Such Joint Enterprises enjoy, in each of the Euratom Member States, the most extensive legal capacity accorded to legal persons under the respective municipal laws, they may in particular, acquire and transfer moveable and immoveable property and may sue or be sued in their own name

According to its Statute the aim of the HKG will be to study, finance, construct and operate at Ventrop (Federal Republic of Germany) a nuclear power station of approximately 300 MWe, in the form of a Joint Enterprise, with a view to testing the technical fitness and profit-earning capacity of a high temperature nuclear power station for the production of electricity. The capital will be provided by 6 associates and will amount to 50 million DM. The governing bodies of HKG are the General Assembly and the Management. The General Assembly is the superior body and takes decisions concerning the purchase and transfer of participation certificates, electricity supply contracts, the financial programme, long term investments, amendments to the Statute, appointment of members of the Management, dissolution etc The HKG Company is constituted for an indefinite period, but its associates have the right to withdraw after a period of 25 years.

• *IMCO*

1971 BRUSSELS CONVENTION

The Brussels Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material was ratified by Denmark on 4th September 1974. This second ratification follows that by France on 2nd February 1972 (see NLB Nos. 10 and 11) In addition, Spain acceded to the Convention on 25th May 1974

AMENDMENT TO THE OECD HALDEN REACTOR PROJECT AGREEMENT

The Agreement on the OECD Halden Reactor Project covering the period from 1st January 1973 to 31st December 1975 was amended as of 1st January 1974 to take account of the accession of the Electric Power Research Institute Inc (EPRI) to the Project on that date. EPRI which is domiciled in Palo Alto, California, is a non-profit Institute devoted to research and development of scientific information concerning nuclear power and other areas related to electrical energy. The Project now has the following nine signatories:

The Norwegian Institutt for Atomenergi
Aktiebolaget Atomenergi, Sweden
Electric Power Research Institute, USA
The Italian Comitato Nazionale per l'Energia Nucleare
Japan Atomic Energy Research Institute
Kernforschungsanlage Jülich GmbH, Germany
Reactor Centrum Nederland
The Finnish Ministry of Trade and Industry
The Danish Atomic Energy Commission

For details of the earlier Agreements, see Nuclear Law Bulletin Nos. 4 and 11.

• *Sweden*

ACT ON PROTECTION AGAINST RADIATION OF 14TH MARCH 1958, AS AMENDED ON 14TH DECEMBER 1973*

Introductory provisions

Section 1

Radiological work is taken in this Act to mean work with radioactive substances, work involving the use of X-ray equipment or other technical device designed to emit ionizing radiation, and work at a plant for the production of nuclear energy.

Ionizing radiation is taken in this Act to mean radiation from radioactive substances, X-rays, and other radiation similar in its biological effect.

Licensing, etc.

Section 2 /14 12.1973/

Radiological work may not be carried out without a licence issued by the Competent Authority (The National Institute of Radiation Protection), appointed by the King in Council. Nor may anyone, without a licence from the Competent Authority, posses X-ray equipment or any other technical device designed to emit ionizing radiation, carry out trade with radioactive substances, or otherwise introduce into Sweden or acquire, possess or assign to any other party such substances in this country.

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* - Unofficial translation prepared by the Swedish Authorities.

- The amendments made to this Act by Act No. 1004 of 14th December 1973, are also embodied in this translation. The amended sections are shown by the date of the amendment /14.12.1973/, placed in brackets after the Article heading.

No person not having such licence may, without permission of the Radiation Protection Authority, take charge of radioactive materials, which have not been cleared, in the manner referred to in Section 3, second paragraph, of the Act No. 670 of 1973 on tariffs. In other respects the Act No. 980 of 1973 on transport, storage and destruction of goods subject to import control applies.

A licence may be granted to a certain profession, or to certain organisations, institutions or enterprises.

In the case of death of a person possessing a licence in accordance with this Act, the licence is still valid, insofar as it gives the right to possess radioactive substances or X-ray equipment or any other technical device, for the deceased's estate until 3 months after death.

No licence is required in accordance with this Act for such cases as are covered by licences issued under the Nuclear Energy Act No. 306 of 1956, unless the licence otherwise provides.

Section 3

The Competent Authority has the right to inspect premises intended for use in radiological work or for storage of radioactive substances, and the surroundings of such premises, when a licence is applied for in accordance with this Act or whenever such inspection is called for.

The King in Council or, by authority of the King in Council, the Competent Authority shall prescribe that X-ray equipment or other technical devices designed for use in radiological work or for storage of radioactive substances shall be examined at the place where they are manufactured, sold or let for hire, before they are delivered for use in Sweden, or are exhibited for sale or for advertising purposes

Section 4

If a licence for radiological work is granted to some other applicant than an individual who will himself conduct the work, there is to be a person in charge authorized by the Competent Authority and, if this Authority deems it necessary, an authorized deputy for him. Authorization may be granted to a certain category of personnel or to persons with a certain qualification.

Where relevant, the above shall apply also to trade with, and possession of, radioactive substances.

Section 5

When granting a licence, the Competent Authority shall prescribe the conditions and other directives required for purposes of radiation protection. The Competent Authority may also prescribe new or amended conditions or directives at a later date when this is found to be called for.

If a licence is granted in accordance with second paragraph of Section 2, the Competent Authority shall prescribe the obligation to make a notification of acquisition of a device or material covered by the licence.

When a licence has been granted in accordance with the Nuclear Energy Act, the Competent Authority shall issue the special directives which, in addition to the conditions relevant to that licence, are necessary for radiation protection When the licensing refers to a plant covered by the Nuclear Energy Act, any question concerning directives for other than normal operation or which can appreciably affect the design or operation of the plant shall be submitted for decision by the King in Council.

Section 6

No person licensed under this Act may, without authorization of the Competent Authority, make use either of different premises, of a device different from the types referred to in Section 2, of different radioactive substances or of a larger quantity of such substances than is specified in the licence, or of significantly modified premises or devices, or otherwise utilize the licence in a different manner, to an increased extent or under other conditions from those considered in the licence.

Without permission of the Competent Authority, the holder of a licence issued in accordance with the Nuclear Energy Act must not make changes which affect the circumstances relevant to the directives given by the Competent Authority in accordance with the third paragraph of Section 5

Section 7

Any licence or authorization issued in accordance with this Act can be revoked if the conditions prescribed for radiation protection are not complied with or if this is otherwise found to be called for from the point of view of radiation protection.

Section 8

Any person who ceases to possess or to use radioactive substances licensed under this Act must immediately notify the Competent Authority accordingly. Such notification shall also be made without delay and at the latest within three months in other cases where a person ceases to carry out work or to possess a device licensed under this Act.

In the case of death of a person holding a licence in accordance with this Act, whoever is responsible for the estate, must promptly notify the Competent Authority of such death.

The Competent Authority is also to be notified without delay if radioactive substances have been stolen or have otherwise been lost. The responsibility in this matter rests with the authorized person in charge of the work.

Section 9

In the case of technical devices - other than those named above - which can emit ionizing radiation, the Competent Authority shall have the right to carry out inspections and issue directives for protection against radiation and order the possessor to take such precautions as are necessary for that purpose

General responsibilities of licence-holders and other parties concerned

Section 10

It is the duty of any person involved in radiological work to take all practicable precautions to avoid injuries caused by radiation, taking into account the nature of the work, the circumstances under which it is performed, the working experience of those employed in it, and other relevant conditions, paying particular attention to what is prescribed in this Act and in directives based upon it. Such responsibility also rests with the authorized person in charge when the matter is one of measures which he has the right to take.

It is the duty of all persons engaged in radiological work to use the devices provided for radiation protection, to follow carefully the directives given in this Act or based upon it, and otherwise to exercise appropriate care and, insofar as their duty requires, to assist in preventing injuries caused by radiation.

The provisions in this Section concerning radiological work are valid, where relevant, for trade in and possession of radioactive substances.

Section 11

Those who manufacture or trade in X-ray equipment or other technical devices which can emit ionizing radiation, and any person hiring out such equipment for use, must ensure that the equipment, when it is delivered for use or is displayed for sale or for advertising purposes in Sweden, is provided with the necessary protective devices and also otherwise offers satisfactory protection against injuries caused by radiation, and also that the requisite instructions are provided for the installation and operation of the equipment.

If equipment of the type as specified in the first paragraph is installed by an independent contractor, he must ensure that all the protective devices prescribed are mounted and that the other instructions for the installation are complied with.

Medical examination, etc.

Section 12

Without the consent of the Competent Authority, no one shall be engaged in radiological work, who is under eighteen years of age or who is not found by medical examination to be free from disease or weakness which could be considered to make him particularly vulnerable to the health hazard involved.

All persons engaged in radiological work are to undergo periodic medical examination as decided by the Competent Authority, this Authority having the right to order the exclusion from further radiological work of anyone failing to observe this decision

If a person who is engaged in radiological work or who otherwise, because of his work may have been exposed to ionizing radiation, shows signs of injury which may be suspected of having been caused by such radiation, it is the duty of his employer or the authorized person in charge, if any, to make immediately arrangements for the medical examination of the person concerned.

Section 13

Anyone carrying on radiological work or working with a device of the type considered in Section 9, or having in his possession radioactive substances, shall notify the circumstances to the Competent Authority without delay if there is reason to believe that someone has been injured by ionizing radiation Where there is an authorized person in charge, this responsibility rests with him.

Inspection

Section 14

Inspection to ensure compliance with this Act and the directives made on its authority, is to be carried out by the Competent Authority and, under its guidance and supervision, by inspectors.

Section 15

An inspector has the right to carry out inspections in accordance with the provisions of Sections 3 and 9 regarding the Competent Authority.

An inspector may not, without special reason, be refused such access as he requires in the course of his inspection in order to follow the working at an establishment where radiological work is in progress, where radioactive substances are stored or where there is a device of the type considered in Section 9.

Where it is found necessary, an inspector has the right to demand that tests and investigations shall be carried out in order to ensure that the directives which have been issued are being complied with and that in other respects good radiation protection conditions exist.

Section 16

If an inspector finds in a particular case that special radiation protection instructions are required, he has the right personally to give orders to this effect provided that the instructions do not involve undue cost or inconvenience.

Section 17

It is the duty of any person carrying out radiological work or possessing radioactive substances or a device of the type considered in Section 9, and the staff of any such person, to give, on demand, such information as is required for inspection purposes.

Section 18

When special circumstances make this necessary, the Competent Authority has the right to order that the plant or devices of the type considered in this Act may no longer be used until a measure specified in connection with inspection, or otherwise, has been taken, or to order that radioactive substances and the protective device in which they are kept may be requisitioned until such measure has been taken.

The Competent Authority has also the right, in order to prevent illegal use of the plant or the device, to allow seals to be placed on the plant or the devices through the agency of the police force.

Section 19

If an installing contractor ignores the provisions of the second paragraph of Section 11, the Competent Authority has the right to issue to him such directives as are thereby made necessary with regard to the installation work, or to forbid him to carry out such work any further.

Section 20

If any person fails to fulfil what is required of him by virtue of the provisions of the third paragraph of Section 15, or Section 17, the Competent Authority has the right to prescribe a suitable penalty.

Section 21

No person, who has, or who has had, inspection duties to ensure compliance with this Act, or directives made on its authority, or who has acted as assistant in such inspection or who has otherwise been involved in cases connected with this Act, may disclose or make unauthorized use of any trade secret of which he has thus learnt, neither may he reveal, unless this can be considered justified in the interest of his duties, working processes, commercial information or personal information which have come to his knowledge in this way.

Transport and transit conveyance, etc.

Section 22 /14.12 1973/

Regulations concerning transportation, customs examination on, and transit conveyance of radioactive substances are laid down by the King in Council or by an authority appointed by the King in Council.

Provisions as to liability, etc.

Section 23

Subsection 1

Any person who

1. illegally carries on radiological work, or who imports or attempts to import radioactive substances without authority or who otherwise offends against the provisions of Sections 2, 4 or 6 , or
2. disregards conditions or other directives or instructions laid down under Sections 5 or 16 ; or
3. fails to comply with orders, directives or prohibitions issued under Section 9, the first paragraph of Section 18, or Section 19 , or
4. in an application or a report or in other respects in circumstances in which he is obliged to give information in accordance with this Act, or with directives made on its authority, intentionally gives incorrect or incomplete information ; or
5. offends against the provisions of Section 21,

will be punished by a fine or imprisonment.

Subsection 2

Any person who

1. neglects to give the notifications required by Section 8 and 13 ; or

2. uses a person for radiological work in contravention of the first paragraph of Section 12, or of directives issued under the second paragraph of Section 12 ; or

3. fails to comply with the provisions of the third paragraph of Section 12,

will be punished by a fine.

Section 24

Any person who is occupied with radiological work or who is otherwise employed by a possessor of radioactive material or employed where a device of the type considered in Section 9 is in use, and who illegally and without good cause has removed, or rendered inoperative, a radiation protection device or who has failed to make use of such a device in defiance of directives, or who has otherwise, in some way other than those specified in Section 23, disregarded protection directives given by the Competent Authority or their inspector, will be punished by a fine not exceeding kr 300.

Section 25

A penalty laid down by this Act may not be enforced if the offence was caused by carelessness of a trifling nature. A penalty according to this Act may not be imposed for an offence which is specifically punishable under the criminal code.

Section 26

If radioactive substances are used illegally for radiological work or if any person imports or attempts to import illegally into Sweden any such material or if any such substances are illegally in the possession of any person in this country, both the substances and the protective device in which they are kept may be declared forfeited to the Crown, if this is not manifestly unjust. If the substances are no longer present, their value may be declared forfeited in their stead.

A device which is intended for the emission of ionizing radiation and which is used illegally for radiological work or which is possessed illegally, may also be declared forfeited to the Crown when there is special reason for this.

Forfeited property is to be dealt with as decided by the Competent Authority.

Section 27

If a customs officer finds property which can reasonably be assumed to be forfeited under Section 26, he shall confiscate it.

In other respects concerning confiscation, what is laid down on this subject in the law is to apply.

When confiscation has taken place, notification is to be given immediately to the Competent Authority which shall issue the necessary directives as to the storage of the confiscated goods.

Section 28

An offence against subsection 1(1) - (4) or subsection 2 of Section 23, or Section 24 may not be prosecuted by a public prosecutor unless the Competent Authority reports it for prosection.

An offence against subsection 1(5) of Section 23, may be prosecuted by a public prosecutor only after a report to the police has been made by the aggrieved party.

Special provisions

Section 29

Appeals against decisions made by an inspector in accordance with Section 16 may be made to the Competent Authority within three weeks from the time when the appellant was informed of the decision. When there are special reasons, an inspector may order that the decision must be complied with immediately, notwithstanding the fact that an appeal has been made.

Appeals against decisions made by the Competent Authority in accordance with this Act are to be lodged with the King in Council.

The Competent Authority has the right to order that conditions, orders, directives, prohibitions, or licence cancellations or approvals which are issued under Sections 5, 7, 9, 16, 18 or 19 are to be complied with immediately, notwithstanding the fact that an appeal has been made.

Section 30

The King in Council or, as authorized by the King in Council, the Competent Authority has the right to prescribe that a given radioactive substance or X-ray equipment or other technical device designed to emit ionizing radiation shall be exempted from the application of this Act or from certain provisions of this Act.

Section 31

Detailed directives concerning the application of this Act are to be issued by the King in Council or, as authorized by the King in Council, by the Competent Authority.

As decided by the King in Council, the Competent Authority may appoint an authority or a qualified person to act on behalf of the Competent Authority in matters of certain kinds and also to carry out inspections in particular cases as laid down for an inspector

This Act comes into force on 1st January, 1959*. Notwithstanding this, however, directives or decisions may be issued prior to this date on the authority of the new Act, these directives or decisions applying to the time subsequent to this date.

By this Act, the Act of 6th June, 1941 (No. 334) "On inspection of radiological work etc." is repealed.

Notwithstanding the provisions of the previous paragraph, licences, orders, directives or prohibitions issued on the authority of previous legislation retain their validity also after the date when the new Act comes into force except where this is specifically directed by the King in Council or the Competent Authority

STUDIES AND ARTICLES

STUDIES

INTERNATIONAL CO-OPERATION IN THE FIELD OF RADIOACTIVE TRANSFRONTIER POLLUTION

GENERAL INTRODUCTION

The Environment Committee of the Organisation for Economic Co-operation and Development (OECD) has for several years been studying the various aspects of transfrontier pollution - namely pollution originating from a given country which causes damage on the territory of another country after crossing national frontiers by means of natural media (air and water). These studies have resulted in the establishment of a number of principles of international law containing rules of conduct to facilitate the selection of equitable and practical solutions to problems raised by transfrontier pollution Those in charge patterned their work on the very active co-operative work conducted at international level especially in the nuclear field, as well as on the innovating factors which inspired the development of nuclear law and to some extent made the latter a precursor of environmental law. However, given the recent evolution of the principles of international law due to the need for adequate protection of the environment, it is no longer certain that nuclear law is so much in the forefront of international co-operation in this field. This is why it is interesting to review the present situation in matters of radioactive transfrontier pollution.

The legal system applicable to peaceful nuclear activities is of special interest in the context of environmental protection as, from the time nuclear energy began to be used for peaceful purposes immediately after World War II, the responsible authorities have been constantly preoccupied with avoiding, to the extent possible, any hazards to the public and the environment likely to arise from radioactive materials, while ensuring that any possible victims of nuclear damage are guaranteed satisfactory compensation.

This policy has led to the setting up of a special legal system for nuclear activities, warranted by the possible magnitude of the hazards, the special nature of nuclear damage (insidious character, that is to say not physically perceptible, delayed, genetic), the psychological aspects (public distrust - the bomb complex) as well as

by the evident international implications of nuclear energy, particularly in connection with prevention and compensation of incidents. It should be pointed out in this respect that, when this legal system was being set up, it was generally considered that, even if the risk was extremely small, the operation of nuclear installations and the transport of nuclear fuels and radioactive materials were likely to give rise to damage of a catastrophic nature with effects beyond the boundaries of the State concerned. However, following recent developments in the prevention of accidents, and in the evaluation of their consequences, it has now been concluded that risks from nuclear activities were grossly overestimated on the whole. The fact nevertheless remains that since numerous industrialised countries, either for technical or economic reasons, tend to site an increasing number of nuclear installations in border regions, and international transport of nuclear materials has developed rapidly, it is essential to harmonise regulations for the prevention and compensation of nuclear damage.

Regarding preventive action, the system for nuclear activities generally meets the criteria for environmental protection, this is notably due to the very stringent requirements imposed on the nuclear operator in matters of safety and discharge of polluting substances as well as to constant controls of his installation. In connection with compensation of nuclear damage, the operator is subject to an exceptional system of third party liability adapted to the need to guarantee compensation for possible victims and based on the classical concept of absolute liability.

It is quite remarkable to note the extent to which the conditions for the development of the uses of nuclear energy have been placed under the aegis of international co-operation. The magnitude and novelty of problems raised by this activity provided the opportunity for strong action at international level to harmonize and co-ordinate standards and policies in matters of health, safety and liability, and this opportunity was seized by interested international organisations and by Governments Nuclear energy today provides the unique example of a sector within a regulatory structure whose bases have practically always been established following concerted international action.

This Note is divided into two sections. The first deals with the preventive aspects of nuclear hazards, namely the different policies followed to prevent nuclear damage. The second section discusses the special rules devised to compensate nuclear damage and highlights the general principles which make the system unique.

A. PREVENTION OF NUCLEAR HAZARDS

The legal system applicable to all nuclear hazards is itself characterized by a very high degree of unification and co-ordination at international level. This is the outcome of action by the competent international organisations and of the provisions of a number of international agreements, whether general or special.

It is not intended in the following to provide a comprehensive description of the achievements of international organisations or of the contents of all international agreements in this field, several representative examples will be given of the results of such international co-operation.

I. ROLE OF INTERNATIONAL ORGANISATIONS

It seems preferable to first draw attention to the role played by non-specialized international organisations and to follow this up with a study of the activities of organisations specialized in the nuclear field, from the viewpoints of standardization and direct action.

1. Non-specialized organisations

- United Nations

The United Nations Organisation carries out its multiple activities either directly through its own bodies or indirectly through so-called specialized agencies created in the wake of the Organisation for purposes of economic and social international co-operation (Article 57 of the Charter). The United Nations carries out its work directly through the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), created in 1955 and which conducts studies dealing in particular with the future consequences, from the radiation protection viewpoint, of the implementation of nuclear programmes.

Among the agencies set up within the structure of the United Nations and which, although not specialized in the nuclear field, do carry out certain work on the prevention of nuclear hazards are the World Health Organisation (WHO) and the United Nations Food and Agriculture Organisation (FAO). As for the International Labour Organisation (ILO), a Resolution adopted in June 1955 by the International Labour Conference invited the International Labour Office (the technical Secretariat of the Organisation) to take all the measures required to achieve the highest possible level of health, safety and well-being for workers in nuclear installations and in facilities using radioactive substances. Accordingly, ILO has elaborated various manuals and safety rules for protection against ionizing radiations. The Organisation also adopted in 1960 a Convention (No. 115) Concerning the Protection of Workers against Ionizing Radiations. This Convention, which was supplemented by Recommendation No. 114, applies to all work involving exposure of workers to ionizing radiations. So as to restrict such exposure to the lowest practicable level, the Convention provides that maximum permissible doses must be fixed for workers exposed directly or indirectly to radiations, and that such workers must be adequately protected and monitored and must undergo regular medical examinations The Convention, which came into force on 17th June 1962, has been ratified by 28 countries ILO also organises international radiation protection courses and seminars.

- International Commission for the Protection of the Rhine against Pollution

This organisation, set up after the war on the initiative of the Netherlands authorities, has its permanent Secretariat in Koblenz. In the frame of its programme of physico-chemical analyses of the Rhine waters, it takes regular measurements of radioactivity by analysing samples obtained from some dozen sampling stations along the river.

2. Specialized organisations

(a) Normative and regulatory role

- International Commission on Radiological Protection (ICRP)

This body, set up in 1928 by the International Congress of Radiology - which shows that international co-operation in this field goes far back -, is a private association of experts, elected for their sole scientific competence and who are independent of any political or commercial group. The Commission's vocation is to formulate advice on radiation protection in general.

The ICRP, which uses the units and measurements defined and elaborated by the International Commission on Radiation Units and Measurements (ICRU), periodically publishes recommendations on radiation protection which are continuously revised to cover all hazards from ionizing radiations and to take into account new knowledge on their effects. Due to the authority and independence of its members, the Commission's recommendations have from the beginning exerted a considerable influence on the regulatory activities of competent international organisations, and indirectly, on the elaboration of national radiation protection laws, which gives ICRP actions a unique character.

These recommendations (1), which are not of a binding nature, are formulated in terms of "maximum permissible doses" for harmless absorption of ionizing radiation by occupationally exposed workers, and in terms of "dose limits" for individual members of the population as a whole. The permissible doses vary according to the organs actually exposed and the degree of surveillance of the individual. Furthermore, in principle, minors of 18 and pregnant women cannot be occupationally exposed to radiation.

