NUCLEAR LAW Bulletin

number 21

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Nuclear Energy Agency

Organisation for Economic Co-operation and Development

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AUSTRALIA	- Office of External Relations, Australian Atomic Energy Commission
AUSTRIA	- Dr. STEINWENDER, Director at the Federal Chancellery
BELGIUM	- Mr. STALLAERT, Social Security Administration, Ministry of Employment
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CANADA	- Mr. MacISAAC, Legal Adviser, Atomic Energy Control Board
DENMARK	- Mr. ØHLENSCHLAEGER, Head of Division, National Health Service
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	- Mr. PAAERMAA, Legal Adviser, Ministry of Trade and Industry
FRANCE	- Mr. VERGNE, Legal Adviser of the Atomic Energy Commission
GERMANY (Federal Republic)	- The Institute of Public International Law of Göttingen University, Department of Nuclear Law (Dr. PELZER)
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GREECE	- External Relations Office, Greek Atomic Energy Commission
INDONESIA	- Mrs. SOEPRAPTO, Head of Legal Division, National Atomic Energy Agency
IRELAND	- Mr. SWEETMAN, Barrister-at-Law, Dublin
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	-	Mr. SHIMOYAMA, Deputy Manager of Financial and Purchasing Department, Japan Atomic Power Company
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LEGISLATIVE AND REGULATORY ACTIVITIES

• *Argentina*

NUCLEAR LEGISLATION

Decree of 1977 on the objectives and nuclear policy of Argentina

To promote implementation of an overall policy on the uses of nuclear energy in accordance with the nation's vital interests, the President of Argentina adopted on 19th October, 1977 a Decree declaring that the nuclear objectives and policy of the Argentina Republic as defined in that same Decree are of national interest. In particular, the Decree is intended to guide the different activities carried out by the National Atomic Energy Commission.

The Annex to the Decree lists the specific objectives and the political orientations of the national nuclear activities, which are, inter alia:

- to develop useful applications of nuclear technology for peaceful purposes;
- to develop a nuclear research programme for peaceful purposes;
- to raise the level of nuclear development to be reached;
- to increase scientific and technological staff specialised in the nuclear field, and to ensure its promotion and maintenance of its capacity;
- to contribute to national scientific and technological development through progress in the nuclear field;
- to increase production of nuclear electricity and thereby contribute to the country's development and to oil economies;
- to develop nuclear projects for peaceful purposes within the frame of international treaties and agreements concluded by the Republic;
- to promote development of the protection of the population and the environment against the possible effects of nuclear energy;

- to increase R & D work related to nuclear fuels;

- to assure supplies in nuclear ores from national resources.

The National Atomic Energy Commission is also responsible for proposing to the Executive, within sixty days of this Decree, any modifications required for implementation and achievement of the nuclear objectives and policy of the Republic of Argentina as defined in this Decree.

• *Brazil*

THIRD PARTY LIABILITY

Act No. 6453 of 17th October, 1977 on Civil Liability for Nuclear Damage and Criminal Responsibility for Acts relating to Nuclear Activities

The Brazilian Act, whose text is reproduced in the Supplement to this issue of the Bulletin, was published on 17th October, 1977. It is based to a great extent on the provisions of the Vienna Convention on Civil Liability for Nuclear Damage of 21st May, 1963.

Under the Act, the operator of a nuclear installation is exclusively liable regardless of fault for compensation of nuclear damage due to a nuclear incident. This exclusive liability is limited to an amount equal to 1,500,000 Treasury Bonds. These Bonds are adjustable.

It should be pointed out that the operator's liability is not involved in case of damage caused by an emission of ionizing radiation when such occurrence does not constitute a nuclear incident within the meaning of the Act.

The operator must take out and maintain insurance or other financial security to cover his liability. The nature and amount of this security will be determined for each case by the National Nuclear Energy Commission at the time of issue of the construction or operating licence. The Commission will take into consideration the type, capacity, purpose and site of the installation. It may also exempt the operator from the obligation to take out insurance if the risks involved are very small.

The Federative Government will guarantee, up to the prescribed limit, payment of compensation for nuclear damage where it is acknowledged that the operator's liability is involved, by supplying the additional funds required when insurance or any other security are insufficient. In the case of a nuclear incident caused by nuclear materials which are illegally held or used without any connection with an operator, the damage shall be taken in charge by the Federative Government up to the set limit, subject to the exercise of a right of recourse against the person responsible for such damage.

As regards apportionment of compensation, persons are granted priority over property. In addition, if the amount of compensation exceeds the set limit, the amount will be apportioned on a pro rata basis between the creditors, in proportion to their rights.

The system for compensation of damage to persons working with nuclear materials or in a nuclear installation is regulated by the special legislation on industrial accidents.

The Federal Court is competent for making decisions on claims for compensation, in accordance with the provisions of the Code of Civil Procedure.

The Brazilian Act is original in that in addition to civil liability provisions it contains provisions on criminal liability. Penalties ranging from two to ten years imprisonment sanction the different offences:

- Use without the necessary licence of nuclear materials for purposes other than those permitted by the Act: four to ten years imprisonment.
- Operation of an installation without a licence: two to six years imprisonment.
- Possession, acquisition, transfer, transport of nuclear materials without a licence: two to six years imprisonment.
- Unlawful transmission of secret information relating to nuclear energy: four to eight years imprisonment.
- Mining and illegal trade in nuclear ores: two to six years imprisonment.
- Exportation and importation without a licence of nuclear materials and ores: two to eight years imprisonment.
- Failure to observe safety or protection rules: two to eight years imprisonment.
- Preventing the operation of an installation: four to ten years imprisonment.