ICRP recommendations also contain general principles concerning the working conditions for persons likely to be exposed to ionizing radiations, in particular, for physical monitoring and medical control, as well as principles relating to protection of the population

It should be pointed out that ICRP recommends that exposure doses should remain as low as practicable, below the standards advocated, taking economic and social considerations into account, and that any unnecessary exposure should be avoided. Such a recommendation implies risk - cost/benefit analyses and means in practice that it is not enough to just comply with quantitative standards since it is necessary to justify the radiation doses received for each radiation application

The fact that these various recommendations have served as a basis for the elaboration of standards by the different international organisations specialised in this field has achieved a very high level of harmonisation in national radiation protection policies

- EURATOM

The Treaty establishing the European Atomic Energy Community (EURATOM) has charged the latter with elaborating uniform safety standards for the health protection of workers and the population in Member States These safety standards must include the maximum permissible degree of exposure and contamination and the fundamental principles governing the supervision of workers.

Based on these provisions, the Council of Ministers adopted in 1959 directives establishing basic safety standards (2) for the health protection of workers against the hazards of ionizing radiations these basic standards were amended in 1962 and 1966 They have had a direct influence on national laws as they were issued in the form of directives which bind any Member State to which they are addressed as to the result to be achieved through national legislation or regulations Pursuant to the Treaty, Member States are bound to communicate to the Commission draft regulations worked out in implementation of these standards (Article 33 of the Treaty).

- OECD Nuclear Energy Agency (NEA)

In order to discharge its responsibilities in matters of radiation protection, the OECD Nuclear Energy Agency* set up a Committee on Radiation Protection and Public Health entrusted, in particular, with elaborating a series of basic radiation protection rules. In 1959, the Council of the Organisation approved a first edition of basic radiation protection norms (3), prepared in consultation with Euratom and based on ICRP recommendations. The Council's decision provides that measures must be taken to ensure adequate protection in OECD Member countries against the hazards of ionizing radiation, and recommends that these countries should see to it that such measures are based on these norms. The latter were revised in 1963 and 1968.

NEA has also published a number of recommendations and safety guides covering the different uses of radioactive materials. One example of this type of co-operation is the work conducted for several years by the Agency on the implantation of radioisotopic cardiac pacemakers; this has recently resulted in the adoption of radiation protection standards for the design, construction, testing and control of such devices (4). IAEA and WHO collaborated in the preparation of the standards, thus providing another example of the close co-operation between the various competent international organisations The standards should facilitate the international travel of bearers of radioisotopic cardiac pacemakers insofar as these devices comply with standards approved by Member States.

- International Atomic Energy Agency (IAEA)

The International Atomic Energy Agency as well has the task of establishing or adopting standards of safety for protection of health and minimisation of danger to life and property. In view of this mandate IAEA published in 1962 its first "Basic Safety Standards for Radiation Protection" (5), also based in ICRP recommendations. These Standards were approved by the Board of Governors, the governing body of IAEA, which has authorised the Director General to apply them in Agency or Agency-assisted operations and to invite Governments of Members States to take them as a basis for formulating national radiation protection legislation. The most recent revision of these Standards was issued in 1967.

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* This Agency was called the European Nuclear Energy Agency (ENEA) until 1972

In addition to these Basic Safety Standards IAEA has published a number of codes of practice which provide special safety instructions for specific nuclear applications. Many of these studies were established in collaboration with other international organisations, in particular NEA. Among the most important from the viewpoint of international co-operation are the Regulations for the Safe Transport of Radioactive Materials (6) which were first published in 1961 and were last revised in 1973. These Regulations, which contain practical requirements for packaging and transport of different categories of radioactive materials, have been used by almost all international transport organisations in their own rules, as well as by numerous Member States in their national regulations. This has therefore resulted in a great harmonisation of international and national regulations applicable to the different types of transport of radioactive materials.

These various Standards do not take particular account of transfrontier pollution; a significant development to be noted in this field, however, is the position adopted by experts invited to an IAEA Panel (June 1974) which dealt in particular with the environmental capacity to receive radioactive materials. The experts considered in fact that studies on the definition of permissible doses for a given area should be conducted without taking national frontiers into account

(b) Co-ordination and action in the field of radiation protection and nuclear safety

- EURATOM

The Chapter on health protection in the Euratom Treaty (7) lays down that Member States should set up the facilities necessary for the permanent control of the level of radioactivity in the atmosphere, water and soil and for controlling compliance with the basic standards drawn up by the Commission. The competent authorities must keep the Commission regularly informed of the level of radioactivity likely to affect the population. The Commission may furthermore examine the operation and efficiency of these control facilities, it also publishes reports on the data communicated (Articles 35 and 36 of the Treaty).

Each Member State must submit to the Commission such general data concerning any plan for the disposal of any kind of radioactive waste as will enable the Commission to determine whether implementation of such a plan is likely to involve radioactive contamination of the water, soil or airspace of another Member State. The Commission, after consulting the Group of Experts responsible for drafting basic standards, gives its opinion within a period of six months (Article 37). Consequently, from 1959 to 1972 the Commission formulated 57 opinions concerning 79 nuclear installations, it also publishes regularly reports on this work (8)(9).

Moreover, any Member State intending to conduct experiments of a particularly dangerous nature on its territory must take additional health precautions and first obtain the opinion of the Commission in their respect. The consenting opinion of the Commission is required if such experiments are likely to affect the territories of other Member States (Article 34).

Finally, the Commission makes recommendations to Member States concerning the level of radioactivity in the atmosphere, water or soil In case of urgency, the Commission is empowered to issue a directive requiring the Member State involved to take, within a period fixed by

the Commission, all measures necessary to prevent the basic standards from being exceeded and to ensure compliance with any applicable provisions. If such State does not observe the Commission's directive within the prescribed period, the latter or any Member State concerned may refer the matter to the Court of Justice immediately (Article 38)

Therefore, in contrast with other organisations competent in this field, the Commission enjoys considerable powers of intervention and injunction with respect to its Member States.

- OECD Nuclear Energy Agency

When a mechanism was set up within NEA for a regular and co-ordinated exchange of information on the measurement of environmental radioactivity in Member States, it was felt necessary to also establish an emergency warning system designed to enable the competent national authorities to be quickly informed in the event of a substantial increase in the level of radioactivity in any Member State, with a view to taking the measures required

Consequently, a supervision and emergency warning system was developed and officially established by a Decision of the OECD Council dated 7th July 1961. It should be noted however that when this system was created, the level of atmospheric contamination was much higher than it is today due to intensive nuclear weapons tests in the atmosphere, while at present the level of radioactivity from radioactive fallout is continuously decreasing. This is why the NEA Steering Committee decided in 1971 to suspend operation of this system; this solution enables the system to become operative again, if required in future.

NEA also takes an active interest in the various problems raised by radioactive wastes, which are clearly a matter of concern from the viewpoint of environmental protection Therefore, in 1970, the Steering Committee for Nuclear Energy decided to undertake a study of radioactive waste management policies and practices in Western Europe, covering the present situation and also taking account of the greater problems that will have to be solved in future (10). This work led to the publication of reports on radioactive waste management practices in Western Europe as well as in Japan; the first report also includes suggestions on changes to be introduced in present practices and emphasizes the need to encourage public interest and understanding in this field In the special area of sea disposal of radioactive waste, a solution chosen by a number of countries after the war, NEA, after having studied the possibilities of dumping radioactive wastes into the Atlantic and relevant problems, sponsored several radioactive waste disposal operations, this provided the advantage of placing such activities under international control. These operations have been reported in detail (11).

- International Atomic Energy Agency

At a very early stage, the IAEA became concerned with the problem of international assistance in the event of nuclear incidents After the matter had been studied since 1958, the IAEA General Conference adopted a Resolution in 1964 inviting the Board of Governors to encourage conclusion of emergency assistance agreements. Although, with the exception of the 1963 Nordic Agreement which is dealth with below, the Agency's work did not lead to the signature of specific co-operation agreements in this field, it nonetheless resulted in the elaboration of four model multilateral or bilateral agreements which are now available to Member States (12).

Furthermore, in co-operation with the International Labour Organisation and the World Health Organisation, the IAEA has prepared two guides on "Planning for the Handling of Radiation Accidents" (13) and on "Mutual Emergency Assistance for Radiation Accidents" (14)

In the field of prevention of marine pollution by dumping of radioactive wastes, IAEA has been entrusted with direct responsibilities by the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, opened for signature on 29th December 1972 IAEA, as an international organisation competent in this field, was invited to define the high-level radioactive wastes and other high-level radioactive matter whose dumping must be prohibited because of their harmful effects IAEA must also formulate recommendations on the issue of dumping permits for other radioactive wastes or materials not included in such prohibition. Based on the conclusions of an Expert Panel convened by the Agency, in which NEA representatives participated, on 13th September 1974, the IAEA Board of Governors authorised the transmission to the United Kingdom (depositary of the Convention) of a number of provisional definitions and recommendations to this effect. Other recent international conventions on marine pollution also entrust IAEA with certain responsibilities in this field.

II. GENERAL BILATERAL AND MULTILATERAL AGREEMENTS

It would seem that at present, in matters of pollution, the tendency is to avoid resorting to agreements dealing specifically with pollution by radioactive materials, and to cover that source in the context of conventions with a wider scope. Radioactive transfrontier pollution has been covered together with other types of pollution in recent conventions on transfrontier pollution of waters. Maximum limits of radioactivity are laid down in the Treaty between Belgium and the Netherlands concerning the improvement of the Canal from Terneuzen to Gent (1960). The Treaty between Belgium and the Netherlands on the linking of the Scheldt river and the Rhine (1963), and the Great Lakes Water Quality Agreement between the United States and Canada (1972) also include indications on radioactive pollution.

Under the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, already referred to above, each Contracting Party must take measures to prohibit the dumping of wastes or other matter listed in Annex I to the Convention. The materials enumerated in this so-called "black list" include "high-level radioactive wastes or other high-level radioactive matter, defined on public health, biological or other grounds, by the competent international body in this field, at present the International Atomic Energy Agency, as unsuitable for dumping at sea". The dumping of wastes and other matter listed in Annex II to the Convention requires a prior special permit to be issued by an appropriate authority which is designated by each Contracting Party; the substances listed in Annex II include radioactive wastes or other radioactive matter not included in Annex I. In the issue of permits for the dumping of this matter, the Contracting Parties should take full account of the recommendations of the IAEA. As pointed out above, IAEA keeps under review the definitions and recommendations required by Annexes I and II to the Convention.

The problem of marine pollution by radioactive materials is also dealt with by the Convention for the Prevention of Marine Pollution from Land-Based Sources, which was signed in Paris on 11th June 1974 by 13 Western European Countries and by the Convention on the Protection of the Marine Environment of the Baltic Sea Area opened for signature in Helsinki on 22nd March 1974.

III CO-OPERATION AGREEMENTS RELATING TO PREVENTION AND ASSISTANCE IN THE EVENT OF NUCLEAR INCIDENTS

Nordic Mutual Emergency Assistance Agreement in connection with Radiation Accidents

This Agreement, signed on 17th October 1963 by Denmark, Finland, Norway and Sweden as well as IAEA is up to now the only Agreement in existence providing for mutual assistance in the event of a nuclear incident (15).

The Agreement does not specify the prerequisites for starting the emergency assistance procedure, it deals solely with the different conditions under which such assistance is provided. We may therefore presume that it is up to the State seeking help to decide whether the conditions for assistance are met,and the Agreement does not enable Contracting Parties to intervene with respect to another Contracting Party without the latter's consent

When a Contracting Party requests assistance it assumes full responsibility for all operations on its territory. Throughout the duration of the assistance operations, and while they are on the territory of the State seeking help, the foreign assistance teams are subject to the direction of that State The latter co-ordinates all the assistance measures

The liability of the State seeking assistance covers any physical or material damage likely to be caused by assistance operations, with the exception of damage occurring on the territory of an assisting State. However, the liability of the State seeking help is not involved when damage is covered by the special liability of the nuclear operator involved. In the latter case, the nuclear operator's liability covers the damage caused in the State seeking assistance as well as that caused in the assisting State.

Although the different Parties to the Emergency Assistance Agreement bear the costs incurred through the Agreement within their own territories, they may claim restitution from the State seeking help for expenses caused in connection with the emergency assistance.

The Agreement confers several obligations on IAEA. As a full Party, it may have to grant its assistance under the same conditions as other Contracting Parties, although it is unlikely that it would benefit from the reciprocity on which this Agreement is based. It may furthermore provide advice and co-ordinate the assistance measures and also intervene to obtain aid from non-contracting States.

This Agreement,which came into force on 19th June 1964, is an interesting example of a standing multilateral agreement to provide speedy and efficient assistance whenever an incident caused by ionizing radiations occurs on the territory of a Contracting State.

In order to achieve better protection against such incidents, the Nordic States are at present preparing a code of consultations on the safety of nuclear installations located in their border regions. The purpose of this code is to ensure that the siting, construction and operation of nuclear power stations in border regions are preceded by consultations and an exchange of information on the safety of these installations between the authorities of both neighbouring countries.

Agreement on Radiation Protection at the Centrale Nucleaire des Ardennes

Contrary to the preceding Agreement, this Agreement was concluded on a bilateral and ad hoc basis. It was signed on 23rd September 1966 by Belgium and France to regulate the radiation protection problems related exclusively to the installations of the Belgian-French nuclear power station which is situated on French territory very close to the Belgian border.

The Agreement sets out the arrangements for collaboration between the Contracting Parties' concerned services, the nature and periodicity of exchanges of information on the operation of the installations and the safety incidents which might occur, the conditions to be observed for radioactive releases and the organisational principles of emergency assistance in the event of an incident

In the latter case, the Contracting Parties, with a view to securing the best possible conditions of mutual assistance, must group their services under one single authority which will organise and direct emergency assistance operations. Special agreements have been made between local administrating authorities of both countries to implement and co-ordinate simultaneously the emergency assistance operations planned by the two national departments competent for protection of the public. A concerted plan for emergency assistance was prepared following negotiations and must be kept up to date.

The Agreement has set up a standing mixed commission to study radiation protection problems in connection with the population, and to propose each year to both Governments amendments to the provisions of the Agreement concerning the requirements for the discharge of radioactive effluents from the installation and for supervising observance of the regulations.

In the context of bilateral emergency assistance agreements in the event of an incident in a border region, mention should also be made of the Agreement concluded on 20th September 1973 between the Governments of the Federal Republic of Germany and the German Democratic Republic, this Agreement deals, among others, with measures for the prevention of and intervention against damage caused by ionizing radiations in the border regions of both States.

With the exception of these particular examples of international co-operation in the event of nuclear incidents, it is to be noted that, despite the obvious advantages of such a mechanism, most industrialised countries - notably in Europe - do not have an institutionalised procedure providing for consultations between the authorities and local populations of neighbouring countries on the hazards which may result in such countries from the siting of nuclear installations in border regions (16). This does not imply, however, that certain consultations do not take place between the authorities involved, whether on an ad hoc basis and at local level, or at intergovernmental level, as was the case for certain Swiss nuclear power stations sited close to the German or Austrian borders, and for power stations built by the Rhine on the French-German frontier.

B. COMPENSATION OF NUCLEAR DAMAGE

I GENERAL

A nuclear hazard is characterized on the one hand, by the consequences likely to result from a nuclear incident, and on the other by the fact that injury of a nuclear origin may not necessarily become apparent immediately to the victim. Given the psychological climate prevailing when the atom was first used for peaceful purposes, these exceptional hazards and the insidious nature of nuclear damage, resulted in the liability of operators of land or marine-based nuclear installations being governed by principles differing from the traditional concept of liability for fault Nuclear third party liability is based essentially on the notion of created hazard which evolved progresively in industrialized societies to meet the problems of liability arising from activities considered potentially hazardous for workers or the population This was why the drafters of the first international Convention operative in that field (the Paris Convention of 29th July 1960) and the conventions which followed it, resolutely adopted the so-called system of absolute liability, or liability without fault, because they believed this would enable the nuclear industry to develop while securing satisfactory conditions for compensation of possible victims.

Another important aspect influenced the setting up of the nuclear third party liability system, namely the international nature of nuclear hazards. A nuclear incident would in all likelihood result in the release of radioactive materials to the environment, travelling by natural media such as water and especially air. Clearly, this radioactive contamination would disregard political frontiers, and hence, the possibility of a nuclear incident causing damage in foreign countries absolutely had to be taken into account. Moreover, this possibility is further strengthened by the considerable development of international transport of nuclear materials.

The above considerations explain why, since the fifties, Western European countries have been concerned with providing nuclear activities conducted on their territories with a specific and uniform system of liability Their negotiations resulted in the signature in Paris, under the aegis of the OEEC (now the OECD), of the first ever nuclear Convention, namely the Paris Convention of 29th July 1960 on third party liability in the field of nuclear energy. Several years later, adoption of this Convention was followed by the elaboration in Vienna, in the framework of the International Atomic Energy Agency, of the so-called Vienna Convention (May 1963) which aims to establish a system similar to that of the Paris Convention, but this time on a world-wide scale. Also, another convention, relating to the liability of operators of nuclear ships, was adopted in Brussels on 25th May 1962 for the purpose of applying to nuclear ships rules of liability which are very close to those of the two above-mentioned Conventions (17).

As the possibility of a catastrophic incident was always present, despite the amounts of financial security (considerable for that period) required for compensation of nuclear damage under the Paris Convention, there was a chance that these amounts might not be sufficient to cover the requirements of all the victims. For both social and psychological reasons it was difficult to acknowledge this without agreeing in parallel that State intervention might then be necessary. On this point, the Paris Convention simply provided that each State at national level could decide the measures it deemed appropriate, notably, with

respect to increasing the amount for compensation laid down by the Convention. These provisions, although satisfactory for the nationals of a country having implemented them could not avoid the appearance in this field of serious differences in the situation from one country to another, in the event of a catastrophic nuclear incident with international repercussions. Such drawbacks, aggravated by the development of international trade in the nuclear industry persuaded a number of Signatory States to the Paris Convention that it was desirable to supplement the uniform system of nuclear third party liability established by that Convention with a system of state intervention, also by way of an international agreement.

This work, originally undertaken in the framework of Euratom and then extended to NEA Member countries, led to the signature on 31st January 1963, by thirteen of the sixteen countries Signatory to the Paris Convention, of a so-called Convention Supplementary to the Paris Convention and refered to below as the Brussels Supplementary Convention (18).

The novelty of this instrument resides in the fact that a system, founded on the solidarity of all Contracting Parties by requiring them to participate jointly in the compensation of a nuclear incident suffered by one Contracting Party, and resulting in damage which amounts to a higher sum than that originally provided by the Paris Convention, has been grafted onto the basic system of the Paris Convention (see "State Intervention" below).

This remarkable international solidarity first of all means that every country concerned trusts its partners to take all the measures required to ensure the safety of their own installations. Moreover, it provides the assurance to the populations living in the geographical areas under the Contracting Parties that, in the event of a nuclear incident, they will benefit from a uniform and satisfactory system of compensation

In the special case of transfrontier pollution, the legal system instituted by the Paris Convention and the Supplementary Brussels Convention, assures possible victims that they will be compensated fairly, irrespective of the country where the nuclear incident occurs.

The nuclear Conventions have had and still have a considerable impact on harmonising national legislation on civil liability for nuclear damage. Their basic rules have, to a large extent, been adopted in most of the developed countries, also outside OECD areas, and even by countries which have not ratified or signed these Conventions (19). As regards the Paris Convention, a "Convention community" has grown in Western Europe, further strengthened subsequently by the adoption of the Brussels Supplementary Convention.

This harmonisation of the nuclear third party liability regime has been induced by the early tradition of co-operation in the nuclear field and was facilitated by the creation of permanent organisations for international co-operation, the most important of which have already been referred to above: IAEA, NEA and EURATOM. Certain bodies of these organisations have been entrusted with important functions under the Conventions, which are described below.

II NUCLEAR CONVENTIONS IN RELATION TO TRANSFRONTIER POLLUTION

Main objectives

The nuclear Conventions have two main objectives which are perhaps best expressed in the preamble to the Paris Convention where the 16 Signatories state they are "desirous of ensuring adequate and equitable compensation for persons who suffer damage caused by nuclear incidents whilst taking the necessary steps to ensure that the development of the production and uses of nuclear energy for peaceful purposes is not thereby hindered." The Conventions therefore try to achieve, by several inter-related concepts, a balance of different interests within an international framework. The Conventions provide an exceptional regime, they have been designed for activities which could involve damage of an exceptional character for which the civil liability rules of common law were considered to be inappropriate

Absolute and sole liability

The objective of protecting victims of nuclear incidents in all cases has led to the adoption of the basic principle that the operator of a nuclear installation is absolutely liable for all damage caused by a nuclear incident in his installation or involving nuclear material in the case of transport from or to his installation. A corollary to the operator's absolute liability is his sole liability This means that no person other than the operator can be held liable for nuclear damage (e.g a supplier or contractor of the operator). All liability is (legally) "channelled" to the operator, and he has a right of recourse only in a strictly limited number of cases

This system of liability avoids for the victim the difficulty of having to prove a fault in the origin of an accident and to identify the person responsible for such fault To prove a fault would be very difficult, if not impossible in many circumstances, particularly in the likelihood of delayed damage such as in the case of leukaemia which might in fact be caused by radiation but would only become apparent several years after exposure to radiation.

Limitation of liability

The objective of not hindering the growth of the peaceful nuclear industry is achieved by limiting the operator's liability, both as regards the amount of financial compensation and the period of time within which claims may be brought against him. This can be regarded as a counterpart to his absolute liability. If the operator's burden of liability were unlimited in money and in time he would be unable to find a corresponding financial security on the insurance market or by some other means. It is to be noted that the operator is obliged to take out and maintain a financial guarantee corresponding to his amount of liability. The nuclear Conventions take a somewhat flexible approach in this respect Under the Paris Convention the maximum amount of liability

is 15 million European Monetary Agreement units of account (EMA u/a) * A higher or lower amount may be fixed by national legislation depending on the financial security available, but not less than five million units of account. The Vienna Convention stipulates that the liability of the operator may be limited by the installation State to not less than five million US dollars (1963).

As regards the limitation in time, under both Conventions the rights of compensation are extinguished if action is not brought within ten years of the date of the nuclear incident. Depending on the availability of financial security, this period may be extended by the "Installation State".

Compulsory financial security

The obligation of the operator to have and maintain financial security corresponding to his liability is another important concept for the protection of victims. The channelling of all liability to the operator has paved the way for a channelling of insurance to him, thus avoiding a multitude of insurance policies for various persons (e.g architect-engineers, suppliers of fuel or equipment, carriers) who might have been liable under common law. In order to meet their obligations with respect to nuclear damage, insurers have grouped themselves in nuclear insurance pools based on arrangements combining the methods of co-insurance and re-insurance.

State intervention

State intervention may be necessary in two cases Firstly, when there is no or only insufficient financial security available to cover the operator's liability (e.g. in case of bankruptcy of the financial guarantor), the Vienna Convention expressly requires the Installation State to ensure payment of claims for compensation in such cases up to maximum amount of the operator's liability, while under the Paris Convention such responsibility is mentioned in its Exposé des Motifs. The second case concerns situations where the nuclear damage exceeds the amount of the operator's liability (and the corresponding financial guarantee).

In nearly all OECD countries, supplementary compensation by public funds is planned and organised (with different modalities and conditions) to take account of such situations. This obligation can be seen as the logical consequence of the limitation of the operator's liability; it is closely linked to the main objective of the nuclear Conventions - the protection of victims and the development of nuclear industry. In this spirit, 13 Signatories of the Paris Convention have adopted the Brussels Supplementary Convention under which Governments are required to provide compensation for nuclear damage beyond the

* Article 24 of the European Monetary Agreement of 5th August 1955, as amended provides that "Accounts of the Fund shall be kept in terms of a unit of account of 0.88867088 grammes of fine gold". At the time of the adoption of the Convention one unit of account was approximately equal to one US dollar.

amount of the operator's financial security up to a maximum amount of 120 million EMA u/a. This Convention sets up a system of compensation in three stages the first portion of compensation is covered by the operator's insurance coverage or other financial security. As a general rule the ceiling of this portion will be, depending on national legislation between 5 and 15 million EMA u/a. The second portion of the operator's liability is covered by the Government of the country where the installation of the nuclear operator liable is situated, going up to 70 million EMA u/a The third portion, for amounts above 70 million and up to 120 million EMA u/a is covered jointly by the Parties to the Convention according to a formula based on gross national product and on the thermal power of the reactors situated in the territory of each Contracting Party

Jurisdiction and enforcement of judgments

The principle of jurisdictional unity established by the nuclear Conventions is probably their most important aspect at the international level. A single jurisdictional organ ensures that the limitation on liability is not exceeded and compensation is equitably distributed. The general rules under the Paris Convention and the Vienna Convention is that the court of the place where the incident has occurred is alone competent when the incident occurs in the territory of a Contracting State. There are precise provisions determining jurisdictional competence when the incident occurs wholly or partly on the territory of another State or when there is uncertainty as to the place where the incident occurred. Under the Brussels Nuclear Ships Convention, competence lies, at the option of the claimant, either with the courts of the State where the nuclear ship is licensed or with those of the State where the damage has been sustained.

As a corollary to the principle of jurisdictional unity, the Conventions guarantee enforcement in the Contracting States of the final judgments entered by the competent court after completion of the formalities required by law and exclude all further proceedings on the merits of the claim.

Non-discrimination

All nuclear Conventions expressly state the principle that they shall be applied without any discrimination based upon nationality, domicile or residence. The same principle applies to national legislation of the Court having jurisdiction over claims arising out of a nuclear incident. This means in particular that victims regardless of their nationality and residence have equal access to administrative institutions and procedures set up for the examination and satisfaction of claims and for the distribution of available funds as well as to the competent court It is to be noted, however, that the nuclear Conventions in principle do not apply to nuclear incidents occurring or nuclear damage suffered in non-contracting States. Thus, if a nuclear incident occurs in a Contracting State which causes damage in a non-contracting State (e g in case of a nuclear installation close to the border), the victims would not benefit from the regime of the Conventions and would have to seek compensation under the general rules of (international) law.

Settlement of disputes

The Conventions contain provisions for the settlement of disputes between Contracting Parties concerning interpretation and application. Under the Paris Convention and the Brussels Supplementary Convention a Contracting Party has the right to request that the dispute be submitted to the European Nuclear Energy Tribunal, which was established under the auspices of NEA by a Protocol of 20th December 1957. The Vienna Convention is accompanied by an Optional Protocol Concerning the Compulsory Settlement of Disputes, which provides that disputes shall lie within the compulsory jurisdiction of the International Court of Justice. Accordingly, each party to the Protocol has the right to apply to the Court, unless it agrees with the other party to an arbitration or conciliation procedure. Similarly, the Brussels Convention on the Liability of Operators of Nuclear Ships provides, in the absence of settlement by negotiation or arbitration, for recourse to the International Court of Justice in accordance with the Court's Statute. In all these cases, the decisions of the judicial organs are binding on the parties.

The role of international organisations

As pointed out above, international organisations have played an important role in the elaboration of the nuclear Conventions. They have also been entrusted with certain responsibilities by the Conventions themselves. Apart from the task of fulfilling the function of a depositary in several instances, they may have functions affecting the substance of the conventions. Under the Paris Convention it is the Steering Committee of the OECD Nuclear Energy Agency and under the Vienna Convention the Board of Governors of the IAEA that have the power to exclude or recommend to exclude, certain small quantities of nuclear materials or certain nuclear installations from the scope of application of the Conventions if the small risk involved so warrants. The NEA Steering Committee is advised in this respect by the Group of Governmental Experts on Third Party Liability in the Field of Nuclear Energy and the IAEA Board of Governors by the Standing Committee on Civil Liability for Nuclear Damage. A similar Standing Committee has been set up for the 1962 Brussels Convention. The Steering Committee, acting upon advice from the Group of Governmental Experts has adopted a number of interpretations and recommendations relating to the Paris Convention. Similarly, EURATOM has issued recommendations with regard to the harmonisation of legislation applying to the Paris Convention and the Brussels Supplementary Convention.

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La réglementation en radioprotection Published by the Société Française de Radioprotection, Paris, 1973, p.p 65

This publication contains the papers presented to the 1973 meeting of the Société Française de Radioprotection. The objective of this meeting was to study the present tendencies in radiation protection legislation, its application by competent French bodies and the radiation protection principles envisaged in the activities of Euratom and of the OECD Nuclear Energy Agency.

The first part of the publication includes a paper by the French Commissariat à l'Energie Atomique on current trends in radiation protection concepts expressed by the International Commission on Radiological Protection, as well as a paper by the Service Central de Protection contre les Rayonnements Ionisants on recent aspects of the French Regulations in the field of radiation protection, this latter paper provides a summary of recently published texts in the nuclear and medical field in France.

The second part of the publication contains two contributions on the application of radiation protection legislation by two important French bodies Electricité de France (EDF) and the Commissariat à l'Energie Atomique (CEA). The first paper reviews the Regulations to which EDF as operator of nuclear installations is submitted and explains the measures EDF takes under these Regulations to ensure adequate radiation protection. The second contribution, discusses the Regulations applicable to the CEA and sets forth some of the problems the CEA faces in connection with the application of these Regulations to the staff working in its centres.

The third and final part of the publication deals with the activities of Euratom and NEA in the radiation protection field. The various aspects of the revision of the present Euratom radiation protection norms, which date back to 1959, are analysed in a first paper. The role of NEA in connection with radiation protection is then described with particular emphasis on the results already obtained in the regulatory field, such as the adoption of basic radiation protection norms in 1959 and their successive revisions in 1962 and 1968. NEA's paper also indicates some of the future orientations of the Agency's programme in connection with safety and regulation.

• *Germany*

Prasse, Rainer, Rechtsprobleme der unterirdischen Endlagerung Radioaktiver Abfälle, Studien zum internationalen Wirtschaftsrecht und Atomenergierecht, Band 53. Published by the Institut für Völkerrecht der Universität Göttingen, Göttingen 1974, p.p. 203 (in German)

In the Federal Republic of Germany, it was decided to use the deep-lying salt formations of the abandoned Asse Salt Mine for the disposal of low and intermediate level radioactive wastes; as regards high level wastes, a research and development programme is being conducted to determine the suitability of that mine and the best disposal method *

The author discusses the legal problems arising under German law with respect to underground storage of radioactive wastes in salt deposits. He points out that present laws and regulations deal rather marginally with this important problem and that special provisions are largely lacking. The "disposal Ordinance" foreseen in Section 12 of the Atomic Energy Act has not yet been issued, and the Federal Waste Disposal Act (Abfallbeseitigungsgesetz) of 7th June 1972 explicitly excludes radioactive wastes. The author therefore examines the applicable provisions in different fields of law, with a view to determining firstly whether and under what conditions underground storage of radioactive wastes in salt formations is permissible and secondly, whether the present laws and regulations are adequate to secure protection of the persons directly engaged in disposal operations, the population at large as well as the environment, against the hazards of radiation and other damage resulting from such underground storage. He concludes that the construction of installations for underground storage of radioactive wastes in salt formations is legally permissible, however, the right to use real property of third parties and abandoned salt mines for such purposes, unless granted by servitude, is not adequately established under present laws. The licensing and control provisions of public law ought to be amended accordingly. The author proposes to subject the construction of a disposal installation to the licensing provisions of the Atomic Energy Act and the Ordinance concerning the Licensing of Installations. The operation of such installations should be controlled in accordance with the provisions of the Mining Acts. In order to protect the safety of the storage installation against acts of third persons (e.g. an underground explosion carried out in a neighbouring area), the establishment of a protected area around the installation should be made possible (similarly to the legal situation in the German Democratic Republic) in which certain acts are prohibited or subject to permission by a competent authority.

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* See Radioactive Waste Management Practices in Western Europe, OECD, Paris, 1972, and on the Safety of Disposing of Radioactive Wastes in the Asse Salt Mine, published by Gesellschaft für Strahlen - und Umweltforschung mbH, München, 1973.

Hebert, Jean, Das französische Kernenergierecht, Studien zum internationalen Wirtschaftsrecht und Atomenergierecht, Band 54, published by the Institut für Völkerrecht der Universität Göttingen, Göttingen 1974, p p. 187 (in German)

This book, which was translated into German from a French manuscript, is designed to provide the non-French lawyer with a description of the legal regime in France which may be summarised under the term "nuclear energy law". The author comments on this regime in the light of French doctrine and jurisdiction and analyses the influence of international and foreign law on French legislation and jurisprudence.

The introductory Chapter is devoted to a discussion of the notion of "nuclear law" in French doctrine and to a historical review on the development of that law. The second Chapter deals with international and French national organs having competence in the nuclear field. Chapters III to IX describe and discuss research and dissemination of nuclear know-how as well as the protection and exploitation of inventions, the law concerning nuclear ores and nuclear fuel,including the trade in these substances under French law and under Chapters VI and IX of the EURATOM Treaty as well as the national and EURATOM safety control, the regimes governing nuclear installations, radiation protection and the use of artificial radioisotopes, the national and international transport of nuclear substances, civil liability and insurance for nuclear damage. Each chapter is accompanied by a bibliography.

The author concludes his book with the observation that French nuclear law cannot claim to be "Cartesian", in the sense of being a law based on some clear principles from which legal consequences can logically be deduced. It appears rather like a collection of provisions which have been enacted in a pragmatic manner according to the needs of a particular situation, French nuclear law is therefore less clearly structured than that of other States, for example, that of the Federal Republic of Germany or Switzerland. The author believes that there are trends today which would eventually lead to a better structuring of French nuclear law In the meantime, the book will serve as an useful tool for the understanding of the rather complex legal regime governing nuclear activities in France.

• *United States*

Legal Compilation - Statutes and Legislative History, Executive Orders, Regulations, Guidelines and Reports, Chapter F Radiation, the United States Environmental Protection Agency, U.S. Government Printing Office, Washington, 1973, p.p. 1432

The goal of this text is to create a useful compilation of the legal authority under which the U.S. Environmental Protection Agency (EPA) operates. The EPA Legal Compilation consists of the Statutes with their legislative history, Executive Orders, Regulations, Guidelines and Reports. It is divided into the eight following Chapters

A	General	E	Pesticides
B	Air	F	Radiation
C	Water	G	Noise
D	Solid Waste	H	International

Chapter F labelled "Radiation" contains the legal authority of the Agency as it applies to radiation pollution abatement. The three volumes in this Chapter discuss extensively the legislative history of the pertinent provisions of the Atomic Energy Act and of the amendments thereto, it cites the applicable provisions of a number of other Acts such as the Public Health Service Act, the Solid Waste Disposal Act and the Resource Recovery Act of 1970. The part on Executive Orders contains the President's Order of 14th August 1959 establishing the Federal Radiation Council. At the time of publication of Chapter F, EPA's Office of Radiation Programs had not yet promulgated any regulations, EPA being engaged in establishing a viable "interface" with the AEC. The subchapter on Guidelines and Reports is devoted in particular to the background material for the development of radiation protection standards and the various reports of the staff of the Federal Radiation Council on this subject.

• *IAEA*

Organisation of Regulatory Activities for Nuclear Reactors Edited by IAEA, 1974, p.p. 57

This publication contains Guidelines for the organisation and conduct of regulatory activities for nuclear power reactors and has as its objective to provide guidance for IAEA Member States embarking on a nuclear programme. This guidance concerns two particular fields establishing the regulatory body to which the responsibility for licensing nuclear power plants will be assigned and secondly, organising and conducting the assessment of nuclear safety of these plants and conducting the necessary inspections to ascertain that the licence conditions are being fulfilled by the designers, constructors and operators To this end, the publication contains detailed provisions in respect of the safety assessment measures and methods, the scope, objectives and functions of inspectors, and the proper organisation of the regulatory body for carrying out the assigned responsibilities of assessment and inspection. The Appendices to the Guidelines provide examples of safety criteria as applied in the Federal Republic of Germany and the United States, and also give an example of possible organisational structures for the regulatory body.

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S U P P L E M E N T T O N° 14

CANADA : 1974 - ATOMIC ENERGY CONTROL REGULATIONS

November 1974

Registration
SOR/74-334 4 June, 1974

ATOMIC ENERGY CONTROL ACT

Atomic Energy Control Regulations

P.C. 1974-1195 30 May, 1974

His Excellency the Governor General in Council, on the recommendation of the Minister of Energy, Mines and Resources, pursuant to section 9 of the Atomic Energy Control Act, is pleased hereby to approve the revocation of the Atomic Energy Control Regulations approved by Order in Council P.C. 1960-348 of 17th March, 1960[1], as amended[2], and to approve the annexed Regulations made pursuant to the Atomic Energy Control Act by the Atomic Energy Control Board on the 1st day of May, 1974, in substitution therefor, effective June 3, 1974.

Enregistrement
DORS/74-334 4 juin 1974

LOI SUR LE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Règlement sur le contrôle de l'énergie atomique

C.P. 1974-1195 30 mai 1974

Sur avis conforme du ministre de l'Énergie, des Mines et des Ressources et en vertu de l'article 9 de la Loi sur le contrôle de l'énergie atomique, il plaît à Son Excellence le Gouverneur général en conseil d'approuver [illegible] des Règlements sur le contrôle de l'énergie atomique, approuvés par le décret C.P. 1960-348 du 17 mars 1960[1], dans leur forme modifiée[2], et d'approuver, à compter du 3 juin 1974, le Règlement d'application de la Loi sur le contrôle de l'énergie atomique, ci-après, que la Commission de contrôle de l'énergie atomique a établi le 1er mai 1974 en remplacement.

REGULATIONS MADE PURSUANT TO THE ATOMIC ENERGY CONTROL ACT

PART I

TITLE AND INTERPRETATION

Short Title

1. These Regulations may be cited as the *Atomic Energy Control Regulations*.

Definitions

2. (1) In these Regulations,

"Act" means the *Atomic Energy Control Act*; (*Loi*)

"atomic radiation worker" means

(*a*) any person who in the course of his work, business or occupation is likely to receive a dose of ionizing radiation in excess of any dose specified in column IV of Schedule II, and

(*b*) any person specified as an atomic radiation worker pursuant to subsection 17(4); (*travailleur sous rayonnements*)

"designated" means designated by an order of the Board published in the *Canada Gazette*; (*désigné*)

"fissionable substance" means any prescribed substance that is, or from which can be obtained, a substance capable of releasing atomic energy by nuclear fission; (*substance fissile*)

"inspector" means any person appointed as an inspector pursuant to subsection 12(1); (*inspecteur*)

"ionizing radiation" means any atomic or sub-atomic particle or electromagnetic wave emitted or produced directly or

[1] SOR/60-119, *Canada Gazette* Part II, Vol. 94, No. 7, April 13, 1960

[2] SOR/72-301, *Canada Gazette* Part II, Vol. 106, No. 16, August 23, 1972

RÈGLEMENT D'APPLICATION DE LA LOI SUR LE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

PARTIE I

TITRE ET INTERPRÉTATION

Titre abrégé

1. Le présent règlement peut être cité sous le titre: *Règlement sur le contrôle de l'énergie atomique.*

Définitions

2. (1) Dans le présent règlement,

«accélérateur de particules» s'entend du matériel capable de communiquer une énergie cinétique élevée à des particules chargées par interaction avec des champs électriques ou magnétiques et conçu principalement pour produire ou utiliser de l'énergie atomique et des substances prescrites pendant son fonctionnement; (*particle accelerator*)

«article prescrit» s'entend des articles indiqués au Groupe 8 de la Liste de marchandises d'exportation contrôlée, établie en vertu de la *Loi sur les licences d'exportations*, exception faite des articles 8001, 8005 et 8050; (*prescribed item*)

«conseiller médical» s'entend de toute personne nommée conseiller médical en vertu du paragraphe 15(1); (*medical adviser*)

«désigné» signifie désigné par une ordonnance de la Commission, publiée dans la *Gazette du Canada;* (*designated*)

«établissement nucléaire» s'entend d'un réacteur nucléaire, un réacteur nucléaire sous-critique, un accélérateur de particules, une usine de séparation, de traitement, de retraitement ou de fabrication des substances fissiles, d'une usine

[1] DORS/60-119, *Gazette du Canada* Partie II, Vol. 94, nº 7, 13 avril 1960

[2] DORS/72-301, *Gazette du Canada* Partie II, Vol 106, nº 16, 23 août 1972

indirectly by a prescribed substance or nuclear facility and having sufficient energy to produce ionization; (*rayonnement ionisant*)

"licence" means a licence issued by the Board; (*permis*)

"medical adviser" means any person appointed as a medical adviser pursuant to subsection 15(1); (*conseiller médical*)

"nuclear facility" means a nuclear reactor, a sub-critical nuclear reactor, a particle accelerator, a plant for the separation, processing, re-processing or fabrication of fissionable substances, a plant for the production of deuterium or deuterium compounds, a facility for the disposal of prescribed substances and includes all land, buildings and equipment that are connected or associated with such reactor, accelerator, plant or facility; (*établissement nucléaire*)

"particle accelerator" means equipment that is capable of imparting high kinetic energy to charged particles through interaction with electric or magnetic fields and is primarily designed to produce or use in its operation atomic energy and prescribed substances; (*accélérateur de particules*)

"prescribed item" means the items, other than items 8001, 8005 and 8050, designated in Group 8 of the Export Control List made pursuant to the *Export and Import Permits Act*; (*article prescrit*)

"rem" means a dose of ionizing radiation that has the same biological effects as 200-250 kilovolt x-rays whose energy is absorbed by the body or any tissue or organ thereof in an amount of 0.01 joules per kilogram; (*rem*)

"scheduled quantity" means that quantity of a radioactive isotope of any element

(*a*) set out in Part I of Schedule I, or

(*b*) calculated in accordance with Part II of that Schedule,

whichever is applicable. (*quantité réglementaire*)

(2) For the purpose of the definition "prescribed substances" in section 2 of the Act, radioactive isotopes of all elements and any substances containing such isotopes are designated as being capable of releasing atomic energy, or as being requisite for the production, use or application of atomic energy.

(3) For the purpose of the definition "rem" in subsection (1), ionizing radiation shall be deemed to have the biological effects designated.

de production du deutérium ou de composés du deutérium, un établissement de dépôt de substances prescrites et comprend tous les terrains, les bâtiments et le matériel qui sont reliés ou associés auxdits réacteur, accélérateur, usine ou établissement; (*nuclear facility*)

«inspecteur» s'entend de toute personne nommée inspecteur en vertu du paragraphe 12(1); (*inspector*)

«Loi» signifie la *Loi sur le contrôle de l'énergie atomique*; (*Act*)

«permis» signifie un permis délivré par la Commission; (*licence*)

«quantité réglementaire» s'entend de la quantité d'un isotope radioactif d'un élément, qui est

a) indiquée dans la partie I de l'annexe I, ou

b) calculée conformément à la partie II de ladite annexe,

selon le cas; (*scheduled quantity*)

«rayonnement ionisant» s'entend de toute particule atomique ou subatomique ou toute onde électromagnétique émise ou produite directement ou indirectement par une substance prescrite ou un établissement nucléaire et ayant suffisamment d'énergie pour produire l'ionisation; (*ionizing radiation*)

«rem» s'entend d'une dose de rayonnements ionisants qui désignée comme ayant le même effet biologique que des rayons X de 200 à 250 kilovolts dont l'énergie est absorbée par le corps ou par tout tissu ou organe du corps à raison de 0.01 joues par kilogramme; (*rem*)

«substance fissile» s'entend de toute substance prescrite qui est, ou de laquelle peut être obtenue, une substance propre à dégager de l'énergie atomique par fission nucléaire; (*fissionable substance*)

«travailleur sous rayonnements» s'entend de

a) toute personne qui, dans l'exploitation de son entreprise ou au cours de son travail ou de son occupation, est susceptible de recevoir une dose de rayonnements ionisants supérieure à toute dose indiquée à la colonne IV de l'annexe II, et

b) toute personne identifiée comme travailleur sous rayonnements en vertu du paragraphe 17(4). (*atomic radiation worker*)

(2) Aux fins de la définition de «substances prescrites» donnée à l'article 2 de la Loi, les isotopes radioactifs de tous les éléments et de toutes les substances qui contiennent de tels isotopes sont désignés comme propres à dégager de l'énergie atomique ou comme requises pour la production, l'usage ou l'application de l'énergie atomique.

(3) Aux fins de la définition «rem» donnée au paragraphe (1) le rayonnement ionisant est réputé avoir l'effet biologique désigné.

PART II

PRESCRIBED SUBSTANCES AND ITEMS

3. Subject to section 6, no person shall, unless exempted in writing by the Board, produce, mine, prospect for, refine, use, sell or possess for any purpose any prescribed substance except in accordance with a licence issued pursuant to section 7.

PARTIE II

SUBSTANCES ET ARTICLES PRESCRITS

3. Sous réserve des dispositions de l'article 6, il est interdit, sauf autorisation écrite de la Commission, de produire, d'extraire du sol, de raffiner, d'utiliser, de vendre ou de posséder à quelque fin que ce soit toute substance prescrite ou encore d'en faire la prospection, si ce n'est aux termes d'un permis délivré en vertu de l'article 7.

4. Subject to section 6, no person shall, unless exempted in writing by the Board, use, sell or possess any device or equipment containing radioactive prescribed substances except in accordance with a licence issued pursuant to section 7.

5. (1) No person shall

(*a*) import or export any prescribed substance, or

(*b*) export any prescribed item,

except in accordance with a licence issued pursuant to section 7.

(2) A licence referred to in subsection (1) shall be produced by or on behalf of the licensee to a collector of customs at the port of entry into or exit from Canada of the prescribed substance or prescribed item, as the case may be, or at such other place as is designated by the Deputy Minister of National Revenue for Customs and Excise, before the prescribed substance or the prescribed item is released for import or export.

6. (1) No licence is required by any person engaged in

(*a*) the transport of goods for hire or reward in respect of the transport of any prescribed substance or of any device or equipment containing radioactive prescribed substances or any temporary storage of such substance, device or equipment necessary for such transport;

(*b*) prospecting for prescribed substances if such prospecting does not involve the removal of more than ten kilograms of uranium or thorium from any deposit thereof in any one calendar year.