• *Canada*

ORGANISATION AND STRUCTURE

Nuclear Control and Administration Bill*

The Nuclear Control and Administration Bill was examined and adopted at first reading on 24th November, 1977. The Bill which is intended to replace the 1946 Atomic Energy Control Act, separates responsibilities for health, safety, security and environmental matters from those having to do with commercial and promotional roles. The former are administered by the Atomic Energy Control Board (AECB) under a new name, the Nuclear Control Board (NCB). The latter are exercised by the Minister of Energy, Mines and Resources. The text of the Bill is reproduced in the Supplement to this issue of the Nuclear Law Bulletin.

Under the new Bill, the Nuclear Control Board will be a strong, independent agency with a clear responsibility for health, safety, security and environmental concerns relating to nuclear energy. The actual mention of the Board's responsibility for health and environment in the nuclear context is one of the significant differences between the new Bill and the current Atomic Energy Control Act. In addition, the Bill grants the Board licensing powers and imposes a prohibition on persons constructing or operating nuclear facilities, or processing or using prescribed substances without a licence from the Board.

The new Bill makes provisions for the NCB to:

- serve as a source of public information on health, safety and environmental aspects of nuclear energy;
- hold mandatory public hearings with regard to construction licences for major nuclear facilities such as mine-mill complexes, nuclear reactors, heavy water plants and nuclear waste management facilities;
- have discretionary power to hold public hearings on other matters within its jurisdiction;
- publish notices of receipt of licence applications and subsequent licensing actions;
- make available for public inspection all documents (unless specifically exempted) submitted by applicants and licensees;
- establish a stronger and more comprehensive compliance function including statutory powers for inspectors, regional officers and laboratories;
- have the power, if and when necessary, to assume responsibility for cleanup of contaminated areas;

* This note is extracted from a news release circulated by the Minister of Energy, Mines and Resources of Canada.

- administer a decontamination fund built up by prescribed payments by licensees and to be used for non-recoverable expenses incurred in decontamination activities;

Pursuant to the Bill, the NCB will report to Parliament through the Minister of State for Science and Technology.

Although the Board will have primacy in the regulation-making and administration of regulations pertaining to the health, safety, security and environmental aspects of the nuclear fuel cycle including prescribed substances and nuclear facilities, the Act will recognise the mandates of other federal departments. Departments such as Health and Welfare, Environment, and Labour will exercise their mandate roles and responsibilities, conducting basic research and developing standards which will, after inter-departmental consultations, be incorporated into regulations under the Nuclear Control and Administration Act. The responsibility for enforcement of these recommendations and for ensuring compliance will be that of the Nuclear Control Board.

The responsibility for administration of commercial and promotional matters will be exercised by the Minister of Energy, Mines and Resources.

Commercial and promotional matters include the production and marketing of equipment to use radioactive nuclides and radiation for medical, industrial and agricultural purposes; design, engineering, construction and marketing of reactors; design, construction and operation of facilities for the production, refining, processing, application and use of prescribed substances; marketing of prescribed substances; and the development of technology for all of the aforementioned.

Provisions of the old Act which essentially remain unchanged in the Bill describe the commercial and promotional power of the Minister, his authority to establish corporations, and the authority for the Governor-in-Council to make regulations. As a result of the separation of the control function from the commercial and promotional aspects, new provisions are adopted, authorising the Minister to regulate and engage in such commercial and promotional activities; to issue and/or revoke licences for such activities; and to set terms and conditions for those licences.

Under the Bill, the Minister will have the power to order research into nuclear energy and prescribed substances*; to use or assist others in using nuclear energy and prescribed substances; and maintain liaison with foreign or domestic agencies and governments on the production, use, control, application and research into nuclear energy and prescribed substances.

In addition, the Minister is given the powers to explore for the prescribed substances; acquire, lease, loan or sell prescribed substances, nuclear facilities or any deposits; and use, sell or collect royalties or payments on inventions, discoveries or patents.

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* A "prescribed substance" is defined as uranium, thorium, all elements of atomic number greater than 92, deuterium, their respective derivatives and compounds, radioactive nuclides, and any substances that are designated by regulations made under Part I as being capable of releasing nuclear energy or as being requisite for the production, use or application of nuclear energy.

Among other things, the new provisions of the Bill will provide a better opportunity to regulate the growth and development of the uranium industry so as to ensure adequate supplies of uranium for domestic customers over the long term.

The new Bill will also clarify and strengthen, where appropriate, the commercial mandate of Crown corporations such as Atomic Energy of Canada Limited and Eldorado Nuclear Limited, to ensure that they will be able to meet their increasing responsibilities in the future. A new provision will also clarify the Minister's authority to expropriate land and the precedures for doing so.

REGIME OF NUCLEAR INSTALLATIONS

Amendment of the 1974 Atomic Energy Control Regulations

The Atomic Energy Control Regulations made by Order PC 1974 - 1195 of 30th May, 1974 (see NLB No. 14 and Supplement), have been amended by Order PC 1978 - 10 of 12th January 1978 (SOR/78-58, Canada Gazette, Part II, Volume 112, No. 2 of 16th January, 1978).

The main amendments are the following:

Redefinition of certain terms such as "nuclear facility" and the insertion of new definitions covering "radon daughters", "working level" or "WL", and "working level month" or "WLM".

The new definition of "nuclear facility" is as follows:

> ""nuclear facility" means a nuclear reactor, a sub-critical nuclear reactor, a particle accelerator, a uranium or thorium mine or mill, 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".

The new definition of "radon daughters" is as follows:

> ""radon daughters" means the following short-lived radioactive decay products of radon-222: polonium-218 (radium A), lead-214 (radium B), bismuth-214 (radium C) and polonium-214 (radium C')".

The 1974 Atomic Energy Control Regulations' other provisions have been amended mainly to incorporate radon daughters.