(2) Subject to subsection (3), no licence is required in respect of

(*a*) a substance containing uranium or thorium in percentages less than 0.05 per cent by weight;

(*b*) any use, sale or possession of a substance containing uranium or thorium if such use, sale or possession does not involve more than 10 kilograms of uranium or thorium in any calendar year;

(*c*) any use, sale or possession of a substance containing deuterium if

(i) such substance does not contain hydrogen having a greater concentration of deuterium than is normally found in nature, or

(ii) such use, sale or possession does not involve more than 10 kilograms of deuterium in any calendar year where such substance does contain hydrogen having a greater concentration of deuterium than is normally found in nature;

(*d*) a substance containing naturally occurring radioactive isotopes of elements of atomic number less than 80 and in no greater concentration than is normally found in nature;

(*e*) a substance containing radioactive isotopes of elements of atomic number less than 90 if

(i) the quantity of such isotopes per kilogram of substance does not exceed the scheduled quantity, and

(ii) any such isotopes on the surface of the substance are not, in the opinion of the Board or a designated officer, readily dispersible and the quantity of such isotopes on the surface of the substance does not exceed one-tenth of the scheduled quantity per square metre of substance;

4. Sous réserve des dispositions de l'article 6, il est interdit, sauf autorisation écrite de la Commission, d'utiliser, de vendre ou de posséder tout dispositif ou matériel contenant des substances prescrites radioactives si ce n'est aux termes d'un permis délivré en vertu de l'article 7.

5. (1) Il est interdit

a) d'importer ou d'exporter une substance prescrite, ou

b) d'exporter un article prescrit,

si ce n'est aux termes d'un permis délivré en vertu de l'article 7.

(2) Un permis dont il est question au paragraphe (1) doit être présenté par le titulaire dudit permis ou en son nom à un receveur des douanes au port d'entrée ou de sortie du Canada de la substance prescrite ou de l'article prescrit, selon le cas, ou à tout autre endroit désigné par le sous-ministre du Revenu national (Douanes et accise), avant que la substance prescrite ou l'article prescrit ne soit débloqué pour l'importation ou l'exportation.

6. (1) N'est pas tenue d'avoir un permis une personne qui se livre

a) au transport des marchandises pour un prix de louage ou une rémunération, pour le transport ou l'entreposage temporaire occasionné par le transport d'une substance prescrite ou d'un dispositif ou de matériel contenant des substances prescrites radioactives;

b) à la prospection de substances perscrites si cette prospection n'entraîne pas le prélèvement de plus de dix kilogrammes d'uranium ou de thorium d'un gisement desdits éléments durant une année civile.

(2) Sous réserve du paragraphe (3), aucune licence n'est requise pour

a) une substance dont la teneur en uranium ou en thorium est inférieure à 0.05 pour cent en poids;

b) toute utilisation, vente ou possession d'une substance contenant de l'uranium ou du thorium, si cette utilisation, vente ou possession ne vise pas plus de 10 kilogrammes d'uranium ou de thorium durant une année civile;

c) toute utilisation, vente, ou possession d'une substance contenant du deutérium,

(i) si cette substance ne contient pas d'hydrogène ayant une concentration en deutérium plus grande que celle que l'on trouve normalement dans la nature, ou

(ii) si cette utilisation, vente ou possession ne vise pas plus de 10 kilogrammes de deutérium durant une année civile lorsque ladite substance contient de l'hydrogène ayant une concentration en deutérium plus grande que celle que l'on trouve normalement dans la nature;

d) une substance qui contient des isotopes radioactifs naturels d'éléments de numéro atomique inférieur à 80 sans que leur concentration soit plus grande que celle que l'on trouve normalement dans la nature;

e) une substance qui contient des isotopes radioactifs d'éléments de numéro atomique inférieur à 90,

(i) si la quantité desdits isotopes par kilogramme de substance ne dépasse pas la quantité réglementaire, et,

(ii) si, de l'avis de la Commission ou d'un fonctionnaire désigné, chacun desdits isotopes à la surface de la substance ne se disperse pas facilement et que la quantité desdits isotopes à la surface de la substance ne dépasse pas un dixième de la quantité réglementaire par mètre carré de substance;

(*f*) sources of ionizing radiation containing radioactive isotopes of elements of atomic number less than 90 if

(i) the quantity of such isotopes in each such source does not exceed the scheduled quantity, and

(ii) not more than 10 sources are required in any calendar year;

(*g*) any device incorporating a substance containing radioactive isotopes of elements of atomic number less than 90 or of the americium isotope Am-241 if

(i) the total quantity of such isotopes per device does not exceed 10 times the scheduled quantity, and

(ii) the design of the device and the method of incorporating the radioactive isotopes are approved by the Board; and

(*h*) any incandescent mantle containing thorium.

(3) Nothing in subsection (2) authorizes the use or possession for any purpose without a licence of any substance containing

(*a*) uranium isotope U-233; or

(*b*) uranium having a greater concentration of the isotope U-235 than is normally found in nature.

7. (1) The Board or a designated officer may issue a licence for any purpose referred to in section 3 or in respect of any device or equipment referred to in section 4 upon receipt of a written application from the person requiring such licence.

(2) An application for a licence for any purpose referred to in section 3 or in respect of any device or equipment referred to in section 4 shall set out such of the following information as the Board may require:

(*a*) the nature and quantity of the prescribed substance and the purpose for which it is required;

(*b*) the maximum quantity of the prescribed substance likely to be required at any one time for the purpose set out in the application;

(*c*) a description of the premises in which the prescribed substance is to be located and of any equipment in connection with which it is to be used;

(*d*) a description of the measures to be taken to prevent theft, loss or any unauthorized use of the prescribed substance;

(*e*) a description of the measures to be taken, including any plan in case of accident, to prevent the receipt by any person of a dose of ionizing radiation in excess of any dose specified in respect of such person in Schedule II;

(*f*) a description of the method of disposing of the radioactive prescribed substance;

(*g*) a description of the qualifications, training and experience of any person who is to use the prescribed substance; and

(*h*) any other information necessary to evaluate the application.

(3) A licence issued by the Board pursuant to subsection (1) may contain such conditions as the Board deems neces-

f) des sources de rayonnements ionisants contenant des isotopes radioactifs d'éléments de numéro atomique inférieur à 90,

(i) si la quantité desdits isotopes dans chacune desdites sources ne dépasse pas la quantité réglementaire, et

(ii) si le nombre de sources requises durant une année civile est d'au plus 10;

g) un dispositif où se trouve incorporée une substance qui contient des isotopes radioactifs d'éléments de numéro atomique inférieur à 90, ou de l'isotope Am-241 de l'américium,

(i) si la quantité totale desdits isotopes par dispositif ne dépasse pas 10 fois la quantité réglementaire, et

(ii) si la conception du dispositif et la méthode d'incorporation des isotopes sont approuvées par la Commission; et

h) un manchon à incandescence qui contient du thorium.

(3) Aucune disposition du paragraphe (2) n'autorise quiconque n'a pas de permis à utiliser ou posséder à toute fin une substance qui contient

a) de l'isotope U-233 de l'uranium; ou

b) de l'uranium ayant une concentration en isotope U-235 plus grande que celle que l'on trouve normalement dans la nature.

7. (1) La Commission ou un fonctionnaire désigné peut délivrer un permis pour toute fin mentionnée à l'article 3 ou pour un dispositif ou du matériel mentionné à l'article 4 dès la réception d'une demande écrite de la personne qui veut obtenir un tel permis.

(2) Une demande de permis pour toute fin mentionnée à l'article 3 ou pour un dispositif ou du matériel mentionné à l'article 4 doit donner les renseignements que la Commission peut exiger parmi les suivants:

a) la nature et la quantité de la substance prescrite et la fin pour laquelle elle est requise;

b) la quantité maximale de la substance prescrite susceptible d'être requise en tout temps pour la fin indiquée dans la demande;

c) une description des locaux dans lesquels la substance prescrite doit être logée et de tout matériel relié à son utilisation;

d) une description des mesures à prendre pour prévenir le vol, la perte ou toute utilisation non autorisée de la substance prescrite;

e) une description des mesures à prendre, y compris tout plan à suivre en cas d'accident, pour éviter qu'une personne ne reçoive une dose de rayonnements ionisants supérieure à toute dose indiquée pour cette personne à l'annexe II;

f) une description de la méthode à employer pour se défaire de la substance prescrite radioactive;

g) une description des qualités, de la formation et de l'expérience de toute personne qui doit utiliser la substance prescrite; et

h) tout autre renseignement nécessaire pour évaluer la demande.

(3) Un permis délivré par la Commission en vertu du paragraphe (1) peut stipuler toutes les conditions que la Com-

sary in the interests of health, safety and security and, without limiting the generality of the foregoing, may include conditions respecting

(*a*) the measures to be taken to prevent the receipt by any person of a dose of ionizing radiation in excess of any dose specified in respect of such person in Schedule II;

(*b*) the monitoring devices and other methods for measuring the dose of ionizing radiation received by any person;

(c) instructions to be given to atomic radiation workers respecting the hazards of ionizing radiation and the procedures to be followed to limit exposure to ionizing radiation;

(*d*) the maximum quantity and concentration of radioactive or other hazardous material that may be discharged into the air and water as a result of the use of the prescribed substance;

(*e*) the method of disposing of radioactive prescribed substance;

(*f*) the measures to be taken to prevent theft, loss or any unauthorized use of the prescribed substance; and

(*g*) the qualifications, training and experience of any person who is to use or supervise the use of the prescribed substance or any device or equipment to which the licence applies.

(4) Subject to subsection (5), the Board or a designated officer may issue a licence for any purpose referred to in section 5 upon receipt of a written application from the person requiring such licence.

(5) A licence to export a prescribed substance shall not be issued unless the Board is satisfied that the price and quantity of the prescribed substance in respect of which the application referred to in subsubsection (4) is made meet the criteria, if any, respecting price levels and quantities that may be specified in the public interest in a direction given to the Board by the Minister.

mission estime nécessaires dans l'intérêt de l'hygiène, de la sûreté et de la sécurité et, entre autres, sans restreindre la portée générale de ce qui précède,

a) les mesures à prendre pour éviter que toute personne ne reçoive une dose de rayonnements ionisants supérieure à toute dose indiquée pour une telle personne à l'annexe II;

b) les dispositifs de surveillance et les autres méthodes de mesure de la dose de rayonnements ionisants reçue par toute personne;

c) les directives à donner aux travailleurs sous rayonnements en ce qui concerne les dangers des rayonnements ionisants et les règles à observer pour limiter l'exposition aux rayonnements ionisants;

d) la quantité et la concentration maximales des produits radioactifs ou des autres produits dangereux qui peuvent être rejetés dans l'air et dans l'eau à cause de l'utilisation de la substance prescrite;

e) la méthode à employer pour se défaire de la subtance prescrite;

f) les mesures à prendre pour prévenir le vol, la perte ou toute utilisation non autorisée de la substance prescrite; et

g) les qualités, la formation et l'expérience que doit avoir une personne qui doit faire usage ou surveiller l'utilisation de la substance prescrite, du dispositif ou du matériel qui font l'objet du permis.

(4) Sous réserve du paragraphe (5), la Commission ou un fonctionnaire désigné peut délivrer un permis pour toute fin mentionnée à l'article 5 dès la réception d'une demande écrite de la personne qui veut obtenir un tel permis.

(5) Un permis d'exportation ne doit pas être délivré sans que la Commission ne soit assurée que le prix et la quantité de la substance prescrite, pour laquelle la demande mentionnée au paragraphe (4) est présentée, sont conformes aux critères, s'il en est, touchant les niveaux des prix et les quantités, critères qui peuvent être stipulés dans l'intérêt public dans une directive donnée à la Commission par le Ministre.

PART III

NUCLEAR FACILITIES

8. Unless exempted in writing by the Board, no person shall operate a nuclear facility except in accordance with a licence issued pursuant to section 9.

9. (1) Subject to section 10, the Board may issue a licence to operate a nuclear facility upon receipt by the Board of a written application setting out such of the following matters as the Board may require:

(*a*) a description of the operating procedures of the nuclear facility;

(*b*) a description of the measures to be taken, including any plan in case of accident, to prevent the receipt by any person of a dose of ionizing radiation in excess of any dose specified in respect of such person in Schedule II or to prevent or minimize other hazards involved in the operation of the nuclear facility;

(*c*) a description of the measures to be taken to prevent theft, loss or any unauthorized use of any prescribed substance involved in the operation of the nuclear facility;

PARTIE III

ÉTABLISSEMENTS NUCLÉAIRES

8. A moins d'une autorisation écrite de la Commission, il est interdit d'exploiter un établissement nucléaire sauf aux termes d'un permis délivré en vertu de l'article 9.

9. (1) Sous réserve de l'article 10, la Commission peut délivrer un permis d'exploitation d'un établissement nucléaire dès qu'elle reçoit une demande écrite donnant les renseignements que la Commission peut exiger parmi les suivants:

a) une description des méthodes d'exploitation de l'établissement nucléaire;

b) une description des mesures à prendre, y compris tout plan à suivre en cas d'accident, pour éviter qu'une personne ne reçoive une dose de rayonnements ionisants supérieure à toute dose indiquée pour cette personne à l'annexe II, ou pour prévenir ou minimiser d'autres dangers liés à l'exploitation de l'établissement nucléaire;

c) une description des mesures à prendre pour prévenir le vol, la perte ou toute utilisation non autorisée d'une substance prescrite reliée à l'exploitation de l'établissement nucléaire;

(*d*) a description of the measures to be taken to ensure the physical security of the nuclear facility;

(*e*) a description of the qualifications, training and experience of any person involved in the operation of the nuclear facility;

(*f*) information respecting any arrangements that have been made to compensate any person for injury or damage resulting from the operation of the nuclear facility; and

(*g*) any other information necessary to evaluate the application.

(2) A licence issued by the Board pursuant to subsection (1) may contain such conditions as the Board deems necessary in the interests of health, safety and security and, without limiting the generality of the foregoing, may include conditions respecting

(*a*) the measures to be taken to prevent the receipt by any person of a dose of ionizing radiation in excess of any dose specified in respect of such person in Schedule II or to prevent or minimize other hazards involved in the operation of the nuclear facility;

(*b*) the monitoring devices and other methods for measuring the dose of ionizing radiation received by any person;

(*c*) the methods for detecting and recording the presence and amount of ionizing radiation;

(*d*) the maximum quantity and concentration of radioactive or other hazardous material that may be discharged from the nuclear facility;

(*e*) the method of disposing of radioactive or other hazardous material resulting from the operation of the nuclear facility;

(*f*) the measures to be taken to prevent theft, loss or any unauthorized use of any prescribed substance located at the nuclear facility; and

(*g*) the qualifications, training and experience required in respect of any person involved in the operation of the nuclear facility.

(3) The Board may issue one licence in respect of two or more nuclear facilities located in the same vicinity where it considers that only one licence is necessary.

10. (1) Subject to subsection (2), the Board shall not issue a licence referred to in section 9, unless

(*a*) the approval in writing of the Board to construct or acquire the nuclear facility has previously been obtained; and

(*b*) the Board has received evidence satisfactory to it of compliance with the conditions, if any, of such approval.

(2) The Board may issue a licence pursuant to section 9 without the approval referred to in subsection (1) if it considers that no approval is necessary.

(3) The approval described in subsection (1) may be granted by the Board upon written application setting out

(*a*) a description of the site, design and construction of the nuclear facility;

(*b*) an assessment of the hazards that may result from the operation of the nuclear facility and a description of the measures to be taken to prevent or minimize such hazards; and

(*c*) any other information that the Board may require.

d) une description des mesures à prendre pour assurer la sécurité matérielle de l'établissement nucléaire;

e) une description des qualités, de la formation et de l'expérience de toute personne en cause dans l'exploitation de l'établissement nucléaire;

f) toute disposition prise pour indemniser une personne des blessures ou dommages qui pourraient résulter de l'exploitation de l'établissement nucléaire; et

g) tout autre renseignement nécessaire pour évaluer la demande.

(2) Un permis délivré par la Commission en vertu du paragraphe (1) peut stipuler les conditions que la Commission estime nécessaires dans l'intérêt de l'hygiène, de la sûreté et de la sécurité et, entre autres, sans restreindre la portée générale de ce qui précède,

a) les mesures à prendre pour éviter que toute personne ne reçoive une dose de rayonnements ionisants supérieure à toute dose indiquée pour cette personne à l'annexe II ou pour prévenir ou minimiser les autres dangers liés à l'exploitation de l'établissement nucléaire;

b) les dispositifs de surveillance et les autres méthodes de mesure de la dose de rayonnements ionisants reçue par toute personne;

c) les méthodes de détection et d'enregistrement de la présence des rayonnements ionisants et de leur quantité;

d) la quantité et la concentration maximales des produits radioactifs ou des autres produits dangereux qui peuvent être rejetés de l'établissement nucléaire;

e) la méthode à utiliser pour se défaire des produits radioactifs ou des autres produits dangereux provenant de l'exploitation de l'établissement nucléaire;

f) les mesures à prendre pour prévenir le vol, la perte ou toute utilisation non autorisée d'une substance prescrite se trouvant dans l'établissement nucléaire; et

g) les qualités, la formation et l'expérience exigées pour toute personne en cause dans l'exploitation de l'établissement.

(3) La Commission peut délivrer un permis à l'égard de plusieurs établissements nucléaires situés à proximité l'un de l'autre lorsqu'elle estime qu'un seul permis est nécessaire.

10. (1) Sous réserve du paragraphe (2), la Commission ne délivre pas un permis visé par l'article 9, à moins

a) que n'ait été obtenue au préalable de la Commission l'approbation écrite de construire ou d'acquérir l'établissement nucléaire; et

b) que la Commission n'ait reçu des preuves qu'elle juge satisfaisantes à l'égard des conditions, s'il en est, de ladite approbation.

(2) La Commission peut délivrer un permis en vertu de l'article 9 sans l'approbation mentionnée au paragraphe (1), si elle juge qu'aucune approbation n'est nécessaire.

(3) La Commission peut accorder l'approbation décrite au paragraphe (1) dès la réception d'une demande écrite qui présente

a) une description de l'emplacement, de la conception et de la construction de l'établissement nucléaire;

b) une évaluation des dangers qui pourraient résulter de l'exploitation de l'établissement nucléaire et une description des mesures à prendre pour prévenir ou minimiser lesdits dangers; et

c) tout autre renseignement que la Commission peut exiger.

(4) The approval described in subsection (1) may be subject to such conditions as the Board deems necessary in the interests of health, safety and security respecting the site, design and construction of the nuclear facility.

(4) L'approbation décrite au paragraphe (1) peut être assujettie aux conditions que la Commission juge nécessaires dans l'intérêt de l'hygiène, de la sûreté et de la sécurité quant à l'emplacement, à la conception et à la construction de l'établissement nucléaire.

PART IV

RECORDS AND INSPECTION

PARTIE IV

DOSSIERS ET INSPECTION

11. (1) Every person to whom a licence has been issued shall

(*a*) *where the licence has been issued pursuant to section 7,* keep all necessary records in respect of the prescribed substance that is the subject matter of the licence to show

(i) the nature, form and quantity in which the licence under which such substance was obtained,

(ii) the location thereof,

(iii) the names of all persons involved in the use and handling thereof, and

(iv) where such substance has been disposed of, full particulars of such disposal, whether by sale or otherwise, and the licence, if any, under which such disposal was made;

(*b*) where the licence has been issued pursuant to section 9,

(i) keep all records required by paragraph (*a*) in respect of any prescribed substance at the nuclear facility, and

(ii) keep all necessary records to show the maintenance and operation of the nuclear facility; and

(*c*) keep all necessary records to show the dose of ionizing radiation received by any person as a result of the use of the *prescribed substance or the operation of the nuclear facility,* as the case may be;

(*d*) keep all reports of medical examinations that are required pursuant to subsection 17(1); and

(*e*) keep such other records as the Board may require in the interests of health, safety and security.

11. (1) Toute personne à qui un permis a été délivré doit,

a) dans le cas d'un permis délivré en vertu de l'article 7, *tenir tous les dossiers nécessaires au sujet de la substance* prescrite qui fait l'objet du permis pour indiquer

(i) la nature, la forme et la quantité de la substance obtenue ainsi que le permis en vertu de laquelle elle a été obtenue,

(ii) l'endroit où se trouve ladite substance,

(iii) les noms de toutes les personnes en cause dans l'utilisation et la manutention de ladite substance et,

(iv) lorsque le titulaire de permis s'est défait de ladite substance par vente ou autrement, tous les détails pertinents et le permis, s'il en est, qui l'a autorisé à s'en défaire;

b) dans les cas d'un permis délivré en vertu de l'article 9,

(i) tenir tous les dossiers exigés par l'alinéa *a*) pour toute substance prescrite se trouvant dans l'établissement nucléaire, et

(ii) tenir tous les dossiers nécessaires pour décrire l'entretien et l'exploitation de l'établissement nucléaire; et

c) *tenir tous les dossiers nécessaires pour indiquer la dose* de rayonnements ionisants reçue par toute personne à cause de l'utilisation de la substance prescrite ou de l'exploitation de l'établissement nucléaire, selon le cas;

d) tenir tous les dossiers des examens médicaux qui sont prescrits par le paragraphe 17(1); et

e) tenir tous les autres dossiers que la Commission peut exiger dans l'intérêt de l'hygiène, de la sûreté et de la sécurité.

(2) The Board may require any person to whom a licence has been issued to deposit the records required to be kept under paragraph (1)(*c*) or a copy thereof with any person or agency specified in writing by the Board.

(2) La Commission peut exiger de toute personne à qui un permis a été délivré qu'elle produise les dossiers dont la tenue est prescrite par l'alinéa (1)*c*) ou une copie desdits dossiers à toute personne ou à tout organisme que la Commission aura désigné par écrit.

(3) No person shall destroy or otherwise dispose of any records required to be kept under subsection (1) except in accordance with the written authority of the Board.

(3) Il est interdit de détruire tout dossier dont la tenue est prescrite par le paragraphe (1) ou de s'en défaire de toute autre façon, si ce n'est aux termes d'une autorisation écrite de la Commission.

Inspectors

12. (1) The Board or a designated officer may appoint as an inspector any person who, in its or his opinion, is qualified to be so appointed

(*a*) to inspect any premises on which a prescribed substance is located or a nuclear facility is being constructed or operated;

(*b*) to inspect records in respect of any prescribed substance or nuclear facility that are required to be kept by these Regulations in order to establish whether the health and safety requirements of these Regulations are or have been complied with;

Inspecteurs

12. (1) La Commission ou un fonctionnaire désigné peut nommer inspecteur toute personne qu'elle ou qu'il juge qualifiée pour remplir ce poste

a) pour faire l'inspection de locaux où se trouve une substance prescrite ou les lieux où un établissement nucléaire est en cours de construction ou d'exploitation;

b) pour faire l'inspection des dossiers dont la tenue est prescrite par le présent règlement à l'égard de toute substance prescrite et de tout établissement nucléaire afin d'établir si les exigences du présent règlement en matière d'hygiène et de sûreté sont ou ont été respectées;

(*c*) for the purpose of complying with the terms of any international agreement to which Canada is a party; or

(*d*) for any other purpose relating to the enforcement of these Regulations.

(2) An inspector shall be furnished with a certificate of his appointment, setting out

(*a*) the purpose for which he has been appointed and the place or area in respect of which he has been appointed, and

(*b*) the period for which he has been appointed to act as an inspector,

and may at all reasonable times enter any place to which his certificate relates for the purpose of carrying out any inspection specified in the certificate and shall, if so required, produce the certificate to the person in charge thereof.

(3) Where

(*a*) any loss or theft of any prescribed substance,

(*b*) any occurrence described in section 21, or

(*c*) any breach of these Regulations or a condition of any licence

has occurred, an inspector appointed for the purpose described in paragraph (1)(*a*) and for the place or area in which the loss, theft, occurrence or breach has taken place may direct

(*d*) the person holding the appropriate licence to submit a report respecting

(i) the circumstances of the loss or theft of the prescribed substance or of the occurrence or of the breach of these Regulations or the condition of the licence, as the case may be, and

(ii) any remedial action to be taken in respect thereof, and

(*e*) such action to be taken as he deems necessary to remedy the breach of these Regulations or the condition of the licence, as the case may be, and to minimize the consequences, if any, of the occurrence.

c) pour exécuter les dispositions de tout accord international que le Canada a signé; ou

d) pour toute autre fin liée à la mise en vigueur du présent règlement.

(2) Un inspecteur doit recevoir un certificat de sa nomination précisant

a) à quelle fin il a été nommé ainsi que le lieu ou la région pour lequel ou laquelle il a été nommé, et

b) la période pour laquelle il a été nommé pour remplir les fonctions d'inspecteur,

et il peut à toute heure raisonnable entrer dans tout lieu visé par son certificat pour y faire une inspection spécifiée dans le certificat, et il doit, sur demande, produire le certificat à la personne responsable dudit lieu.

(3) En cas

a) de perte ou de vol d'une substance prescrite,

b) d'incident décrit à l'article 21, ou

c) d'infraction au présent règlement ou à l'une des conditions d'un permis,

un inspecteur nommé à la fin précisée à l'alinéa (1)*a*) et pour le lieu ou la région où s'est produit la perte, le vol, l'incident ou l'infraction peut ordonner

d) au titulaire du permis approprié de présenter un rapp

(i) des circonstances qui ont entouré le vol ou la perte de la substance prescrite, l'incident ou l'infraction au présent règlement ou à la condition du permis, selon le cas, et

(ii) de toute mesure corrective à prendre à ce sujet; et

e) que soit prise toute mesure qu'il juge nécessaire pour remédier à l'infraction au présent règlement ou à la condition du permis, selon le cas, et pour minimiser les conséquences de l'incident, s'il en est.

PART V

SECURITY

13. (1) Except where otherwise authorized or with the approval of the Board, no person shall knowingly disclose to any other person

(*a*) information relating to those properties of fissionable substances that are of special importance in nuclear weapons;

(*b*) with respect to plants for the separation of isotopes of fissionable substances, nuclear reactors primarily intended for large scale production of fissionable substances and nuclear power units primarily intended for military purposes, information relating to

(i) the design and operation thereof,

(ii) specifications for substances and equipment specially designed and adapted for use in connection therewith, and

(iii) specifications for and quantities of fissionable substances produced by such plants, nuclear reactors and nuclear power units; and

PARTIE V

SÉCURITÉ

13. (1) Sauf autorisation contraire ou approbation de la Commission, il est interdit de révéler sciemment à toute autre personne

a) des renseignements relatifs aux propriétés des substances fissiles qui revêtent une importance particulière pour les armes nucléaires;

b) en ce qui concerne les usines de séparation des isotop des substances fissiles, les réacteurs nucléaires destinés principalement à la production sur une grande échelle de substances fissiles et les générateurs de puissance nucléaire destinés principalement à des fins militaires, des renseignements relatifs

(i) à la conception et au fonctionnement desdites usines et desdits réacteurs et générateurs,

(ii) aux devis descriptifs des substances et du matériel spécialement conçus et adaptés pour être utilisés de façon connexe auxdites usines et auxdits réacteurs et générateurs, et

(iii) aux devis descriptifs et aux quantités des substances fissiles produites par lesdites usines, lesdits réacteurs nucléaires et lesdits générateurs de puissance nucléaire; et

(*c*) details for the design, production and operation of nuclear weapons.

(2) Subsection (1) does not apply to the communication of information that has previously been published in scientific or technical journals, official publications or official press releases.

Protected Places

14. (1) The Board may, by order published in the *Canada Gazette*, designate any place as a protected place

(*a*) for the purpose of keeping secret information respecting the production, use and application of, and research and investigation with respect to, atomic energy; or

(*b*) for the purpose of protecting persons and property, where in the opinion of the Board special precautions are necessary for that purpose.

(2) The order designating a place as a protected place pursuant to subsection (1) shall contain a metes and bounds description of the place designated and such terms and conditions as the Board deems necessary for a purpose described in subsection (1).

(3) No person shall enter or be in any place designated pursuant to subsection (1) except in accordance with the terms and conditions contained in the order referred to in subsection (1).

(4) A police officer, police constable or other person employed for the preservation or maintenance of public order may search any person who is in a place designated pursuant to subsection (1) but a woman shall only be searched by a woman.

(5) If authorized by the Board or by the person in charge of a place designated pursuant to subsection (1), any police officer, police constable or other person employed for the preservation or maintenance of public order may remove any person from such place.

PART VI

HEALTH AND SAFETY

Medical Advisers

15. (1) The Board or a designated officer may with respect to any place or area appoint any of the following persons as medical advisors to act jointly or separately, as the case may be, for the purpose of these Regulations:

(*a*) a senior medical officer nominated by the Radiation Protection Bureau of the Department of National Health and Welfare and a senior medical officer nominated by the department of any province concerned with radiation protection acting jointly;

(*b*) a senior medical officer nominated jointly by the Radiation Protection Bureau of the Department of National Health and Welfare and the department of any province concerned with radiation protection;

(*c*) a senior medical officer nominated by Atomic Energy of Canada Limited; and

c) aux détails de la conception, de la production et du fonctionnement d'armes nucléaires.

(2) Le paragraphe (1) ne s'applique pas à la communication de renseignements qui ont déjà été publiés dans des revues scientifiques ou techniques, dans des publications officielles ou dans des communiqués officiels.

Lieux protégés

14. (1) La Commission peut, par voie d'ordonnance publiée dans la *Gazette du Canada*, désigner tout lieu comme lieu protégé

a) afin de tenir secrets des renseignements relatifs à la production, l'utilisation et l'application de l'énergie atomique ainsi qu'aux recherches et études portant sur l'énergie atomique; ou

b) lorsque, de l'avis de la Commission, des précautions spéciales sont nécessaires pour assurer la protection de personnes et de biens.

(2) L'ordonnance visant à désigner un lieu comme lieu protégé en vertu du paragraphe (1) doit donner une description des bornes et limites du lieu désigné et énoncer les conditions que la Commission juge nécessaires à l'une des fins décrites au paragraphe (1).

(3) Il est interdit d'entrer dans un lieu protégé en vertu du paragraphe (1) ou de s'y trouver, si ce n'est aux termes des conditions renfermées dans l'ordonnance dont il est question au paragraphe (1).

(4) Un officier ou un agent de police ou toute autre personne employée à garder ou à maintenir l'ordre public peut fouiller quiconque se trouve dans un lieu désigné en vertu du paragraphe (1), mais une femme ne doit être fouillée que par une autre femme.

(5) Tout officier ou agent de police ou toute personne employée à garder ou à maintenir l'ordre public, peut, avec l'autorisation de la Commission ou de la personne responsable d'un lieu désigné en vertu du paragraphe (1), expulser toute personne d'un tel lieu.

PARTIE VI

HYGIÈNE ET SÉCURITÉ

Conseillers médicaux

15. (1) La Commission ou un fonctionnaire désigné peut, à l'égard de tout lieu ou de toute région, nommer une ou plusieurs des personnes suivantes comme conseillers médicaux pour agir conjointement ou séparément, selon le cas, aux fins du présent règlement:

a) un médecin principal proposé par le Bureau de la radioprotection du ministère de la Santé nationale et du Bien-être social et un médecin principal proposé par un ministère provincial, compétent en matière de radioprotection, lesdits médecins agissant conjointement;

b) un médecin principal proposé conjointement par le Bureau de la radioprotection du ministère de la Santé nationale et du Bien-être social et un ministère provincial, compétent en matière de radioprotection;

c) un médecin principal proposé par L'Énergie Atomique du Canada, Limitée; et

(*d*) a senior medical officer nominated by the Surgeon General of the Canadian Armed Forces.

(2) Any person appointed as a medical adviser pursuant to subsection (1) shall be furnished with a certificate of appointment setting out

(*a*) the place or area in respect of which he has been appointed; and

(*b*) the period for which he is appointed as a medical adviser.

(3) A medical adviser may

(*a*) make recommendations to the Board, with respect to the place or area for which he has been appointed, respecting the nature, extent and frequency of medical examinations of atomic radiation workers;

(*b*) make recommendations to the Board respecting the continued employment as an atomic radiation worker of any person who has received a dose of ionizing radiation in excess of any dose specified in respect of such worker in Schedule II or who is unfit to be employed as an atomic radiation worker for any medical reason;

(*c*) inspect all records required to be kept pursuant to paragraphs 11(1) (*c*) and (*d*);

(*d*) with respect to any premises in which a prescribed substance is located or with respect to any nuclear facility, review procedures for the treatment of atomic radiation workers in the event of the receipt of a dose of ionizing radiation in excess of any dose specified in respect of such workers in Schedule II;

(*e*) carry out such investigations as are reasonable to identify any person who may have received a dose of ionizing radiation in excess of any dose specified in respect of such person in Schedule II; and

(*f*) upon receipt of a report described in subsection 21(1) recommend such additional medical examinations as he deems necessary.

Radiation Safety Adviser

16. (1) The Board or a designated officer may, with respect to any place or area, appoint any person who in its or his opinion, is qualified so to be appointed or any committee to advise on radiation safety and, without limiting the generality of the foregoing, may appoint

(*a*) an officer nominated by the Radiation Protection Bureau of the Department of National Health and Welfare;

(*b*) an officer of a division of Atomic Energy of Canada Limited concerned with radiation protection and nominated by the company; or

(c) an officer nominated by any department or agency of the Government of Canada or of a province that is concerned with radiation protection.

(2) Any person appointed pursuant to subsection (1) shall be furnished with a certificate of appointment setting out

(*a*) the purpose for which he is appointed;

(*b*) the place or area in respect of which he is appointed; and

(*c*) the period for which he is appointed.

d) un médecin principal proposé par le chef du Service de santé des Forces armées canadiennes.

(2) Toute personne nommée conseiller médical en vertu du paragraphe (1) doit recevoir un certificat de nomination indiquant

a) le lieu ou la région pour lequel ou laquelle il a été nommé; et

b) la période pour laquelle il est nommé conseiller médical.

(3) Un conseiller médical peut

a) présenter des recommandations à la Commission, à l'égard du lieu ou de la région pour lequel ou laquelle il a été nommé, quant à la nature, à l'étendue et à la fréquence des examens médicaux des travailleurs sous rayonnements;

b) présenter des recommandations à la Commission quant à la poursuite de travaux sous rayonnements par toute personne qui a reçu une dose de rayonnements ionisants supérieure à celle indiquée pour un tel travailleur à l'annexe II ou qui est inapte aux travaux sous rayonnements pour toute raison médicale;

c) inspecter tous les dossiers dont la tenue est exigée en vertu des alinéas 11(1)*c*) et *d*);

d) à l'égard des lieux où se trouve une substance prescr[illegible] ou de tout établissement nucléaire, étudier les méthodes de traitement des travailleurs sous rayonnements qui auraient reçu une dose de rayonnements ionisants supérieure à toute dose indiquée pour ces personnes à l'annexe II;

e) effectuer les enquêtes qu'il est raisonnable de mener pour identifier quiconque pourrait avoir reçu une dose de rayonnements ionisants supérieure à toute dose indiquée à l'annexe II; et,

f) dès la réception d'un rapport décrit au paragraphe 21(1) recommander les examens médicaux additionnels qu'il juge nécessaires.

Conseiller en radioprotection

16. (1) La Commission ou un fonctionnaire désigné peut, à l'égard de tout lieu ou de toute région, nommer une personne qu'elle juge qualifiée pour ladite nomination ou tout comité pour donner des avis en matière de radioprotection et, sans restreindre la portée générale de ce qui précède, elle peut nommer

a) un fonctionnaire proposé par le Bureau de la radioprotection du ministère de la Santé nationale et du Bien-[illegible] social;

b) un fonctionnaire proposé par L'Énergie Atomique du Canada, Limitée, et relevant d'une division de cette société compétente en matière de radioprotection; ou

c) un agent proposé par un ministère ou un organisme fédéral ou provincial compétent en matière de radioprotection.

(2) Toute personne nommée en vertu du paragraphe (1) reçoit un certificat de nomination indiquant

a) la fin pour laquelle elle est nommée;

b) le lieu ou la région pour lequel ou laquelle elle est nommée; et

c) la période pour laquelle elle est nommée.

(3) Any person or committee appointed pursuant to subsection (1) shall, with respect to the place or area for which such person or committee has been appointed,

(*a*) review at the request of the Board applications for licences under these Regulations;

(*b*) make recommendations to the Board respecting

(i) the granting of licences,

(ii) the conditions to be included in any licence to prevent or limit exposure of any person to ionizing radiation,

(iii) any changes in any list of atomic radiation workers submitted pursuant to paragraph 17(3)(*b*); and

(*c*) review reports submitted pursuant to sections 20 and 21 and make recommendations respecting any changes in the conditions of any licence.

Atomic Radiation Workers

17. (1) Any person who employs atomic radiation workers shall ensure that each such worker

(*a*) is informed at the time that such worker is employed that he is an atomic radiation worker within the meaning of these Regulations; and

(*b*) undergoes a medical examination of such nature and extent and with such frequency as may be prescribed in or by the conditions contained in any licence that are applicable to such worker.

(2) No person shall employ as an atomic radiation worker any person

(*a*) who is under eighteen years of age;

(*b*) whose health or radiation exposure record is such that, in the opinion of the Board or a designated officer and on the recommendation of the medical adviser, he should not be employed as an atomic radiation worker; or

(*c*) whose qualifications, training and experience do not comply with the conditions contained in any licence that are applicable to him.

(3) Any person who employs atomic radiation workers shall

(*a*) specify in writing as atomic radiation workers those persons in his employ that he considers to be atomic radiation workers, and maintain a list of all such workers; and

(*b*) if requested by the Board, submit a copy of the list referred to in paragraph (*a*) and all amendments thereto to the Board and the radiation safety adviser appointed under section 16 in respect of the place where such workers are employed.

(4) The Board may specify in writing any person as an atomic radiation worker who, in the course of his work, business or occupation, is likely to receive a dose of ionizing radiation in excess of any dose specified in Schedule II for persons other than atomic radiation workers.

Industrial Radiography

18. (1) For the purpose of this section, "industrial radiography" means radiography for industrial purposes involving the use of radioactive prescribed substances or particle accelerators.

(3) Une personne ou un comité nommé en vertu du paragraphe (1) doit, à l'égard du lieu ou de la région pour lequel ou laquelle elle ou il a été nommé,

a) étudier, à la demande de la Commission, les demandes de permis présentées en vertu du présent règlement;

b) faire des recommandations à la Commission au sujet

(i) de l'octroi de permis,

(ii) des conditions que doit comporter tout permis afin de prévenir ou de limiter l'exposition de toute personne aux rayonnements ionisants,

(iii) des modifications à apporter à toute liste de travailleurs sous rayonnements présentée conformément à l'alinéa 17(3)*b*); et

c) étudier les rapports présentés en vertu des articles 20 et 21 et faire des recommandations au sujet de toute modification à apporter aux conditions d'un permis.

Travailleurs sous rayonnements

17. (1) Quiconque emploie des travailleurs sous rayonnements doit s'assurer que chacun desdits travailleurs

a) soit informé au moment de son embauche qu'il est un travailleur sous rayonnements au sens du présent règlement; et

b) subisse un examen médical dont la nature, l'étendue et la fréquence peuvent être prescrites dans ou par les conditions stipulées dans un permis qui s'applique auxdits travailleurs.

(2) Il est interdit d'employer en qualité de travailleur sous rayonnements une personne

a) qui est âgée de moins de dix-huit ans;

b) dont le dossier de santé ou d'exposition aux rayonnements est tel que, de l'avis de la Commission ou d'un fonctionnaire désigné et selon la recommandation du conseiller médical, cette personne ne devrait pas être employée comme travailleur sous rayonnements; ou

c) dont les qualités, la formation et l'expérience ne sont pas conformes aux conditions stipulées dans un permis qui s'applique à cette personne.

(3) Quiconque emploie des travailleurs sous rayonnements doit

a) identifier par écrit comme travailleurs sous rayonnements les personnes à son emploi qu'il considère comme tels et tenir une liste de ces travailleurs; et

b) sur demande de la Commission, présenter une copie de la liste mentionnée à l'alinéa *a*) y compris ses modifications, à la Commission et au conseiller en radioprotection nommé en vertu de l'article 16 pour le lieu où lesdites personnes sont employées.

(4) La Commission peut identifier par écrit comme travailleur sous rayonnements toute personne qui est susceptible de recevoir une dose de rayonnements ionisants supérieure à la dose indiquée à l'annexe II pour les personnes autres que les travailleurs sous rayonnements.

Radiographie industrielle

18. (1) Aux fins du présent article, «radiographie industrielle» désigne les applications industrielles de la radiographie qui comportent l'utilisation de substances prescrites radioactives ou d'accélérateurs de particules.

(2) No person shall carry out any industrial radiography unless he

(*a*) is certified as a junior or senior industrial radiographer in accordance with the current *Standard for Certification of Industrial Radiographic Personnel* issued as standard 48-GP-4 by the Canadian Government Specification Board; or

(*b*) is working in the presence of a person who is certified as a junior or senior industrial radiographer in accordance with the standard referred to in paragraph (*a*).

(3) Every person in charge of a place where industrial radiography involving the use of more than two sources containing radioactive prescribed substances is being carried out shall ensure that such radiography is being carried out under the supervision of a person who has been certified as a senior radiographer in accordance with the standard referred to in paragraph (2)(*a*).

(4) The Board may exempt any person from the requirements of subsection (3) upon such conditions as the Board may prescribe.

Permissible Doses

19. (1) Every person in possession of a radioactive prescribed substance or operating a nuclear facility shall limit the dose of ionizing radiation received by any person as a result of such possession or operation to any dose specified in Schedule II or the lower dose prescribed pursuant to subsection (2) in respect of that person.

(2) Where, on the recommendation of a medical adviser, it appears necessary in the interests of health and safety to do so, the Board or a designated officer may, with respect to any atomic radiation worker, prescribe a lower permissible dose of ionizing radiation than that specified in Schedule II for that worker and shall forthwith give notice thereof by registered mail to the person in possession of the radioactive prescribed substance or operating the nuclear facility who employs that worker.

(3) Where an atomic radiation worker has received a dose of ionizing radiation in excess of any dose specified in Schedule II or prescribed pursuant to subsection (2) in respect of that worker, he shall not engage in further work that is likely to add significantly to the amount of ionizing radiation that he has received until the Board approves thereof.

Loss or Theft of Prescribed Substances

20. (1) Every person in possession of a prescribed substance or operating a nuclear facility in which a prescribed substance is located shall, in the event of any loss or theft of such prescribed substance in a quantity exceeding ten times the scheduled quantity, make a report of such loss or theft within 24 hours to the inspector appointed for the place or area in which the loss or theft occurred and shall as soon as possible thereafter send a complete report of such loss or theft to the Board, such inspector and the person, if any, appointed pursuant to section 16 as radiation safety adviser for the place or area in which the loss or theft occurred.

(2) Nul ne doit prendre une radiographie industrielle, à moins

a) d'être accrédité comme radiographe industriel junior ou senior conformément à la norme 48-GP-4, *Norme régissant l'accréditation du personnel en radiographie industrielle*, publiée par l'Office des normes du gouvernement canadien; ou

b) de travailler en présence d'une personne qui est accréditée radiographe industriel junior ou senior conformément à la norme mentionnée à l'alinéa *a*).

(3) Toute personne responsable d'un lieu où sont exécutés des travaux de radiographie industrielle comportant l'utilisation de plus de deux sources contenant des substances prescrites radioactives doit s'assurer que lesdits travaux de radiographie sont exécutés sous la surveillance d'une personne qui est accréditée comme radiographe senior conformément à la norme mentionnée à l'alinéa (2)*a*).

(4) La Commission peut exempter toute personne des exigences du paragraphe (3) aux conditions qu'elle peut prescrire.

Doses admissibles

19. (1) Une personne qui possède une substance prescrite radioactive ou qui exploite un établissement nucléaire doit limiter la dose de rayonnements ionisants que peut recevoir une personne du fait de cette possession ou de cette exploitation à la dose indiquée au tableau II ou à la dose inférieure à celle prescrite par le paragraphe (2) pour cette personne.

(2) Lorsque, sur la recommandation d'un conseiller médical, il semble dans l'intérêt de l'hygiène et de la sûreté de le faire, la Commission ou un fonctionnaire désigné peut réduire la dose admissible de rayonnements ionisants prévue pour un travailleur sous rayonnements à un degré inférieur à celui indiqué à l'annexe II à l'égard de ce travailleur et la Commission doit en donner avis par poste recommandée à la personne qui possède la substance prescrite radioactive ou qui exploite un établissement nucléaire où le travailleur est employé.

(3) Lorsqu'un travailleur sous rayonnements a reçu une dose de rayonnements ionisants supérieure à la dose indiquée pour ledit travailleur à l'annexe II ou prescrire par le paragraphe (2), il ne doit pas effectuer d'autres travaux qui seraient susceptibles d'ajouter sensiblement à la quantité de rayonnements ionisants qu'il a reçue tant que la Commission n'a pas donné son approbation à cet effet.

Perte ou vol de substances prescrites

20. (1) Une personne qui possède une substance prescrite ou qui exploite un établissement nucléaire où se trouve une substance prescrite doit, en cas de vol ou de perte de ladite substance prescrite en une quantité qui dépasse dix fois la quantité réglementaire, présenter dans les 24 heures un rapport de ladite ou dudit vol à l'inspecteur nommé pour le lieu ou la région dans lequel ou laquelle la perte ou le vol est survenu, et elle doit ensuite, dès que possible, envoyer un rapport complet de la perte ou du vol à la Commission, audit inspecteur et à la personne, s'il en est, nommée en vertu de l'article 16 conseiller en radioprotection pour le lieu ou la région dans lequel ou laquelle la perte ou le vol est survenu.

(2) For the purpose of subsection (1), loss does not include any loss necessarily incidental to any authorized use of the prescribed substance.

Reporting Occurrence

21. (1) Every person

(*a*) in charge of a nuclear facility,

(*b*) in charge of a device or of equipment containing radioactive prescribed substances, or

(*c*) in possession of a radioactive prescribed substance shall, in the event of an occurrence that results or is likely to result in the receipt by any person of a dose of ionizing radiation in excess of any dose specified in respect of such person in Schedule II,

(*d*) report such occurrence within 24 hours to the inspector appointed for the place or area in which the occurrence has taken place;

(*e*) as soon as possible after the occurrence, send a complete report of such occurrence to the Board, to the inspector referred to in paragraph (*d*) and to the person or committee appointed pursuant to section 16 to advise on radiation safety in respect of the place or area in which the occurrence has taken place, and

(*f*) if the occurrence has resulted in the receipt by any person of a dose of ionizing radiation in excess of any dose specified in Schedule II, send a copy of the report referred to in paragraph (*e*) to the medical adviser appointed for the place or area in which the occurrence has taken place.