Schedule II to the Regulations has been revoked and an amended Table 1 inserted in the Schedule. It concerns maximum permissible doses and exposures for different parts of the body and applicable to the various categories of the population: atomic radiation workers, female atomic radiation workers of reproductive capacity, and any other person. A new Table 2 has also been included and covers maximum permissible exposures to radon daughters for atomic radiation workers and for any other person.

• *Finland*

NUCLEAR LEGISLATION

Revision of Nuclear Legislation

On 2nd February, 1978, the Ministry of Trade and Industry established a Committee, whose task is to prepare draft texts for a total review of the present Atomic Energy Act and new legislation concerning waste management in Finland (organisational and economic aspects).

As far as the Atomic Energy Act is concerned, the Committee should pay special attention to developing licensing procedures, so as to increase the powers of the authorities, and to channel responsibility for dangerous waste. Also, the role of the Council of Ministers in the licensing procedure should be strengthened.

Regarding waste management, the new legislation should lay down the arrangements for final disposal of radioactive waste in Finland, the aim being that a governmental body would take charge of the final disposal. The waste producer, i.e. the owner of the nuclear power station concerned, would, however, bear the expenses of all the waste management operations. That part of the financial responsibility of the owner would be transferred to the governmental body through a special fund to be progressively constituted by the owner throughout the lifetime of the power station.

The organisational and economic aspects of waste management were examined by a Working Group, which submitted its report ("Waste management in Finland") to the Ministry of Trade and Industry at the end of February 1978. In addition to proposing a separate Waste Management Act, the Working Group recommended amending immediately the existing Atomic Energy Act. This recommended amendment would make it possible to transfer responsibility for final disposal from the waste producer to the State. The wording of the present Section 5 of the Atomic Energy Act may be interpreted in such a strict way that it would not allow a transfer of responsibility from the owner of the power station. It is probable that a proposal for an amendment of this nature will be presented to Parliament in the very near future.

In connection with the Nuclear Liability Act, enforcement of the two OECD Decisions on exclusion of certain kinds and small quantities of nuclear substances from the application of the Paris Convention is under preparation (see Chapter "International Organisations and Agreements" of the present issue of the Bulletin).

• *Federal Republic of Germany*

REGIME OF NUCLEAR INSTALLATIONS

Safety Criteria for Nuclear Power Plants

The Federal Minister of the Interior published on 21st October, 1977 the completed version of the Safety Criteria for Nuclear Power Plants (Bundesanzeiger No. 206, 3rd November, 1977; the former edition was published in Bundesanzeiger No. 106, 8th June, 1977). These Criteria contain the principles concerning the safety measures to be met in compliance with the licensing requirements laid down by Section 7, paragraph 2, Nos. 3 and 5 of the Atomic Energy Act. They are directly applicable to light water reactors. As for other reactor types, the Criteria may be applied in a corresponding way.

The Criteria have no direct legal character, that is to say they are not directly binding on the operator of a nuclear power plant. However, they set out binding standards for the licensing authorities when granting licences for erection and operation of nuclear power plants. As regards the steps to be taken by the operator to prevent damage under Section 7, paragraph 2, Nos. 3 and 5 of the Atomic Energy Act, the licensing authorities determine whether they are in line with the Criteria. In this manner, they too become indirectly binding on the operator.

• *Indonesia*

RADIATION PROTECTION

Government Regulation of 1975 on the protection of workers against radiation

Government Regulation No. 11 made in 1975 lays down measures to be taken for protecting workers against the hazards of ionizing radiation (see NLB Nos 6 and 8). All activities involving the use of radioactive materials and other radiation sources, including transport of such materials as well as waste management must be undertaken in accordance with provisions issued by the competent authority.

The operator of a nuclear installation, with the consent of the competent authority must appoint at least one Radiation Protection Officer. This Officer will be in charge of drawing up guides, instructions, codes and other working procedures to be applied in the installation concerned. He will be responsible for maintaining records

on the dose rates received by every radiation worker and in cases where the maximum permissible dose has been exceeded, he will also be responsible for advising that the worker concerned should discontinue work in an area where radiation sources are used.

Before a person begins any work involving radiation, he must undergo a detailed medical examination and be subject to such examinations at regular intervals. Periodic medical examinations are undertaken at yearly intervals, and where necessary at any time, and finally on termination of employment.

In order to secure enforcement of the regulations on radiation protection, the competent authority appoints inspectors under its supervision.

Finally, any incident which may result in injury to the public must be reported immediately to the nearest municipal authority.

REGIME OF NUCLEAR INSTALLATIONS

Decree of 19th January, 1976 concerning a guide for the site evaluation for nuclear power plants

This Decree by the Director General of the National Atomic Energy Agency is defined as a guide evaluation for the siting of several types of nuclear power reactors and testing reactors.

The following are the main factors to be considered for a site evaluation:

- characteristics of reactor design and proposed operation;
- population density and specific characteristics of the site environment;
- physical characteristics of the site including seismological, meteorological, geological and hydrological aspects;
- environmental factors (ecological, historical and cultural values), the existence of military installations, airport and other structures which should be protected according to the regulations in force.

REGIME OF RADIOACTIVE MATERIALS

Government Regulation of 1975 on licensing of the use of radioactive materials and other radiation sources

Government Regulation No. 12 made in 1975 lays down the licensing system for the use of radioactive materials and other radiation sources (see NLB Nos. 6 and 8).

Any activity involving the use of radioactive materials and other radiation sources requires a licence issued by the competent authority, except in cases where the activity of such materials is below the maximum permissible level as decided by the competent authority. Radioactive materials must be used in such a way as to prevent any injury to workers and the general public.