(2) In the event of any occurrence described in subsection (1), the person in charge of a nuclear facility or the equipment containing the prescribed substance or the person in possession of the prescribed substance, as the case may be, shall

(*a*) immediately take all appropriate measures to prevent or minimize exposure of any person to ionizing radiation resulting from such occurrence; and

(*b*) comply with any instructions that may be given by the inspector appointed for the place or area in which the occurrence has taken place.

Signs

22. (1) No person shall use a container to store or otherwise hold radioactive prescribed substances, except where such container forms part of the machinery attached to the manufacturing or processing equipment of a nuclear facility, unless there appears on such container

(*a*) the radiation warning symbol set out in Schedule III and the words "RADIATION-DANGER-RAYONNEMENT", clearly and prominently displayed on the outside thereof; and

(*b*) information with respect to the nature, form, quantity and date of measurement of the radioactive isotopes in the container.

(2) Subsection (1) does not apply to any container

(*a*) in which a quantity of radioactive isotopes less than the scheduled quantity is present;

(*b*) used temporarily to store radioactive isotopes under the supervision and in the presence of an atomic radiation worker; or

(2) Aux fins du paragraphe (1), la perte ne comprend pas une perte qui accompagne nécessairement toute utilisation autorisée de la substance prescrite.

Rapport d'incident

21. (1) Toute personne

a) responsable d'un établissement nucléaire,

b) responsable d'un dispositif ou de matériel contenant des substances prescrites radioactives, ou

c) en possession d'une substance prescrite radioactive doit dans le cas d'un incident par suite duquel une personne reçoit ou pourrait recevoir une dose de rayonnements ionisants supérieure à la dose indiquée pour ladite personne à l'annexe II,

d) rapporter ledit incident dans les 24 heures à l'inspecteur nommé pour le lieu ou la région dans lequel ou laquelle l'incident est survenu;

e) dès que possible après l'incident, envoyer un rapport complet dudit incident à la Commission, à l'inspecteur mentionné à l'alinéa *d*) et à la personne ou au comité nommé en vertu de l'article 16 pour donner des avis en matière de radioprotection pour le lieu ou la région dans lequel ou laquelle l'incident est survenu; et

f) si, par suite de l'incident, des personnes ont reçu une dose de rayonnements ionisants supérieure à la dose indiquée à l'annexe II, envoyer une copie du rapport mentionné à l'alinéa *e*) au conseiller médical nommé pour le lieu ou la région dans lequel ou laquelle l'incident est survenu.

(2) Dans le cas de tout incident décrit au paragraphe (1), la personne responsable d'un établissement nucléaire ou de matériel contenant la substance prescrite ou la personne en possession de la substance prescrite, selon le cas, doit

a) prendre immédiatement toutes les mesures appropriées pour prévenir ou minimiser l'exposition aux rayonnements ionisants causée par ledit incident; et

b) se conformer aux instructions que peut lui donner l'inspecteur nommé pour le lieu ou la région dans lequel ou laquelle l'incident est survenu.

Panneaux avertisseurs

22. (1) Il est interdit d'utiliser un récipient pour stocker ou contenir des substances prescrites radioactives, sauf lorsque ledit récipient fait partie de la machinerie reliée au matériel de fabrication ou de traitement d'un établissement nucléaire, sans que ledit récipient ne porte

a) le symbole de mise en garde contre les rayonnements décrit à l'annexe III et les mots «RADIATION-DANGER-RAYONNEMENT» inscrits nettement et bien en vue sur l'extérieur du récipient; et

b) des renseignements qui donnent la nature, la forme et la quantité des isotopes radioactifs que contient le récipient et la date à laquelle ces isotopes ont été mesurés.

(2) Le paragraphe (1) ne s'applique pas à un récipient

a) dans lequel se trouve une quantité d'isotopes radioactifs inférieure à la quantité réglementaire;

b) utilisé pour stocker provisoirement des isotopes radioactifs sous la surveillance et en la présence d'un travailleur sous rayonnements; ou

(*c*) used exclusively for shipping substances containing radioactive isotopes and labelled in accordance with the requirements set out in section 23.

(3) Where the container described in subsection (1) ceases to be used to store or otherwise hold radioactive isotopes, the person in charge of the container shall remove therefrom the radiation warning symbol set out in Schedule III and the words set out in paragraph (1)(*a*).

(4) Every person in charge of an area, room or enclosure in which

(*a*) radioactive isotopes are present in a quantity in excess of 100 times the scheduled quantity, or

(*b*) a person could receive a dose of ionizing radiation at a rate exceeding 0.0025 rem per hour,

shall mark such area, room or enclosure with a durable sign bearing

(*c*) the radiation warning symbol set out in Schedule III,

(*d*) the words "RADIATION–DANGER–RAYONNEMENT", and

(*e*) information with respect to the nature and extent of the radiation hazard.

(5) Any person in charge of an area, room or enclosure described in subsection (4) shall remove the sign described in that subsection if

(*a*) radioactive isotopes in excess of the quantity referred to in paragraph (4)(*a*) are no longer present in such area, room or enclosure; or

(*b*) such area, room or enclosure ceases to be a place where a person could receive a dose of ionizing radiation at a rate in excess of that set out in paragraph (4)(*b*).

Shipping Radioactive Prescribed Substances

23. (1) No person shall ship any radioactive prescribed substances unless the shipment thereof complies with the requirements respecting packaging and labelling and any other requirements prescribed

(*a*) by any body having jurisdiction by statute over the proposed mode of transport; or

(*b*) by the Canadian Transport Commission, if no requirements have been prescribed by any body described in paragraph (*a*).

(2) Notwithstanding subsection (1), the Board may exempt any shipment of radioactive prescribed substances from the provisions of paragraph (1)(*b*) upon such conditions as the Board may specify.

PART VII

GENERAL

Precautions

24. (1) Every person operating a nuclear facility or carrying on a business or undertaking involving the use of a prescribed substance shall, in addition to any other requirements of these Regulations,

(*a*) take all reasonable precautions in relation to the nuclear facility or the prescribed substance to protect persons and property from injury or damage;

c) utilisé exclusivement pour l'expédition de substances contenant des isotopes radioactifs et étiqueté conformément aux prescriptions de l'article 23.

(3) Lorsque le récipient décrit au paragraphe (1) cesse d'être utilisé pour stocker ou contenir des isotopes radioactifs, la personne responsable du contenant doit en enlever le symbole de mise en garde contre les rayonnements décrit à l'annexe III et les mots indiqués à l'alinéa (1)*a*).

(4) Toute personne responsable d'une zone, d'une pièce ou d'une enceinte où

a) se trouvent des isotopes radioactifs en une quantité supérieure à 100 fois la quantité réglementaire, ou

b) une personne pourrait recevoir une dose de rayonnements ionisants supérieure à 0.0025 rem par heure,

doit signaler ladite zone, pièce ou enceinte au moyen d'un panneau avertisseur, durable portant

c) le symbole de mise en garde contre les rayonnements décrit à l'annexe III;

d) les mots «RADIATION-DANGER-RAYONNEMENT»; et

e) des renseignements qui donnent la nature et l'importance du danger d'irradiation.

(5) Toute personne responsable d'une zone, d'une pièce ou d'une enceinte décrite au paragraphe (4) doit enlever le panneau décrit dans ledit paragraphe, si ladite zone, pièce ou enceinte

a) ne contient plus d'isotopes radioactifs en une quantité supérieure à la quantité mentionnée à l'alinéa (4)*a*); ou

b) cesse d'être un endroit où une personne pourrait recevoir une dose de rayonnements ionisants supérieure à celle qui est indiquée à l'alinéa (4)*b*).

Expédition des substances prescrites radioactives

23. (1) Il est interdit d'expédier une substance prescrite radioactive, à moins que l'expédition de ladite substance ne soit conforme aux prescriptions relatives à l'emballage et à l'étiquetage et à toutes autres prescriptions

a) d'un organisme qui, pour ce qui est du mode de transport proposé, a la compétence en vertu d'une loi; ou

b) de la Commission canadienne des transports, s'il n'existe aucune prescription émanant d'un organisme décrit à l'alinéa *a*).

(2) Nonobstant le paragraphe (1), la Commission peut, à ses conditions, exempter toute expédition de substances prescrites radioactives de l'application des dispositions de l'alinéa (1)*b*).

PARTIE VII

GÉNÉRALITÉS

Précautions

24. (1) Toute personne qui exploite un établissement nucléaire, un commerce ou une entreprise comportant l'utilisation d'une substance prescrite, doit, en plus de satisfaire aux autres exigences du présent règlement,

a) prendre toutes les précautions raisonnables à l'égard de l'établissement nucléaire ou de la substance prescrite pour protéger les personnes et les biens contre les blessures ou les dommages;

(*b*) at all appropriate times provide necessary devices for detecting and measuring ionizing radiation at the nuclear facility or at the place of such business or undertaking;

(*c*) at all appropriate times provide such devices, articles of clothing and equipment as are necessary for the protection of any person at the nuclear facility or at the place of such business or undertaking;

(*d*) take all reasonable precautions to prevent an escape of radioactive material from the premises; and

(*e*) in the event of an escape of radioactive material from the premises, provide adequate warning to any person who may reasonably be affected by such escape.

(2) Every person employed in or in connection with a nuclear facility or a business or undertaking involving the use of a prescribed substance shall, in the course of his employment,

(*a*) take all reasonable and necessary precautions to ensure his own safety and the safety of his fellow employees; and

(*b*) at all appropriate times, use such devices, wear such articles of clothing and make use of such equipment as are intended for his protection and furnished to him by his employer or required pursuant to the conditions in any licence that is applicable to him.

b) aux époques qui conviennent, fournir les dispositifs nécessaires pour détecter et mesurer les rayonnements ionisants à l'établissement nucléaire ou au lieu dudit commerce ou de ladite entreprise;

c) aux époques qui conviennent, fournir les dispositifs, les articles de vêtement et le matériel nécessaires pour assurer la protection de toute personne se trouvant dans l'établissement nucléaire ou au lieu dudit commerce ou de ladite entreprise;

d) prendre toutes les précautions raisonnables pour empêcher une fuite de matière radioactive des locaux; et

e) dans le cas d'une fuite de matière radioactive, donner un avertissement suffisant à toute personne pour qui une telle fuite peut raisonnablement constituer un risque.

(2) Toute personne qui travaille à ou pour un établissement nucléaire, un commerce ou une entreprise comportant l'utilisation d'une substance prescrite doit, durant la période d'un tel emploi,

a) prendre toutes les précautions raisonnables et nécessaires pour assurer sa propre sécurité et celle de ses compagnons de travail; et

b) aux époques qui conviennent, utiliser les dispositifs, porter les articles de vêtement et utiliser le matériel qui sont prévus pour sa protection et que lui fournit son employeur, ou que prescrivent les conditions de tout permis qui peut s'appliquer à elle.

Abandonment or Disposal of Prescribed Substances

25. No person shall abandon or dispose of any prescribed substance except

(*a*) in accordance with the conditions in any licence that is applicable to the prescribed substance and that is in force; or

(*b*) in accordance with the written instructions of the Board.

Abandon de substances prescrites

25. Il est interdit d'abandonner une substance prescrite ou de s'en départir, sauf

a) selon les conditions que renferme un permis en vigueur qui s'applique à la substance prescrite; ou

b) selon les instructions écrites de la Commission.

Disclosure of Information by the Board

26. No information that has been obtained by the Board by virtue of these Regulations with respect to any business shall be disclosed without the consent of the person carrying on such business, except

(*a*) to any department or agency of the Government of Canada or of a province or to a person authorized in writing by such department or agency to require such information for the purposes of discharging the function of that department or agency;

(*b*) for the purpose of any prosecution of an offence under the Act or these Regulations; or

(*c*) for the purpose of any obligation under any international treaty or arrangement for the control of atomic energy to which Canada is a party.

Divulgation de renseignements par la Commission

26. Aucun renseignement obtenu par la Commission en vertu du présent règlement au sujet d'une entreprise ne doit être divulgué sans le consentement de la personne qui exploite cette entreprise, sauf

a) à un ministère ou organisme du gouvernement du Canada ou d'une province ou à une personne autorisée par écrit par un tel ministère ou organisme à exiger de tels renseignements pour permettre à ce dernier de remplir ses fonctions;

b) à toute fin utile en cas de poursuite pour infraction à la Loi ou au présent règlement; ou

c) pour satisfaire à toute obligation découlant d'un traité international ou d'une entente internationale dont le Canada est signataire et qui vise le contrôle de l'énergie atomique.

Revocation, Suspension or Amendment

27. (1) Subject to subsections (2) and (3), the Board or a designated officer may, by notice in writing to the holder of any licence, revoke or suspend the licence or amend the terms and conditions thereof.

(2) A notice under subsection (1) is not required if the revocation, suspension or amendment of the terms and conditions is at the request of the holder of the licence.

Révocation, suspension ou modification

27. (1) Sous réserve des paragraphes (2) et (3), la Commission ou un fonctionnaire désigné peut, en donnant un avis écrit au titulaire d'un permis, révoquer ou suspendre ledit permis ou en modifier les modalités.

(2) Un avis donné en vertu du paragraphe (1) n'est pas exigé si la révocation, la suspension ou la modification des modalités du permis se fait à la demande du titulaire.

(3) The Board or a designated officer shall not issue a notice pursuant to subsection (1) unless the holder of the licence

(*a*) has been informed in writing of the reasons for the proposed issue of the notice and, in the case of an amendment of the terms and conditions thereof, the proposed amendments; and

(*b*) has been given reasonable opportunity to be heard by the Board after receiving the information referred to in paragraph (*a*).

(4) Notwithstanding subsection (3), the Board or a designated officer may, by notice in writing stating the reasons therefor, suspend a licence without giving the holder thereof an opportunity to be heard, where it is considered necessary to do so in the interests of health, safety or security.

(5) Where a licence has been suspended under subsection (4), the holder of the licence may within 10 days of the date of receipt of the notice of suspension submit a request in writing to the Board to hold an inquiry into the reasons for such suspension.

(6) On receipt of a written request referred to in subsection (5), the Board shall

(*a*) hold an inquiry within thirty days of the receipt of such request; and

(*b*) provide the holder of the licence at least seven days notice in writing of the time and place of the inquiry.

(7) At the conclusion of an inquiry under subsection (5), the Board may

(*a*) revoke the licence;

(*b*) revoke the suspension thereof; or

(*c*) extend the suspension thereof until the conditions prescribed by the Board have been complied with.

(8) Where a licence is supended under subsection (4) and a request has been made to hold an inquiry under subsection (5), the licensee may at any time prior to the date for the holding of the inquiry waive the requirement for the holding of the inquiry.

28. Where

(*a*) a breach of any of the terms and conditions of a licence has occurred,

(*b*) the holder of a licence intends to surrender his licence, or

(*c*) a licence has been revoked or suspended pursuant to subsection 27(1) or suspended pursuant to subsection 27(4),

the Board or a designated officer may, in writing, require the holder of the licence to take such measures as are considered necessary for the protection of persons and property until such time as the breach has been rectified or the activities being carried out under the authority of the licence have been properly terminated.

29. Any notice, document or other writing required by these Regulations to be given to any person shall be deemed to have been given where the notice, document or other writing has been sent by registered mail to the latest known address of such person.

Transitional

30. Any licences that are issued under the *Atomic Energy Control Regulations* approved by Order in Council P.C. 1960-348 of March 17, 1960, as amended, and that are in force at

(3) La Commission ou un fonctionnaire désigné ne doit pas donner un avis en vertu du paragraphe (1), sauf si le titulaire du permis

a) a été informé par écrit des raisons pour lesquelles elle ou il se propose de donner un tel avis, et, dans le cas d'une modification des modalités dudit permis, des modifications proposées; et

b) a eu une occasion raisonnable d'être entendu par la Commission après avoir reçu les renseignements mentionnés à l'alinéa *a*).

(4) Nonobstant le paragraphe (3), la Commission ou un fonctionnaire désigné peut, par un avis écrit qui énonce ses raisons, suspendre un permis sans donner à son titulaire l'occasion d'être entendu, lorsqu'elle juge nécessaire de le faire dans l'intérêt de l'hygiène, de la sûreté ou de la sécurité.

(5) Lorsqu'un permis a été suspendu en vertu du paragraphe (4), son titulaire peut, dans les 10 jours qui suivent la date de réception de l'avis de suspension, demander par écrit à la Commission de faire une enquête sur les raisons de ladite suspension.

(6) Dès la réception d'une demande écrite présentée aux termes du paragraphe (5), la Commission doit

a) faire une enquête dans les trente jours qui suivent réception d'une telle demande; et

b) donner au titulaire du permis un préavis écrit d'au moins sept jours concernant la date, l'heure et le lieu de l'enquête.

(7) A la conclusion d'une enquête faite en vertu du paragraphe (5), la Commission peut

a) révoquer le permis;

b) révoquer la suspension du permis; ou

c) prolonger la suspension du permis jusqu'à ce que les modalités prescrites par la Commission aient été respectées.

(8) Lorsqu'un permis est suspendu en vertu du paragraphe (4) et qu'une demande d'enquête a été présentée en vertu du paragraphe (5), le titulaire du permis peut, en tout temps avant la date de l'enquête, retirer la demande d'enquête.

28. Lorsque

a) une infraction à toute modalité d'un permis a été commise,

b) le titulaire d'un permis a l'intention de renoncer à son permis, ou

c) un permis a été révoqué ou suspendu en vertu du paragraphe 27(1) ou suspendu en vertu du paragraphe 27(4),

la Commission ou un fonctionnaire désigné peut, par écrit, exiger que le titulaire du permis prenne les mesures qu'elle juge nécessaires pour la protection des personnes et des biens jusqu'à ce que l'infraction ait été corrigée ou qu'on ait cessé complètement les activités autorisées par le permis.

29. Tout avis, document ou autre écrit qu'il est prescrit par le présent règlement de donner à une personne sera censé avoir été donné lorsqu'il aura été envoyé par poste recommandée à la dernière adresse connue de ladite personne.

Mesures transitoires

30. Tout permis en vigueur au moment où le présent règlement entrera en vigueur et délivré en vertu des *Règlements sur le contrôle de l'énergie atomique*, ratifiés par le décret

the date these Regulations come into effect shall be deemed to have been issued by the Board under these Regulations and shall remain in force for the term of the licence subject to these Regulations.

C.P. 1960-348 du 17 mars 1960, dans leur forme modifiée, est censé avoir été délivré en vertu du présent règlement et demeure en vigueur, sujet aux dispositions du présent règlement, la durée du permis.

SCHEDULE I

PART I

"microcurie" means that quantity of a radioactive isotope that is disintegrating at the rate of 37,000 disintegrations per second.

Scheduled Quantities of Radioactive Prescribed Substances

Single Isotopes	Microcuries
Actinium 227	0.1
Antimony 124	10
Arsenic 74	10
Barium 140	10
Beryllium 7	100
Bismuth 207	10
Bismuth 210	1
Bromine 82	10
Cadmium 109	10
Calcium 45	10
Calcium 47	10
Carbon 14	100
Cerium 144	1
Cesium 134	10
Cesium 137	10
Chlorine 36	10
Chromium 51	100
Cobalt 58	10
Cobalt 57	10
Cobalt 60	10
Copper 64	100
Copper 67	100
Gold 198	10
Hydrogen 3	1000
Iodine 123	100
Iodine 125	1
Iodine 131	1
Iodine 132	10
Indium 113	100
Indium 114	10
Iridium 192	10
Iron 55	100
Iron 59	10
Krypton 85	100
Lanthanum 140	10
Lead 210	0.1
Manganese 54	10
Manganese 56	10
Mercury 197	100
Mercury 203	10
Molybdenum 99	10
Nickel 63	10
Phosphorus 32	10
Polonium 210	0.1
Potassium 42	10
Promethium 147	10

ANNEXE I

PARTIE I

«microcurie» signifie la quantité d'un isotope radioactif qui se désintègre au rythme de 37,000 désintégrations par seconde.

Quantités réglementaires de substances prescrites radioactives

Isotopes simples	Microcuries
Actinium 227	0.1
Antimoine 124	10
Argent 110	10
Arsenic 74	10
Baryum 140	10
Béryllium 7	100
Bismuth 207	10
Bismuth 210	1
Brome 82	10
Cadmium 109	10
Calcium 45	10
Calcium 47	10
Carbone 14	100
Cérium 144	1
Césium 134	10
Césium 137	10
Chlore 36	10
Chrome 51	100
Cobalt 58	10
Cobalt 57	10
Cobalt 60	10
Cuivre 64	100
Cuivre 67	100
Étain 133	10
Fer 55	100
Fer 59	10
Hydrogène 3	1000
Iode 123	100
Iode 125	1
Iode 131	1
Iode 132	10
Indium 113	100
Indium 114	10
Iridium 192	10
Krypton 85	100
Lanthane 140	10
Manganèse 54	10
Manganèse 56	10
Mercure 197	100
Mercure 203	10
Molybdène 99	10
Nickel 63	10
Or 198	10
Phosphore 32	10
Plomb 210	0.1
Polonium 210	0.1

Single Isotopes	Microcuries
Radium 226	0.1
Rubidium 86	10
Scandium 46	10
Selenium 75	10
Silver 110	10
Sodium 22	10
Sodium 24	10
Strontium 85	10
Strontium 89	10
Strontium 90	0.1
Sulphur 35	10
Technetium 99	10
Technetium 99m	100
Tin 133	10
Thallium 204	10
Xenon 133	100
Xenon 135	100
Yitrium 87	10
Yitrium 90	10
Zinc 65	10
Except as otherwise specified by the Board:	
Isotopes of elements of atomic number greater than 89	0.1
Other isotopes not referred to above	1

Isotopes simples	Microcuries
Potassium 42	10
Prométhium 147	10
Radium 226	0.1
Rubidium 86	10
Scandium 46	10
Sélénium 75	10
Sodium 22	10
Sodium 24	10
Soufre 35	10
Strontium 85	10
Strontium 89	10
Strontium 90	0.1
Technétium 99	10
Technétium 99m	100
Thallium 204	10
Xénon 133	100
Xénon 135	100
Yttrium 87	10
Yttrium 90	10
Zinc 65	10
Sauf indication contraire de la Commission:	
Les isotopes des éléments de numéro atomique supérieur à 89	0.1
Les autres isotopes non-énumérés ci-dessus	1

PART II

Two or more Isotopes

The scheduled quantity shall be determined by the equation

$$\frac{A_1}{M_1} \text{ plus } \frac{A_2}{M_2} \text{ plus } \frac{A_3}{M_3} \text{ plus } \ldots \text{ equals } 1$$

where A_1, A_2, A_3 etc. are the quantities of the isotopes involved and M_1, M_2, M_3 etc. are the scheduled quantities of such isotopes.

PARTIE II

Deux isotopes ou plus

La quantité réglementaire doit être calculée d'après l'équation

$$\frac{A_1}{M_1} \text{ plus } \frac{A_2}{M_2} \text{ plus } \frac{A_3}{M_3} \text{ plus } \ldots \text{ égale } 1$$

où A_1, A_2, A_3, etc., sont les quantités des isotopes en cause et M_1, M_2, M_3, etc., sont les quantités réglementaires desdits isotopes.

SCHEDULE II

*Maximum permissible doses**

Column I	Column II		Column III		Column IV
Organ, Tissue	Atomic Radiation Workers		Female Atomic Radiation Workers of Reproductive Capacity		Any Other Person
	Rems** per Quarter of a Year	Rems** per Year	Rems per Quarter of a Year	Rems per Year	Rems per Year
Whole body, gonads, bone marrow	3	5	1.3***	5***	0.5
Bone, Skin, Thyroid	15	30	15	30	3****
Any tissue of hands, forearms, feet and ankles	38	75	38	75	7.5
[illegible]er single organs [illegible]ssues	8	15	8	15	1.5

*The maximum permissible doses specified in this Table do not apply to ionizing radiation

(*a*) received by a patient in the course of medical diagnosis or treatment by a qualified medical practitioner; or

(*b*) received by a person carrying out emergency procedures undertaken to avert danger to human life.

**The Board may, where appropriate alternatives are unavailable or impractical, permit single or accumulated doses up to twice the annual maximum permissible doses, unless, in the case of irradiation of the whole body, gonads or bone marrow, the average dose received from age 18 years up to and including the current year exceeds 5 rems per year.

***The dose to the abdomen shall not exceed 0.2 rem per two weeks, and if the person is known to be pregnant, the dose to the abdomen shall not exceed 1 rem during the remaining period of pregnancy.

****The dose to the thyroid of a person under the age of 16 years shall not exceed 1.5 rems per year.

NOTE: In determining the dose, the contribution from sources of ionizing radiation both inside and outside the body shall be included.

ANNEXE II

*Doses maximales admissibles**

Colonne I	Colonne II		Colonne III		Colonne IV
Organe, tissu	Travailleurs sous rayonnements		Femmes affectées à des travaux sous rayonnements et en état de procréer		Toutes les autres personnes
	Nombre** de rems par trimestre	Nombre** de rems par année	Nombre de rems par trimestre	Nombre de rems par année	Nombre de rems par année
Tout le corps, gonades, moelle des os	3	5	1.3***	5***	0.5
Os, peau, thyroïde	15	30	15	30	3****
Tout tissu des mains, des avantbras, des pieds et des chevilles	38	75	38	75	7.5
Autres organes ou tissus pris isolément	8	15	8	15	1.5

*La dose maximale admissible qui est indiquée au présent tableau ne s'applique pas au rayonnement ionisant

a) reçus par un patient lors d'un examen médical ou de soins donnés par un médecin compétent; ou

b) reçue par une personne qui exécute des mesures d'urgence pour prévenir un danger pour la vie humaine.

**La Commission peut, lorsqu'il n'existe aucun recours approprié ou pratique, permettre qu'une dose isolée ou plusieurs doses atteignent jusque le double de la dose maximale admissible par année, pourvu que la dose moyenne reçue depuis l'âge de 18 ans jusqu'à l'année en cours, inclusivement, ne dépasse pas 5 rems par année.

***La dose reçue au niveau de l'abdomen ne doit pas dépasser 0.2 de rem par période de deux semaines et, si la grossesse d'une personne est reconnue, cette dose ne doit pas dépasser 1 rem pendant le reste de la grossesse.

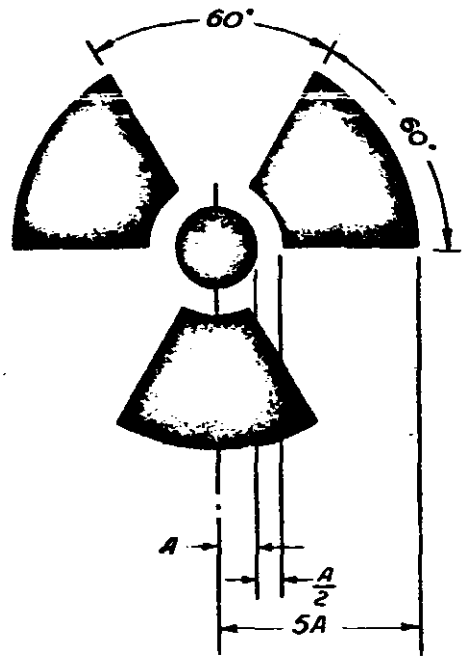
****La dose reçue au niveau de la thyroïde d'une personne âgée de moins de 16 ans ne doit pas dépasser 1.5 de rem par année.

REMARQUE: Pour la détermination de la dose, il faut tenir compte de l'apport des sources de rayonnements ionisants tant à l'intérieur qu'à l'extérieur du corps.

SCHEDULE III

Radiation Warning Symbol

1. For the purposes of section 22 of the *Atomic Energy Control Regulations*, the following radiation warning symbol shall be used:



A = Radius of Central Disc.

NOTE: Construction lines do not appear in actual symbol.

2. The symbol shall be as prominent as is practical, and of a size consistent with the size of the equipment or material to which it is affixed or attached, and shall be of such size as to permit the symbol to be read from a safe distance, but the proportions set out in section 1 are to be maintained.

3. Unless the circumstances do not permit, the symbol shall be oriented with one blade pointed downward and centered on the vertical axis.

4. Appropriate wording used in association with the radiation symbol to indicate the nature of the source of radiation, type of radiation, limits of occupancy and similar precautionary information, shall not be superimposed on the symbol.

5. The three blades and the centre disc of the symbol shall be

(*a*) coloured reddish purple (magenta) or black, and

(*b*) located on a yellow background,

and the colours shall be similar to those shown in Canadian Standards Association "Specification for a Radiation Symbol, Z69-1960."

ANNEXE III

Symbole de mise en garde contre les rayonnements

1. Aux fins de l'article 22 du *Règlement sur le contrôle de l'énergie atomique*, le symbole de mise en garde contre les rayonnements, décrit ci-après, doit être utilisé:

A = Rayon du disque central.

Remarque: Les lignes du dessin ne paraissent pas dans le symbole même.

2. Le symbole doit être aussi en vue que possible et ses dimensions doivent être compatibles avec celles du matériel ou de la matière auquel il est apposé ou fixé, et il doit être assez gros pour permettre à quiconque de le lire à une distance sûre, mais les proportions indiquées à l'article 1" doivent être conservées.

3. A moins que les circonstances ne le permettent pas, le symbole doit être orienté de façon qu'une des pales pointe vers le bas et soit centrée sur l'axe vertical.

4. Il est interdit de superposer au symbole de mise en garde contre les rayonnements les termes appropriés utilisés conjointement avec le symbole pour indiquer la nature de la source de rayonnement, le genre de rayonnement, le champ du rayonnement ou pour donner d'autres renseignements de mise en garde du genre.

5. Les trois pales et le disque central du symbole doivent être

a) de couleur rouge violacé (magenta) ou noir, et

b) dessinés sur fond jaune,

et les couleurs doivent être semblables à celles qui sont indiquées dans la norme intitulée «Specification for a Radiation Symbol, Z69-1960» et établie par l'Association canadienne de normalisation.

(*Extract from the* Canada Gazette *Part I, dated June 8, 1974*)

ATOMIC ENERGY CONTROL BOARD

Order No. 1/2/74

ATOMIC ENERGY CONTROL ACT

Order designating the biological effects of ionizing radiation for purpose of the definition "rem" in subsection 2(1) of the Atomic Energy Control Regulations

The Atomic Energy Control Board, pursuant to subsection 2(3) of the Atomic Energy Control Regulations, made by Order-in-Council P.C. 1195 dated 30 May 1974, hereby makes the annexed Order designating biological effects for the purpose of the definition "rem" in subsection 2(1) of the Atomic Energy Control Regulations.

Dated at Ottawa, this 4th day of June 1974

By Order of the Board
R. W. BLACKBURN
Secretary

SCHEDULE

ORDER DESIGNATING THE BIOLOGICAL EFFECTS OF IONIZING RADIATIONS FOR PURPOSE OF THE DEFINITION "REM" IN SUBSECTION 2(1) OF THE ATOMIC ENERGY CONTROL REGULATIONS

Short Title

1. This Order may be cited as *Board Order No. 1/2/74.*

Designation

2. For the purpose of the definition "rem" in subsection 2(1) of the *Atomic Energy Control Regulations*

(*a*) gamma rays and beta particles are deemed to have the same biological effects as 200-250 kilovolt x-rays have,

(*b*) neutrons having an energy not exceeding eight kilo electron volts are deemed to have three times the biological effects that 200-250 kilovolt x-rays have,

(*c*) neutrons having an energy exceeding eight kilo electron volts, protons and alpha particles are deemed to have ten times the biological effects that 200-250 kilovolt x-rays have, and

(*d*) heavier nuclei are deemed to have twenty times the biological effects that 200-250 kilovolt x-rays have,

for the same energy absorbed per unit mass by the body or any organ or tissue thereof.

(*Extrait de la* Gazette du Canada *Partie I, en date du 8 juin 1974*

COMMISSION DE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance N° 1/2/74

LOI SUR LE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance désignant l'effet biologique d'un rayonnement ionisant dans le but de définir le terme «rem» dans le paragraphe 2(1) du Règlement sur le contrôle de l'énergie atomique

Conformément au paragraphe 2(3) du Règlement sur le contrôle de l'énergie atomique, établi par le décret C.P. 1195, du 30 mai 1974, il plaît à la Commission de contrôle de l'énergie atomique de désigner à l'annexe ci-jointe l'effet biologique d'un rayonnement ionisant dans le but de définir le terme «rem» dans le paragraphe 2(1) dudit Règlement.

Émis en la ville d'Ottawa, ce 4e jour de juin 1974

De par la Commission
Le secrétaire
R. W. BLACKBURN

ANNEXE

ORDONNANCE DÉSIGNANT L'EFFET BIOLOGIQUE DES RAYONNEMENTS IONISANTS DANS LE BUT DE DÉFINIR LE TERME «REM» DANS LE PARAGRAPHE 2(1) DU RÈGLEMENT SUR LE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Titre abrégé

1. On pourra citer cette ordonnance sous l'appellation *Ordonnance de la Commission 1/2/74.*

Désignation

2. Pour ce qui a trait à la définition de «rem» dans le paragraphe 2(1) du *Règlement sur le contrôle de l'énergie atomique*

a) on estime que les rayons gamma et les particules beta ont les mêmes effets biologiques que ceux des rayons X d'énergie de 200-250 kilovolts,

b) on estime que les neutrons d'énergie ne dépassant pas huit kilo-électron-volts (8 kev) ont des effets biologiques trois fois plus grands que ceux des rayons X de 200-250 kilovolts,

c) on estime que des neutrons d'énergie dépassant huit kilo-électrons-volts (8 kev), les protons ainsi que les particules alpha ont des effets biologiques dix fois plus grands que ceux de rayons X de 200-250 kilovolts, et

d) on estime que les noyaux plus lourds ont des effets biologiques vingt fois plus grands que ceux des rayons X de 200-250 kilovolts,

pour la même énergie absorbée par unité de masse par le corps ou tout organe ou tissu de même provenance.

ATOMIC ENERGY CONTROL BOARD

Order No. 1/6/74

ATOMIC ENERGY CONTROL ACT

Order appointing officers of the Atomic Energy Control Board as designated officers for the purpose of subparagraph 6(2)(e)(ii) of the Atomic Energy Control Regulations

The Atomic Energy Control Board pursuant to subparagraph 6(2)(e)(ii) of the Atomic Energy Control Regulations, made by Order-in-Council P.C. 1195 dated 30 May 1974, hereby designates as officers for the purposes of that subparagraph the persons set out in the schedule hereto.

Dated at Ottawa, this 4th day of June 1974

By Order of the Board
R. W. BLACKBURN
Secretary

SCHEDULE

1. The President of the Atomic Energy Control Board.

2. The Secretary of the Atomic Energy Control Board.

3. The Chief Scientific Adviser of the Atomic Energy Control Board.

4. The Director, Material and Equipment Control Directorate, of the Atomic Energy Control Board.

[23-1-o]

COMMISSION DE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance Nº 1/6/74

LOI SUR LE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnances nommant des fonctionnaires de la Commission de contrôle de l'énergie atomique comme fonctionnaires désignés conformément au sous-alinéa 6(2)e)(ii) du Règlement sur le contrôle de l'énergie atomique

Conformément au sous-alinéa 6(2)e)(ii) du Règlement sur le contrôle de l'énergie atomique, établi par le décret C.P. 1195 du 30 mai 1974, il plaît à la Commission de contrôle de l'énergie atomique de nommer comme fonctionnaires désignés aux termes de ce sous-alinéa les personnes dont le nom apparaît à l'annexe ci-jointe.

Émis en la ville d'Ottawa, ce 4e jour de juin 1974

De par la Commission
Le secrétaire
R. W. BLACKBURN

ANNEXE

1. Le président de la Commission de contrôle de l'énergie atomique.

2. Le secrétaire de la Commission de contrôle de l'énergie atomique.

3. Le conseiller scientifique principal de la Commission de contrôle de l'énergie atomique.

4. Le directeur, Direction du contrôle des matériaux et du matériel à la Commission de contrôle de l'énergie atomique.

[23-1-o]

ATOMIC ENERGY CONTROL BOARD

Order No. 1/7/74

ATOMIC ENERGY CONTROL ACT

Order appointing officers of the Atomic Energy Control Board as designated officers for the purpose of subsections 7(1) and 7(4) of the Atomic Energy Control Regulations

The Atomic Energy Control Board pursuant to subsections 7(1) and 7(4) of the Atomic Energy Control Regulations, made by Order-in-Council P.C. 1195 dated 30 May 1974, hereby designates the persons set out in Column I of the Schedule hereto as officers with authority to issue the licenses described in Column II of the Shedule.

Dated at Ottawa this 4th day of June 1974

By Order of the Board
R. W. BLACKBURN
Secretary

COMMISSION DE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance Nº 1/7/74

LOI SUR LE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance nommant des fonctionnaires de la Commission de contrôle de l'énergie atomique comme fonctionnaires désignés conformément aux paragraphes 7(1) et 7(4) du Règlement sur le contrôle de l'énergie atomique

Conformément aux paragraphes 7(1) et 7(4) du Règlement sur le contrôle de l'énergie atomique, établi par le décret C.P. 1195 du 30 mai 1974, il plaît à la Commission de contrôle de l'énergie atomique de nommer comme fonctionnaires désignés aux termes de ces paragraphes, les personnes dont le nom apparaît dans la colonne I de l'annexe ci-jointe pour émettre les permis dont la description se trouve dans la colonne II de ladite annexe.

Émis en la ville d'Ottawa, ce 4e jour de juin 1974

De par la Commission
Le secrétaire
R. W. BLACKBURN

SCHEDULE

Column I	*Column II*
President of the Atomic Energy Control Board	A licence for any purpose referred to in subsections 7(1) and 7(4)
Secretary of the Atomic Energy Control Board	A licence for any purpose referred to in subsections 7(1) and 7(4)
Chief Scientific Adviser Atomic Energy Control Board	A licence for any purpose referred to in subsections 7(1) and 7(4)
Director, Material and Equipment Control Directorate, Atomic Energy Control Board	A licence to possess, use, export and import prescribed substances other than radioactive isotopes.
Chief, Administrative Division, Atomic Energy Control Board	A licence to possess, use, export and import radioactive isotopes
Administrative Officer, Radioisotope Licensing, Atomic Energy Control Board	A licence to possess, use, export and import radioactive isotopes

[23-1-o]

ANNEXE

Colonne I	*Colonne II*
Le président de la Commission de contrôle de l'énergie atomique	Un permis à tout effet tel que décrit dans les paragraphes 7(1) et 7(4)
Le secrétaire de la Commission de contrôle de l'énergie atomique	Un permis à tout effet tel que décrit dans les paragraphes 7(1) et 7(4)
Le conseiller scientifique principal	Un permis à tout effet tel que décrit dans les paragraphes 7(1) et 7(4)
Le directeur, Direction du contrôle des matériaux et du matériel, Commission de contrôle de l'énergie atomique	Un permis allouant la possession, l'usage, l'exportation et l'importation des substances prescrites autres que les isotopes radioactifs
Le chef, Division de l'administration, Commission de contrôle de l'énergie atomique	Un permis couvrant la possession, l'usage, l'importation et l'exportation d'isotopes radioactifs
Administrateur, Permis pour radioisotopes, Commission de contrôle de l'énergie atomique	Un permis couvrant la possession, l'usage, l'exportation et l'importation d'isotopes radioactifs

[23-1-o]

ATOMIC ENERGY CONTROL BOARD

Order No. 1/12/74

ATOMIC ENERGY CONTROL ACT

Order appointing officers of the Atomic Energy Control Board as designated officers for the purpose of subsection 12(1) of the Atomic Energy Control Regulations

The Atomic Energy Control Board pursuant to subsection 12(1) of the Atomic Energy Control regulations made by Order-in-Council P.C. 1195 dated 30 May 1974, hereby designates as officers for the purposes of that subsection the persons set out in the schedule hereto.

Dated at Ottawa, this 4th day of June 1974

By Order of the Board
R. W. BLACKBURN
Secretary

SCHEDULE

1. The President of the Atomic Energy Control Board.

2. The Secretary of the Atomic Energy Control Board.

3. The Chief Scientific Adviser of the Atomic Energy Control Board.

[23-1-o]

COMMISSION DE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance Nº 1/12/74

LOI SUR LE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance nommant certains fonctionnaires de la Commission de contrôle de l'énergie atomique comme fonctionnaires désignés conformément au paragraphe 12(1) du Règlement sur le contrôle de l'énergie atomique

Conformément au paragraphe 12(1) du Règlement sur le contrôle de l'énergie atomique, établi par le décret C.P. 1195 du 30 mai 1974, il plaît à la Commission de contrôle de l'énergie atomique de nommer comme fonctionnaires désignés aux termes de ce paragraphe les personnes dont le nom apparaît à l'annexe ci-jointe.

Émis en la ville d'Ottawa, ce 4e jour de juin 1974

De par la Commission
Le secrétaire
R. W. BLACKBURN

ANNEXE

1. Le président de la Commission de contrôle de l'énergie atomique.

2. Le secrétaire de la Commission de contrôle de l'énergie atomique.

3. Le conseilleur scientifique principal de la Commission de contrôle de l'énergie atomique.

[23-1-o]

ATOMIC ENERGY CONTROL BOARD

Order No. 1/14/74

ATOMIC ENERGY CONTROL ACT

Order designating Chalk River Nuclear Laboratories as a protected place

The Atomic Energy Control Board pursuant to section 14 of the Atomic Energy Control Regulations, made by Order-in-Council P.C. 1195 dated 30 May 1974, hereby makes the annexed Order respecting the designation of Chalk River Nuclear Laboratories as a protected place.

Dated at Ottawa, this 4th day of June 1974

By Order of the Board
R. W. BLACKBURN
Secretary

COMMISSION DE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance N° 1/14/74

LOI SUR LE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance désignant les Laboratoires nucléaires de Chalk River comme un lieu protégé

Conformément à l'article 14 du Règlement sur le contrôle de l'énergie atomique, établi par le décret C.P. 1195 du 30 mai 1974, il plaît à la Commission de contrôle de l'énergie atomique de rendre l'Ordonnance ci-annexée désignant les Laboratoires nucléaires de Chalk River comme un lieu protégé.

Émis en la ville d'Ottawa, ce 4e jour de juin 1974

De par la Commission
Le secrétaire
R. W. BLACKBURN

ORDER DESIGNATING CHALK RIVER NUCLEAR LABORATORIES AS A PROTECTED PLACE

Short Title

1. This Order may be cited as the *Board Order No. 1/14/74*.

Interpretation

2. In this Order "protected place" means the place designated as a protected place by section 3.

Designation of Protected Place

3. The place described in the schedule is hereby designated as a protected place.

Terms and Conditions

4. Subject to section 5, no person shall enter upon or be in the protected place.

5. (1) Any person employed or having business at the plant situated within the protected place may traverse the road leading from Provincial Highway No. 17 to the plant area and may be in or on the parts of plant area for which he has an unexpired pass.

(2) Any tenant of land within the protected place and any member of his family and his guests and persons having business with them may traverse the road leading from Provincial Highway No. 17 to but not beyond the land leased to the tenant and be in or on the leased land.

(3) Any person specially authorized to do so by the Board or Atomic Energy of Canada Limited may be in or on the protected place in accordance with such authorization.

6. No person shall bring into or have in or on the protected place any firearm or other offensive weapon except as specially authorized by the Board or by Atomic Energy of Canada Limited.

ORDONNANCE DÉSIGNANT LES LABORATOIRES NUCLÉAIRES DE CHALK RIVER UN LIEU PROTÉGÉ

Titre abrégé

1. On pourra citer cette ordonnance sous l'appellation *Ordonnance de la Commission 1/14/74*.

Interprétation

2. Dans cette ordonnance, «lieu protégé» signifie l'endroit désigné comme lieu protégé par l'article 3.

Désignation du lieu protégé

3. L'endroit décrit dans l'annexe ci-après est par les présentes désigné comme un lieu protégé.

Modalités

4. Sous réserve de l'article 5, personne ne devra pénétrer ou se trouver dans un lieu protégé.

5. (1) Toute personne étant employée ou ayant affaire à l'établissement situé au sein du lieu protégé peut emprunter la route qui conduit de l'autoroute provinciale n° 17 au site de l'établissement et peut se trouver dans ou sur les endroits qui font partie de l'établissement et pour lesquels elle détient un laissez-passer valide.

(2) Tout locataire ou tenancier de terrain situé dans le lieu protégé, ainsi que tout membre de sa famille et ses invités, de même que les personnes ayant affaire avec lui peuvent emprunter la route qui conduit de l'autoroute provinciale n° 17 jusqu'à, mais sans dépasser le terrain en tenure, et peuvent se trouver dans ou sur ledit terrain.

(3) Toute personne spécialement autorisée à le faire par la Commission ou l'Énergie Atomique du Canada Limitée peut se trouver dans ou sur le lieu protégé, conformément à telle autorisation.

6. Personne ne devra apporter, avoir en sa possession, dans ou sur le lieu protégé, quelque arme à feu ou autre arme offensive sauf sous autorisation spéciale de la part de la Commission ou de l'Énergie Atomique du Canada Limitée.