In order to obtain a licence, the applicant must comply with the following conditions:

- adequate premises for working with radioactive materials;
- capable and well trained staff;
- appropriate equipment to secure protection against radiation.

The licence holder must comply with the following obligations:

- provide access to premises where radioactive materials are used for inspections by the competent authority;
- arrange medical examinations for workers, to be undertaken by experts under the competent authority, in co-operation with other governmental institutions in order to evaluate the effects on the health of radioactive materials and other radiation sources;
- keep records of all activities relating to radioactive materials and other radiation sources;
- take the necessary measures for the purpose of preventing or minimizing any radiation hazard to the health and safety of workers and the general public, which may result from the use of radioactive materials and other radiation sources;
- comply with the regulations, guides etc. issued by the government and the competent authority.

Decree of 16th November, 1976 on exemptions from licences for low-level radioactive materials

Decree No. 14 by the Director General of the National Atomic Energy Agency lays down that certain low-level radioactive materials may be exempted from the licensing system laid down in Government Regulation No. 12 of 1975.

Subject to Section 2 of Government Regulation No. 12, no licence is required in respect of:

- the use of radioactive materials whose total activities do not exceed the levels listed in this Regulation;
- the use of radioactive materials with concentrations which do not exceed 0.002 μCi/g or solid natural radioactive materials;
- the use of apparatus whose dose rate at a distance of 0.1 metre from the surface does not exceed 0.1 mrem/h;

- the use of equipment which accelerates electrons to an energy which does not exceed 5 keV;

- the use of television sets whose dose rate at any readily accessible point, 5 cm from the surface of the set, does not exceed 0.5 mrem/h under normal working conditions.

The above exemptions do not apply to the use of radionuclides for medical purposes or to foodstuffs, fertilizers and pharmeceutical articles which have been irradiated for research purposes.

Furthermore, it is forbidden to irradiate cosmetics, toys, foodstuffs and pharmeceutical articles for any purposes other than research.

TRANSPORT OF RADIOACTIVE MATERIALS

Government Regulation of 1975 on the transport of radioactive materials

Government Regulation No. 13 of 1975 contains the provisions to be applied for the transport of radioactive materials.

This Regulation applies to transport of radioactive materials by land, water and air but does not cover internal transport within an installation. It lays down that other regulations on the transport of dangerous goods must also be observed.

Radioactive materials to be transported must be packed in compliance with packaging and testing requirements as defined by the competent authority. All packages and vehicles to be used for the transport of radioactive materials must be labelled according to the instructions issued by the competent authority.

All packages in course of transport must be kept separately at a safe distance from the official in charge of such transport, from passengers and from undeveloped photographic films.

If a package breaks, leaks or is involved in a crash or in a fire, the official in charge must immediately isolate the area where the incident has taken place and inform the consignor and the competent authority of such incident.

The Regulation lays down a series of obligations to be complied with by consignors, carriers and consignees.

The consignor must provide the carrier with any information or directives concerning the packages containing radioactive materials and about the hazards that may arise. He is responsible for any loss suffered by the carrier or any other party, which is due to incomplete notification and information. He must give the competent authority any information it requires concerning the design and materials used for packaging.

The carrier is responsible for the safety of a package from the time it is delivered by the consignor until the time it is delivered to the consignee, unless otherwise stipulated in the transport contract. If, for some reason, the carrier is unable to deliver a package to the

consignee, he shall notify the consignor accordingly. If, at the latest, twenty days after he has notified the consignor about the arrival of the package at the port or point of destination and the consignee does not appear to take charge of such package or if he rejects or refuses to pay what he owes, the carrier must keep the package in a safe place on behalf of the original owner.

For his part, the consignee must collect the package at its port of arrival or point of destination as soon as possible and at the latest fourteen days after the carrier has notified him about the date of arrival of the package.

Decree of 5th November, 1974 concerning safety provisions for the safe transport of radioactive materials

Decree No. 7 made by the Director General of the National Atomic Energy Agency lays down the technical guidelines for the handling of radioactive materials before and during their transport.

These regulations are based mainly on the 1973 revised edition of the IAEA Regulations for the Safe Transport of Radioactive Materials.

• *Italy*

RADIATION PROTECTION

Medical uses of ionizing radiation - Circular of 1st December, 1977

Circular No. 73 distributed by the Ministry of Public Health on 1st December, 1977 apecifies the provisions on the medical uses of sources of ionizing radiation. These uses are regulated by Presidential Decree No. 185 of 13th February, 1964 and its implementing decrees.

Such uses are subject to prior notification and a licensing system as well as to inspections carried out by the Health Authorities and the Comitato Nazionale per l'Energia Nucleare (National Commission for Nuclear Energy - CNEN).

The Circular also recalls that institutes, clinics, hospitals and doctors' consulting rooms where ionizing radiation sources are used are subject to twice yearly inspections by the provincial medical officer in accordance with the provisions of the Act on Public Health (Testo Unico delle leggi sanitarie 1934) and its implementing Regulations (1935) which are still in force.

The Circular by the Ministry of Public Health follows the general "decentralisation" policy begun in Italy in 1972. It does not lay down directives but formulates "recommendations" to the regional

competent bodies which are henceforth responsible for the surveillance of the medical uses of sources of ionizing radiations. Its purpose is to harmonize the action taken at regional level.

The Circular deals with the following:

- surveillance of the medical uses of ionizing radiation sources diagnostics, radiotherapy, nuclear medicine, chemical analyses;
- requirements incumbent on employers and executives;
- control of physical protection and medical surveillance of workers;
- specific protection aspects in premises where radiodiagnostics, radiotherapy and nuclear medicine are exercised and where radioisotopes are used for chemical analyses;
- radioactive waste management;
- radioisotopic chemical analyses;
- limitation of the patients' "absorbed dose".