SCHEDULE

1. That certain parcel of land and premises situate, lying and being in the Township of Buchanan, in the County of Renfrew, in the Province of Ontario, described as follows:

Commencing at a point on the shoreline of the Ottawa River where the north boundary of the Petawawa Military Reserve, which is also the lot line between lots 18 and 19, Range 'B', of the said township of Buchanan, meets the shoreline of the Ottawa River, thence in a westerly direction along the northerly boundary of the Petawawa Military Reserve, which line is also the lot line between lots 18 and 19, Range 'b' and 'a', and the line between concessions VII and VIII of the said township of Buchanan, to the south westerly corner of lot 6, concession VIII, thence in the northerly direction along the line between lots 5 and 6 of concessions VIII, IX, X, XI, XII, XIII, XIV, to the point where the said lot line meets the south westerly limit of Range 'A' in lot 41, Range 'A', thence south easterly along the south westerly limit of Range 'A', to the north westerly corner of lot 38, Range 'A', thence north easterly along the line between lots 38 and 39, Ranges 'A' and 'B', to the shoreline of the Ottawa River, thence south easterly along the shoreline of the said Ottawa River and including the lighthouse point at lots 26 and 27, Range 'B', to the point of commencement; the said premises including the following lots:

Lot	19	to lot	38 inclusive	Range 'A'
Lot	19	to lot	38 inclusive	Range 'B'
Lot	6	to lot	17 inclusive	Concession VIII
Lot	6	to lot	16 inclusive	Concession IX
Lot	6	to lot	15 inclusive	Concession X
Lot	6	to lot	12 inclusive	Concession XI
Lot	6	to lot	11 inclusive	Concession XII
Lot	6	to lot	8 inclusive	Concession XIII
Lot	6	to lot	7 inclusive	Concession XIV

in the said township of Buchanan, together with all roads and road allowances which lie wholly within the boundaries above described;

as being premises in relation to which, by reason of research and investigation with respect to atomic energy and utilization and preparation for utilization of atomic energy and dealings in prescribed substances carried out and proposed to be carried out therein, special precautions are, in the opinion of the Board, necessary for the protection of persons and property and to prevent the disclosure against the public interest of information with respect to atomic energy.

[23-1-o]

ANNEXE

1. Cette dite parcelle de terre et les lieux situés, se trouvant et étant partie du canton de Buchanan, dans le comté de Renfrew, en la province de l'Ontario, et décrits comme suit:

Commençant à un point sur la rive de la rivière Ottawa où la limite nord de la Réserve militaire de Petawawa, qui coïncide avec la ligne de lot séparant les lots 18 et 19, rang 'B', dudit canton de Buchanan, touche la rive de la rivière Ottawa; de là vers l'ouest, le long de la limite nord de la Réserve militaire de Petawawa, laquelle ligne est aussi la ligne de séparation des lots 18 et 19, rang 'b' et 'a', et la ligne séparant les concessions VII et VIII dudit canton de Buchanan, puis vers l'angle sud-ouest du lot 6, concession VIII, de là vers le nord, le long de la ligne séparant les lots 5 et 6 des concessions VIII, IX, X, XI, XII, XIII, XIV, jusqu'au point où ladite ligne de lot rencontre la limite sud-ouest du rang 'A' dans le lot 41, Rang 'A', de là au sud-est le long de la limite sud-ouest du rang 'A', à l'angle nord-ouest du lot 38, rang 'A', puis vers le nord-est suivant la ligne qui sépare les lots 38 et 39, rangs 'A' et 'B', jusqu'à la rive de la rivière Ottawa, puis vers le sud-est le long de ladite rivière Ottawa, et comprenant le site du phare aux lots 26 et 27, rang 'B', jusqu'au point de départ; cesdits lieux comprenant les lots suivants:

Les lots 19 à 38, celui-ci inclus Rang 'A'
Les lots 19 à 38, celui-ci inclus rang 'B'
Les lots 6 à 17, celui-ci inclus Concession VIII
Les lots 6 à 16, celui-ci inclus Concession IX
Les lots 6 à 15, celui-ci inclus Concession X
Les lots 6 à 12, celui-ci inclus Concession XI
Les lots 6 à 11, celui-ci inclus Concession XII
Les lots 6 à 8, celui-ci inclus Concession XIII
Les lots 6 à 7, celui-ci inclus Concession XIV

dans ledit canton de Buchanan, ainsi que toutes les routes et les permissions de voyager dans la totalité du secteur ci-devant décrit;

étant donné que, d'après la pensée de la Commission, les recherches et les études scientifiques touchant à l'énergie atomique, à son usage et à la préparation de matériaux prescrits, au transport éventuel, à l'entrée et à la sortie, de tels matériaux exigent un système de protection très serré, tant pour le personnel que pour les établisements, afin de prévenir toute fuite d'information qui pourrait être préjudiciable à l'intérêt général en matière d'énergie atomique.

[23-1-o]

ATOMIC ENERGY CONTROL BOARD

Order No. 2/14/74

ATOMIC ENERGY CONTROL ACT

Order designating the Whiteshell Nuclear Research Establishment as a protected place

The Atomic Energy Control Board pursuant to section 14 of the Atomic Energy Control Regulations, made by Order-in-Council P.C. 1195 dated 30 May 1974, hereby

COMMISSION DE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance Nº 2/14/74

LOI SUR LE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance désignant l'établissement de recherche nucléaire de Whiteshell comme un lieu protégé

Conformément à l'article 14 du Règlement sur le contrôle de l'énergie atomique, établi par le décret C.P. 1195 du 30 mai 1974, il plaît à la Commission de contrôle de l'énergie

makes the annexed Order respecting the designation of the Whiteshell Nuclear Research Establishment as a protected place.

Dated at Ottawa, this 4th day of June 1974

By Order of the Board
R. W. BLACKBURN
Secretary

atomique de rendre l'Ordonnance ci-annexée désignant l'établissement de recherche nucléaire de Whiteshell comme un lieu protégé.

Émis en la ville d'Ottawa, ce 4e jour de juin 1974

De par la Commission
Le secrétaire
R. W. BLACKBURN

ORDER DESIGNATING THE WHITESHELL NUCLEAR RESEARCH ESTABLISHMENT IN THE PROVINCE OF MANITOBA AS A PROTECTED PLACE

Short Title

1. This Order may be cited as the *Board Order No. 2/14/74*.

Interpretation

2. In this Order "protected place" means the place designated as a protected place by section 3.

Designation of Protected Place

3. The place described in the schedule is hereby designated as a protected place.

Terms and Conditions

4. Subject to section 5, no person shall enter upon or be in the protected place.

5. (1) Any person employed or having business at the plant situated within the protected place may traverse the road leading from the provincial highway to the plant area and may be in or on the parts of the plant area for which he has an unexpired pass.

(2) Any person specially authorized to do so by the Board or Atomic Energy of Canada Limited may be in or on the protected place in accordance with such authorization.

6. No person shall bring into or have in or on the protected place any firearm or other offensive weapon except as specially authorized by the Board or by Atomic Energy of Canada Limited.

SCHEDULE

1. All that certain parcel of land and premises situate, lying and being in the Province of Manitoba, described as follows:

Township 14 Range 10E

Section 12 (Northeast and Southeast quarter sections only)
Section 13 (Northeast and Southeast quarter sections only)

Township 14 Range 11E

Section 8 (East of Winnipeg River only)
Section 9
Section 10
Section 11
Section 14

ORDONNANCE DÉSIGNANT L'ÉTABLISSEMENT DE RECHERCHE NUCLÉAIRE DE WHITESHELL DANS LA PROVINCE DU MANITOBA UN LIEU PROTÉGÉ

Titre abrégé

1. On pourra citer cette ordonnance sous l'appellation *Ordonnance de la Commission 2/14/74*.

Interprétation

2. Dans cette ordonnance, «lieu protégé» signifie l'endroit désigné comme un lieu protégé par l'article 3.

Désignation du lieu protégé

3. L'endroit décrit dans l'annexe ci-après est par les présentes désigné comme un lieu protégé.

Modalités

4. Sous réserve de l'article 5, personne ne devra pénétrer ou se trouver dans un lieu protégé.

5. (1) Toute personne étant employée ou ayant affaire à l'établissement situé au sein du lieu protégé peut emprunter la route qui conduit de l'autoroute provinciale au site de l'établissement et peut se trouver dans ou sur les endroits qui font partie de l'établissement et pour lesquels elle détient un laissez-passer valide.

(2) Toute personne spécialement autorisée à le faire par la Commission ou l'Énergie Atomique du Canada Limitée peut se trouver dans ou sur le lieu protégé conformément à telle autorisation.

6. Personne ne devra apporter ou avoir en sa possession, dans ou sur le lieu protégé, quelque arme à feu ou autre arme offensive sauf sous autorisation spéciale de la part de la Commission ou de l'Énergie Atomique du Canada Limitée.

ANNEXE

1. Cette dite parcelle de terre et les lieux situés, se trouvant en et étant partie de la province du Manitoba, et décrits comme suit:

Canton 14 Rang 10E

Section 12 (quarts de section nord-est et sud-est seulement)
Section 13 (quarts de section nord-est et sud-est seulement)

Canton 14 Rang 11E

Section 8 (seulement à l'est de la rivière Winnipeg)
Section 9
Section 10
Section 11
Section 14

Section 15
Section 16
Section 17
Section 18 (except area of Brookfield School)
Section 19
Section 20
Section 21
Section 22
Section 23
Section 26
Section 27
Section 28
Section 29 (East of Winnipeg River only)
in the said Province of Manitoba, together with all roads and road allowances (other than Manitoba Provincial Highway No. 11) which lie wholly within the areas above described.

[23-1-o]

Section 15
Section 16
Section 17
Section 18 (sauf l'emplacement de l'école Brookfield)
Section 19
Section 20
Section 21
Section 22
Section 23
Section 26
Section 27
Section 28
Section 29 (seulement à l'est de la rivière Winnipeg)
dans ladite province du Manitoba, ainsi que toutes routes et voies d'accès (à l'exception de l'autoroute provinciale nº 11 du Manitoba) situés en entier au sein des terrains décrits plus haut.

[23-1-o]

ATOMIC ENERGY CONTROL BOARD

Order No. 1/15/74

ATOMIC ENERGY CONTROL ACT

Order appointing officers of the Atomic Energy Control Board as designated officers for the purpose of subsection 15(1) of the Atomic Energy Control Regulations

The Atomic Energy Control Board pursuant to subsection 15(1) of the Atomic Energy Control Regulations, made by Order-in-Council P.C. 1195 dated 30 May 1974, hereby designates as officers for the purposes of that subsection the persons set out in the schedule hereto.

Dated at Ottawa, this 4th day of June 1974

By Order of the Board
R. W. BLACKBURN
Secretary

SCHEDULE

1. The President of the Atomic Energy Control Board.

2. The Secretary of the Atomic Energy Control Board.

3. The Chief Scientific Adviser of the Atomic Energy Control Board.

[23-1-o]

COMMISSION DE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance Nº 1/15/74

LOI SUR LE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance nommant des fonctionnaires de la Commission de contrôle de l'énergie atomique comme fonctionnaires désignés conformément au paragraphe 15(1) du Règlement sur le contrôle de l'énergie atomique

Conformément au paragraphe 15(1) du Règlement sur le contrôle de l'énergie atomique, établi par le décret C.P. 1195 du 30 mai 1974, il plaît à la Commission de contrôle de l'énergie atomique de nommer comme fonctionnaires désignés aux termes de ce paragraphe les personnes dont le nom apparaît à l'annexe ci-jointe.

Émis en la ville d'Ottawa, ce 4e jour de juin 1974

De par la Commission
Le secrétaire
R. W. BLACKBURN

ANNEXE

1. Le président de la Commission de contrôle de l'énergie atomique.

2. Le secrétaire de la Commission de contrôle de l'énergie atomique.

3. Le conseiller scientifique principal de la Commission de contrôle de l'énergie atomique.

[23-1-o]

ATOMIC ENERGY CONTROL BOARD

Order No. 1/16/74

ATOMIC ENERGY CONTROL ACT

Order appointing officers of the Atomic Energy Control Board as designated officers for the purpose of section 16 of the Atomic Energy Control Regulations

The Atomic Energy Control Board pursuant to section 16 of the Atomic Energy Control Regulations, made by Order-in-Council P.C. 1195 dated 30 May 1974, hereby designates as officers for the purpose of that section the persons set out in the schedule hereto.

Dated at Ottawa, this 4th day of June 1974

By Order of the Board
R. W. BLACKBURN
Secretary

SCHEDULE

1. The President of the Atomic Energy Control Board.

2. The Secretary of the Atomic Energy Control Board.

3. The Chief Scientific Adviser of the Atomic Energy Control Board.

[23-1-o]

COMMISSION DE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance Nº 1/16/74

LOI SUR LE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance nommant des fonctionnaires de la Commission de contrôle de l'énergie atomique comme fonctionnaires désignés conformément à l'article 16 du Règlement sur le contrôle de l'énergie atomique

Conformément à l'article 16 du Règlement sur le contrôle de l'énergie atomique, établi par le décret C.P. 1195 du 30 mai 1974, il plaît à la Commission de contrôle de l'énergie atomique de nommer comme fonctionnaires désignés aux termes de cet article les personnes dont le nom apparaît à l'annexe ci-jointe.

Émis en la ville d'Ottawa, ce 4e jour de juin 1974

De par la Commission
Le secrétaire
R. W. BLACKBURN

ANNEXE

1. Le président de la Commission de contrôle de l'énergie atomique.

2. Le secrétaire de la Commission de contrôle de l'énergie atomique.

3. Le conseiller scientifique principal de la Commission de contrôle de l'énergie atomique.

[23-1-o]

ATOMIC ENERGY CONTROL BOARD

Order No. 1/17/74

ATOMIC ENERGY CONTROL ACT

Order appointing officers of the Atomic Energy Control Board as designated officers for the purpose of paragraph 17(2)(b) of the Atomic Energy Control Regulations

The Atomic Energy Control Board pursuant to paragraph 17(2)(*b*) of the Atomic Energy Control Regulations, made by Order-in-Council P.C. 1195 dated 30 May 1974, hereby designates as officers for the purposes of that paragraph the persons set out in the schedule hereto.

Dated at Ottawa, this 4th day of June 1974

By Order of the Board
R. W. BLACKBURN
Secretary

SCHEDULE

1. The President of the Atomic Energy Control Board.

2. The Secretary of the Atomic Energy Control Board.

3. The Chief Scientific Adviser of the Atomic Energy Control Board.

[23-1-o]

COMMISSION DE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance Nº 1/17/74

LOI SUR LE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance nommant des fonctionnaires de la Commission de contrôle de l'énergie atomique comme fonctionnaires désignés conformément à l'alinéa 17(2)b) du Règlement sur le contrôle de l'énergie atomique

Conformément à l'alinéa 17(2)*b*) du Règlement sur le contrôle de l'énergie atomique, établi par le décret C.P. 1195 du 30 mai 1974, il plaît à la Commission de contrôle de l'énergie atomique de nommer comme fonctionnaires désignés aux termes de cet alinéa les personnes dont le nom apparaît à l'annexe ci-jointe.

Émis en la ville d'Ottawa, ce 4e jour de juin 1974

De par la Commission
Le secrétaire
R. W. BLACKBURN

ANNEXE

1. Le président de la Commission de contrôle de l'énergie atomique.

2. Le secrétaire de la Commission de contrôle de l'énergie atomique.

3. Le conseiller scientifique principal de la Commission de contrôle de l'énergie atomique.

[23-1-o]

ATOMIC ENERGY CONTROL BOARD

Order No. 1/19/74

ATOMIC ENERGY CONTROL ACT

Order appointing officers of the Atomic Energy Control Board as designated officers for the purpose of subsection 19(2) of the Atomic Energy Control Regulations

The Atomic Energy Control Board, pursuant to subsection 19(2) of the Atomic Energy Control Regulations, made by Order-in-Council P.C. 1195 dated 30 May 1974, hereby designates as officers for the purposes of that section the persons set out in the schedule hereto.

Dated at Ottawa, this 4th day of June 1974

By Order of the Board
R. W. BLACKBURN
Secretary

SCHEDULE

1. The President of the Atomic Energy Control Board.

2. The Secretary of the Atomic Energy Control Board.

3. The Chief Scientific Adviser of the Atomic Energy Control Board.

[23-1-o]

COMMISSION DE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance Nº 1/19/74

LOI SUR LE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance nommant des fonctionnaires de la Commission de contrôle de l'énergie atomique comme fonctionnaires désignés conformément au paragraphe 19(2) du Règlement sur le contrôle de l'énergie atomique

Conformément au paragraphe 19(2) du Règlement sur le contrôle de l'énergie atomique, établi par le décret C.P. 1195 du 30 mai 1974, il plaît à la Commission de contrôle de l'énergie atomique de nommer comme fonctionnaires désignés aux termes de ce paragraphe les personnes dont le nom apparaît à l'annexe ci-jointe.

Émis en la ville d'Ottawa, ce 4e jour de juin 1974

De par la Commission
Le secrétaire
R. W. BLACKBURN

ANNEXE

1. Le président de la Commission de contrôle de l'énergie atomique.

2. Le secrétaire de la Commission de contrôle de l'énergie atomique.

3. Le conseiller scientifique principal de la Commission de contrôle de l'énergie atomique.

[23-1-o]

ATOMIC ENERGY CONTROL BOARD

Order 1/27/74

ATOMIC ENERGY CONTROL ACT

Order appointing officers of the Atomic Energy Control Board as designated officers for the purposes of section 27 of the Atomic Energy Control Regulations

The Atomic Energy Control Board, pursuant to section 27 of the Atomic Energy Control Regulations, made by Order-in-Council P.C. 1195 dated 30 May 1974, hereby designates the persons set out in Column I of the Schedule hereto as officers with authority to issue notices in writing as described in Column II of the schedule.

Dated at Ottawa this 4th day of June 1974

By Order of the Board
R. W. BLACKBURN
Secretary

SCHEDULE

Column I	*Column II*
President of the Atomic Energy Control Board	A notice in writing pursuant to subsections 27(1) and 27(4) in respect of any licence issued pursuant to the Atomic Energy *Control Regulations*

COMMISSION DE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance Nº 1/27/74

LOI SUR LE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance nommant des fonctionnaires de la Commission de contrôle de l'énergie atomique comme fonctionnaires désignés conformément à l'article 27 du Règlement sur le contrôle de l'énergie atomique

Conformément à l'article 27 du Règlement sur le contrôle de l'énergie atomique, établi par le décret C.P. 1195 du 30 mai 1974, il plaît à la Commission de contrôle de l'énergie atomique de nommer comme fonctionnaires désignés aux termes de cet article les personnes dont le nom apparaît dans la colonne I de l'annexe ci-jointe, pour émettre les avis dont la description se trouve dans la colonne II de ladite annexe.

Émis en la ville d'Ottawa, ce 4e jour de juin 1974

De par la Commission
Le secrétaire
R. W. BLACKBURN

ANNEXE

Colonne I	*Colonne II*
Le président de la Commission de contrôle de l'énergie atomique	Une notification écrite conformément aux paragraphes 27(1) et 27(4) quant à tout permis émis selon le Règlement sur le contrôle de l'énergie atomique

Secretary of the Atomic Energy Control Board	A notice in writing pursuant to subsections 27(1) and 27(4) in respect of any licence issued pursuant to the Atomic Energy Control Regulations	Le secrétaire de la Commission de contrôle de l'énergie atomique	Une notification écrite conformément aux paragraphes 27(1) et 27(4) quant à tout permis émis selon le Règlement sur le contrôle de l'énergie atomique
Chief Scientific Adviser, Atomic Energy Control Board	A notice in writing pursuant to subsections 27(1) and 27(4) in respect of any licence issued pursuant to the Atomic Energy Control Regulations	Le conseiller scientifique principal, Commission de contrôle de l'énergie atomique	Une notification écrite conformément aux paragraphes 27(1) et 27(4) quant à tout permis émis selon le Règlement sur le contrôle de l'énergie atomique
Director, Nuclear Plant Licensing Directorate, Atomic Energy Control Board	A notice in writing pursuant to subsections 27(1) and 27(4) in respect of any licence relating to nuclear reactors or a plant for the production of deuterium or deuterium compounds	Le directeur, Direction des permis aux usines nucléaires, Commission de contrôle de l'énergie atomique	Une notification écrite conformément aux paragraphes 27(1) et 27(4) quant à tout permis ayant trait aux réacteurs nucléaires ou aux usines de production du deutérium ou de composés du deutérium
Director, Material and Equipment Control Directorate, Atomic Energy Control Board	A notice in writing pursuant to subsections 27(1) and 27(4) in respect of any licence relating to prescribed substances other than radioisotopes or in respect of any licence relating to a nuclear facility other than a nuclear reactor or a plant for the production of deuterium or deuterium compounds	Le directeur, Direction du contrôle des matériaux et du matériel, Commission de contrôle de l'énergie atomique	Une notification écrite conformément aux paragraphes 27(1) et 27(4) quant à tout permis ayant trait à des matériaux prescrits autres que des isotopes radioactifs et quant à tout permis ayant trait à un établissement nucléaire autre qu'un réacteur nucléaire ou une usine de production du deutérium ou de composés du deutérium
Chief, Administrative Division, Atomic Energy Control Board	A notice in writing pursuant to subsections 27(1) and 27(4) in respect of any licence relating to the use of radioisotopes	Le chef, Division de l'administration, Commission de contrôle de l'énergie atomique	Une notification écrite conformément aux paragraphes 27(1) et 27(4) quant à tout permis ayant trait à l'usage d'isotopes radioactifs

[23-1-o] [23-1-o]

ATOMIC ENERGY CONTROL BOARD

Order No. 1/28/74

ATOMIC ENERGY CONTROL ACT

Order appointing officers of the Atomic Energy Control Board as designated officers for the purposes of section 28 of the Atomic Energy Control Regulations

The Atomic Energy Control Board, pursuant to section 28 of the Atomic Energy Control Regulations, made by Order-in-Council P.C. 1195 dated 30 May 1974, hereby designates as officers for the purpose of that section the persons set out in the schedule hereto.

Dated at Ottawa, this 4th day of June 1974

By Order of the Board
R. W. BLACKBURN
Secretary

SCHEDULE

1. The President of the Atomic Energy Control Board.

2. The Secretary of the Atomic Energy Control Board.

3. The Chief Scientific Adviser of the Atomic Energy Control Board.

COMMISSION DE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance N° 1/28/74

LOI SUR LE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Ordonnance nommant des fonctionnaires de la Commission de contrôle de l'énergie atomique comme fonctionnaires désignés conformément à l'article 28 du Règlement sur le contrôle de l'énergie atomique

Conformément à l'article 28 du Règlement sur le contrôle de l'énergie atomique, établi par le décret C.P. 1195 du 30 mai 1974, il plaît à la Commission de contrôle de l'énergie atomique de nommer comme fonctionnaires désignés aux termes de cet article les personnes dont le nom apparaît à l'annexe ci-jointe.

Émis en la ville d'Ottawa, ce 4e jour de juin 1974

De par la Commission
Le secrétaire
R. W. BLACKBURN

ANNEXE

1. Le président de la Commission de contrôle de l'énergie atomique.

2. Le secrétaire de la Commission de contrôle de l'énergie atomique.

3. Le conseiller scientifique principal de la Commission de contrôle de l'énergie atomique.

4. The Director, Material and Equipment Control Directorate, Atomic Energy Control Board.

5. The Director, Nuclear Plant Licensing Directorate, Atomic Energy Control Board.

6. The Chief, Administration Division of the Atomic Energy Control Board.

[23-1-o]

4. Le directeur, direction du contrôle des matériaux et du matériel, Commission de contrôle de l'énergie atomique.

5. Le directeur, direction des permis pour installations nucléaires, Commission de contrôle de l'énergie atomique.

6. L'agent principal, division de l'administration, Commission de contrôle de l'énergie atomique.

[23-1-o]