The Circular also includes annexes concerning possession, use and transport of radioactive materials and sources, requirements incumbent on employers and workers, as well as the tasks of qualified experts and approved physicians.

REGIME OF NUCLEAR INSTALLATIONS

Ministerial Decree of 30th March, 1978 on the exclusion of nuclear installations from the application of the requirements on combustion control

This Decree was made by the Minister for Industry, Commerce and Crafts (Official Gazette of 12th April, 1978); it lays down that nuclear installations governed by Act no. 1860 of 31st December, 1962 on the Peaceful Uses of Nuclear Energy and by Presidential Decree No. 185 of 13th February, 1964 on Radiation Protection are excluded from the scope of Royal Order No. 824 of 12th May, 1927 on Combustion Control.

THIRD PARTY LIABILITY

Ministerial Decree of 3rd March, 1978 approving the general conditions of nuclear third party liability insurance policies

This Decree by the Minister for Industry, Commerce and Crafts and the Minister for Transport (Official Gazette of 12th April, 1978) was made in implementation of Section 2 of the Decree of the President of the Republic No. 519 of 2nd May, 1975 amending Sections 15 - 24 of Act No. 1860 of 31st December, 1962 on the Peaceful Uses of Nuclear Energy.

This present Decree approves the general conditions of the third party liability insurance policies for operators of nuclear installations and for transport of radioactive materials, including the clause applying solely to transport by rail, whereby the insurers waive any right of subrogation or recourse in relation to the State Railways.

• *Japan*

REGIME OF RADIOACTIVE MATERIALS

National Safeguards System and Physical Protection of Nuclear Materials in Japan*

Introduction

The national safeguards system of Japan has been embodied in the Basic Law on Atomic Energy (hereinafter referred to as "Basic Law"), the Law for the Regulation of Nuclear Source Material, Nuclear Fuel Material and Nuclear Reactors (hereinafter referred to as "Regulation Law") based on the Basic Law, and the relevant Law Enforcement Orders and the Prime Minister's Office Orders.

The necessary regulations are promulgated separately for each type of different nuclear activity in Japan, which are grouped into the six following categories: refining, fabrication of nuclear materials, reactor establishment, operation, etc., reprocessing, use of nuclear fuel, etc., and finally, the use of internationally controlled material.

Organisation of National Safeguards

Under the authority of the Prime Minister, who is responsible for all nuclear activities in Japan, the Minister for Science and Technology is more particularly responsible for safeguards.

The Safeguards Division is a Division of the Nuclear Safety Bureau which is under the Science and Technology Agency. The Safeguards Devision is the headquarters for executing national safeguards and its responsibilities may be outlined as follows: review of design information, reporting, inspection planning, inspections, evaluation of inspection results.

The Nuclear Material Control Center (NMCC), under the Safeguards Division, is responsible for data processing of accounting for and control of nuclear material, analysing samples etc. Plans are underway to construct a new independent analytical laboratory. This laboratory will be operated by the NMCC.

The Japan Atomic Energy Research Institute (JAERI), and the Power Reactor and Nuclear Fuel Development Corporation (PNC) will analyse

* This note is extracted from a Document circulated by the Nuclear Safety Bureau of the Science and Technology Agency - Japan.

samples taken by the inspectors of the Safeguards Division (this is a tentative arrangement until the new NMCC analytical laboratory is completed) and carry out research and development work on safeguards technology. The PNC will control the samples taken from the facilities of JAERI and JAERI will control the samples taken at the facilities at PNC and other facilities in Japan in order to maintain independence from a safeguards viewpoint. These new rules on samples will be embodied in the amended Regulation Law.

Inspectors for electrical facilities from the Ministry of International Trade and Industries (MITI), are to perform inspections on power reactors in electrical utilities, according to instructions from the Safeguards Division and to report the results to that Division.

Ship inspectors from the Ministry of Transport (MOT) are to perform inspections on ship reactors according to instructions from the Safeguards Division and to report the results to that Division.

Procedure for implementing National Safeguards Regulations

The procedure for implementing National Safeguards Regulations, covers both construction and operation of nuclear installations. It includes a system of design examination, records, reports and inspection.

- Examination of the Design Information

Any person wishing to carry out an activity involving fabrication of nuclear materials must obtain permission from the Prime Minister by submitting an application form containing relevant information about the plan of business, the detailed design, the methods of construction etc.

The design information may be reviewed from the point of view of safeguards by the Nuclear Safety Bureau which may also assist in the collection of all the necessary information to be provided to the IAEA.

- Records

The requirements for records are defined as follows in the Regulation Law. All installations involved in fabrication must keep records concerning their operation.

The detailed requirements for records are defined in the Regulation Law as follows: records on the nuclear fuel material and operational records.

The system of keeping records presently exists. However, the records requirement will be revised in order to meet the NPT Safeguards System along with the contents of Subsidiary Arrangements Annex III, Code 5 of the Japan - IAEA Safeguards Agreement.

- Reports

The Prime Minister may order the operator of a fabrication installation to make reports concerning his business.

The detailed requirements are defined as follows in a Cabinet Order: reports on receipt (or shipments), material accounting reports (monthly reports concerning the material balance) and reports concerning radiation control.

The Government system of collecting reports from the facilities presently exists and the requirements in the reports are scheduled to be revised to meet the requirements described in Code 10, General Part of the Subsidiary Arrangements, i.e. the reports on receipts (shipments) and accounting reports will be revised to be compatible with the NPT safeguards system.

- Inspection

The Prime Minister may order his officials (inspectors) to enter into fabrication installations and/or places of business, to inspect the necessary items such as books and documents and/or make any inquiry to relevant persons; they may also take away necessary samples (new provision).

Physical protection of nuclear materials in Japan

In Japan, regulations on the physical protection of nuclear materials and facilities are incorporated in the Regulation Law. The following are examples of the requirements to be complied with by operators:

- establishment of a protected area surrounded by a physical barrier;
- control of access to and exit from the protected area;
- patrols by guards; and
- promulgation of safety and security regulations applicable to the installation which should be included in the provisions for emergency plans of action.

All facilities in Japan have made necessary arrangements in conformity with those requirements.

The relevant authority in relation to the promulgation and control of compliance with physical protection of nuclear material in fixed sites is the Nuclear Safety Bureau of the Science and Technology Agency. The relevant authorities in connection with the transport of nuclear material are mainly the Ministry of Transport, and certain responsibilities are entrusted to the Nuclear Safety Bureau. The Ministry of International Trade and Industry is also concerned with the application of requirements to the nuclear industry. The National Police Agency and the Marine Safety Agency also closely co-operate with the other relevant authorities.

The world trend is directed toward upgrading of physical protection due to the following facts, namely:

- the remarkable increase in quantities of nuclear materials and the frequency of transportation of such material;
- the increase of the risk of illegal acts by internationally organised terrorist groups;
- the increase of public knowledge on the manufacture of crude nuclear weapons as well as on the dangers of illegal dispersal of plutonium.

The Japan Atomic Energy Commission set up a "Special Committee on Physical Protection of Nuclear Material" in April, 1976. This Committee is now investigating the present status and future improvement of requirements for physical protection.

In its first report, the Committee underlined that in Japan, various physical protection measures have already been implemented in accordance with the Regulation Law and other relevant laws. To cope with the recent trends, however, more effective measures should be taken and the State's physical protection system as a whole should be intensified and maintained.

The objectives of Japan's physical protection system should be to establish conditions which would minimize the possibilities for unauthorised removal of special fissionable material and for sabotage of nuclear facilities or transportation, and to provide technical assistance and other appropriate measures, in emergencies in support of rapid and comprehensive measures to recover missing nuclear material.

Furthermore, Japan's system of physical protection of nuclear material should be based on promulgation of a set of obligations in accordance with the Law and on implementation of the physical protection measures by the operator. It will also be necessary for the system to be supported by key elements which can be implemented smoothly, e.g. research and development activities as well as an appropriate response system in emergencies. The requirements for the physical protection should be basically established:

- to detect on attempted attack as soon as possible;
- to transmit such information appropriately to the response forces; and
- to defer the success of the attack as long as possible by physical protection means until response forces have come to counteract the attack.

The Committee proposed different measures to be taken for the establishment and improvement of the physical protection system in Japan.

- Taking into account the fact that various physical protection measures have already been taken in accordance with the present Regulation Law, the existing legislative system should be further improved by adding other necessary requirements.
- The response system in emergencies is an essential element in supporting the physical protection system. The system should be established by the Government in co-operation with the authorities concerned. It will also be necessary to initiate further close co-operation and co-ordination between the administrative agencies.
- It will be necessary to promote related research and development on a stronger basis, as well as international co-operation, including the measures to be taken for international transport.

The present requirements needed in Japan will be based on the requirements described in IAEA document INFCIRC/225.

It should be stressed that the social conditions in each respective country are a very important factor to be considered when establishing requirements for a specific country. For Japan, the following features have been taken into account for laying down the requirements for fixed sites as well as in transit:

- the network of national and local police are closely co-ordinated, and social security conditions are quite well maintained;
- Japan is an island and therefore isolated from other countries, and is also relatively small, so that there is no difficulty in using within a very short time the public communication network as well as police communication;
- in Japan, individual members of the public are prohibited from having fire arms and other arms. The persons who can handle those arms are policemen, self-defence officers, marine security officers and other holders of specific jobs such as government investigators for narcotics.

• *Norway*

RADIATION PROTECTION

Regulation of 23rd January, 1976 on the supervision and use of installations, apparatus, material and substances emitting ionizing or other radiation hazardous to health

Under the Act of 18th June, 1938 on the utilisation of X-rays and radium, the Minister of Social Affairs issued a text on 23rd January 1976 which repeals the Regulation of 22nd October 1948 on the surveillance of facilities using X-rays and radium. This text contains instruction on the control and use of facilities, devices, equipment and substances emitting ionizing radiation hazardous to health (Norsk Lovtidend 1st Section, 3rd February, 1976).

This text specifies three points: the competent body, the types of devices concerned, the duty of persons using such devices.

The Institute for Radiation Hygiene is a body competent for control under the Act of 18th June, 1938. It is authorised to approve the facilities, devices etc., referred to in the Act and to issue special rules, directives and prohibitions in accordance with the relevant provisions of the Act. Approval may be refused if no measure is taken to ensure satisfactory maintenance. It is specified that the control provided under the present text does not replace the control required by other rules, for example those concerning electronic installations. The

Institute may furthermore issue special rules for the training of persons using facilities, devices, substances etc.

This control applies to facilities, devices, equipment and substances emitting ionizing radiation which are used for medical, veterinary, scientific, industrial or other purposes as well as to all vessels, waste and discharges of substances emitting ionizing radiation. Such control is also applicable to all uses of laser, radar, microwaves and other electromagnetic radiation hazardous to health. Installations, facilities and other devices exempted by the Defense Minister are not subject to such control. Existing facilities and devices must be notified to the Institute when it so requires. New facilities as well as important alterations to existing facilities must be notified to the Institute before work is begun and their operation must first be authorised by the Institute. Any sale or use of devices and equipment must be notified in advance to the Institute which is empowered to prhibit such sale or use pending the authorisation. In accordance with this text the person responsible for operating facilities, devices etc., must ensure that they must be used in conformity with the rules or conditions laid down by the Institute. Any noted or presumed defects in these facilities or devices likely to endanger the life or health of man must be notified to the owner who in turn must notify the Institute if they are not put right. The authorised owners of facilities, devices, substances etc., must immediately inform the Institute in writing when they cease to operate them or use them. When such information is received, approval is automatically withdrawn.

The text of the Regulations is reproduced in the "Texts" Chapter of this Bulletin.

• *Sweden*

NUCLEAR LEGISLATION

Amendment of the 1956 Atomic Energy Act tabled

The Swedish Government has proposed an amendment to Section 2 of the 1956 Atomic Energy Act in a Bill to the Parliament, according to which a licence under this Section will be required for the construction and operation of a facility for storage of radioactive waste resulting from the use of nuclear fuel or from the reprocessing of spent nuclear fuel.

The main purpose of the amendment is to assemble the regulatory and supervisory responsibility for the safety and security aspects of the whole nuclear fuel cycle under the Swedish Nuclear Power Inspectorate, especially aspects pertaining to facility safety.

ORGANISATION AND STRUCTURE

The Supervisory Authority under the 1956 Atomic Energy Act

Under Ordinance No. 12 of 22nd January, 1976 the Swedish Nuclear Power Inspectorate is responsible for supervising compliance with certain provisions and conditions of the Atomic Energy Act No. 306 of 1st June, 1956. The Inspectorate is also the authority in charge of examining applications for, inter alia, licences to acquire, possess, supply, process and export certain nuclear materials.

1976 Ordinance to amend Order No 652 of 1958 embodying regulations for implementation of the Radiation Protection Act

Ordinance No. 246 of 13th May, 1976 provides that the Government shall empower the State Institute for Radiation Protection to issue regulations pursuant to the 1958 Radiation Protection Act. In addition, the State Institute for Radiation Protection may designate an authority to make decisions on its behalf regarding certain kinds of matters under the Radiation Protection Act, and in special cases to carry out the supervision which is the responsibility of the Inspector in accordance with the Act.

1976 Ordinance concerning instructions for the State Institute for Radiation Protection

Ordinance No. 481 of 17th June, 1976 lays down the following main provisions relating to the State Institute for Radiation Protection. Under the terms of the Radiation Protection Act of 1958, the Institute is the central administrative authority on protection against ionizing and non-ionizing radiation, and also carries out the duties assigned to it by legislation.

The Institute includes three units, administrative, monitoring and research and development. The Institute also includes an advisory research committee which must prepare research programmes in connection with goal-oriented research into radiation protection, planning, co-ordinating, and following up the research for which the Institute is responsible. In addition, a Nuclear Accident Emergency Committee is attached to the Institute, its principal tasks being to advise the Institute and the county administrations on measures to prevent nuclear accidents, and to assist the Institute in planning emergency procedures for dealing with such accidents.

RADIATION PROTECTION

1976 Amendment of the Radiation Protection Act of 1958

Act No. 245 of 13th May, 1976 adds a third paragraph to Section 1 of the Radiation Protection Act No. 110 of 14th March, 1958, (see text of the 1958 Act as revised in NLB No. 14) to read as follows:

> "Where this is required from the point of view of radiation protection, the Government may issue regulations prescribing that the provisions of the Act regarding technical devices intended to emit ionizing radiation or regarding radiological work shall in addition be wholly or partly applicable to certain types of technical devices intended to emit non-ionizing radiation or to work involving the use of such devices. The Government may empower the administrative authority to issue such regulations".

REGIME OF NUCLEAR INSTALLATIONS

Special permit from the Government to continue operation of the nuclear reactor Barsebäck

In accordance with Section 2 of Act No. 140 of 21st April, 1977 on the special permit to load a nuclear reactor with nuclear fuel (see NLB No. 20), a new nuclear reactor may not be loaded without a special permit from the Government - in addition to the licence under the Atomic Energy Act of 1956 - and the Government may give such a permit only if the operator of a reactor has produced a contract, which adequately provides for the reprocessing of spent fuel, and has also demonstrated how or where final disposal of the highly radioactive waste resulting from reprocessing can be effected with absolute safety, or has shown how and where the spent but not reprocessed nuclear fuel can be stored with absolute safety.

A special rule, set forth in Section 3 of Act No. 140, is applicable to the nuclear reactor Barsebäck 2, which was not yet loaded with nuclear fuel but for which an application for final approval for operation under the 1956 Atomic Energy Act had been submitted to the Swedish Nuclear Power Inspectorate before 8th October, 1976. Final approval for operation was granted by the Inspectorate on 23rd November, 1976 and the reactor was loaded with nuclear fuel later in November and in December 1976. According to Section 3, this reactor must have a special permit from the Government to be operated after the end of 1977 and such a permit may be granted only if the operator has complied with the above-mentioned provisions in Section 2 of Act No. 140.

The Sydsvenska Värmekraftaktiebolaget Company, as owner and operator of Barsebäck 2, submitted on 14th September, 1977 an application to the Government for a permit according to Section 3 of the above-mentioned Act (1977: 140) to continue operation of Barsebäck 2. The Company referred in its application to a contract with the French Compagnie Générale des Matières Nucléaires (COGEMA) by which contract COGEMA undertake to transport, store and reprocess those fuel elements, containing approximately 31 tons of uranium counted as metal, which

according to actual plans will be consumed in Barsebäck 2 during the 1970s and will be taken out of the reactor after shutdown before 31st December, 1979.

The Government decided on 22nd December, 1977 to grant the requested permit. However, the Government also decided according to Section 4 of the 1956 Atomic Energy Act that the reactor Barsebäck 2 must not be operated after the end of 1979 without a special permit from the Government and that the Company in an application for such a permit must fulfil the requirements set forth in Section 3 of the 1956 Act. Section 4 of the 1956 Atomic Energy Act lays down that any conditions for the licence under the Atomic Energy Act can be imposed at any time during the period of validity of the licence if such conditions are found necessary for reasons of safety or otherwise in the public interest.

• *United Kingdom*

REGIME OF NUCLEAR INSTALLATIONS

The Town and Country Planning (Windscale and Calder Works) Special Development Order 1978

This Order of 3rd April, 1978 came into force on 15th May, 1978. It grants planning permission, subject to certain conditions, for the erection of a plant for the reprocessing of spent uranium oxide nuclear fuels, with support site services, on land owned by British Nuclear Fuels Limited at the Windscale and Calder Works, Sellafield, Cumbria. The Order has been made under the Town and Country Planning Act 1971 and deals with what might be called the "non-nuclear" aspects of this development. The installation and operation of the plant will also require a nuclear site licence under Section 1 of the Nuclear Installations Act 1965, and any discharge of radioactive waste from the premises will require an authorisation under Section 6 of the Radioactive Substances Act 1960. These have yet to be granted.

• *United States*

NUCLEAR LEGISLATION

Nuclear Non-Proliferation Act of 10th March, 1978

The United States Non-Proliferation Act was signed on 10th March, 1978. It makes some considerable changes to the 1954 Atomic Energy Act, particularly as regards the chapter concerning "International Activities", and sets forth the new lines of American nuclear policy. From now on, as a way of combating the risk of proliferation of nuclear weapons, the United States will be applying a highly restrictive export policy. In practical terms this means:

- at the national level, a re-organisation of the responsibilities of the various agencies and administrations of the executive branch in the field of nuclear exports, with licensing procedures being made stricter and more severe;

- at the international level, the adoption of a series of criteria and obligations to be met by the importing countries enabling the United States to exercise more vigilant surveillance over materials and equipment of American origin. International control by the IAEA is also strengthened to the same end.

With the object, however, of reconciling the aims of non-proliferation with the need to ensure regular supplies of the nuclear fuel that are essential to economic development, the United States proposes a number of measures to promote co-operation, but only with those countries accepting the conditions set out in the Act.

I. Internal re-organisation

This consists of a redefinition of the role of the Nuclear Regulatory Commission and of all of the Executive bodies concerned with nuclear activities. It also covers the drawing up of strict and stringent rules for each stage in procedure, from scrutiny of application to grant of export licence. Here, three different situations call for consideration:

- Government-to-Government transfers (those between the United States Government and other Governments).

- Subsequent Arrangements (subsequent, that is, to a Co-operation Agreement).

- Export licences proper.

(a) Government-to-Government transfers relating to the production of special fissile materials and technology transfer are the responsibility of the Secretary of Energy who grants a licence only with the concurrence of the Department of State and after consulting with the Arms Control and Disarmament Agency, the Nuclear Regulatory Commission (NRC) and the Department of Defence. The Secretary of Energy has

90 days from the date of enactment of this legislation to establish, in collaboration with the Department and Agencies referred to, the requirements and criteria to be applied to exports of special fissile materials.

(b) Under the present Act, Subsequent Arrangements under an agreement for co-operation mean:

- contracts for the furnishing of nuclear materials and equipment;
- approvals for the transfer of nuclear material, production or utilisation facility or technology;
- authorisation for the distribution of nuclear materials;
- arrangements for physical security;
- arrangements for the storage or disposition of irradiated fuel elements;
- arrangements for the application of safeguards with respect to nuclear materials and equipment;
- any other arrangement which the President finds to be important from the standpoint of preventing proliferation of nuclear weapons.

For these kinds of action, the Secretary of Energy is responsible. He has to obtain the concurrence of the Department of State and to consult with the NRC, the Secretary of State and the Director of the Disarmament Agency. It should be noted, however, that the Secretary of State has the main role when it is a question of discussing the policy aspects of Subsequent Arrangements.

A two-fold information procedure is laid down. Firstly, notice of the Arrangement has to be published in the Federal Register together with the written determination of the Secretary of Energy that such arrangement will not be inimical to the common defence and security of the United States. If the Director of the Disarmament Agency considers that the proposed arrangement might significantly contribute to the risk of proliferation, he may prepare an "unclassified Nuclear Proliferation Assessment Statement" setting out appropriate safeguards and control mechanisms that would, in his view, enable the United States to ensure that the arrangement was properly used for peaceful purposes.

Secondly, all such arrangements must be reported to the two appropriate Congress Committees: the Committee on International Relations of the House of Representatives and the Committee on Foreign Relations of the Senate.

(c) Export licences themselves are the responsibility of the Nuclear Regulatory Commission (NRC). However, no licence may be issued by the NRC until it has been notified by the Secretary of State that the request is not in conflict with United States policy. The Secretary of State himself has to consult the other bodies - the Departments of Energy, Defence and Commerce and the Disarmament Agency - before forming his opinion.

Export licences will be granted only if all the compulsory criteria set out in the Act are met. Within 120 days of the date of enactment of the Act, the NRC, after consulting with the Secretary of State, has to promulgate regulations establishing procedures for:

- granting, suspending, revoking or amending any nuclear export licence;
- public participation;
- objections in writing to the decision of the NRC;
- publication of the NRC decision.

If, after receiving favourable views from the responsible authorities, the NRC is unable to issue the export licence in time because it is unable to make the statutory inspections laid down in the Act, it submits the application to the President. If, after considering the application and the decision of the NRC, the President determines that withholding or delaying the proposed export would be prejudicial to the United States non-proliferation policy or would otherwise jeopardise the common defence and security, he may authorise the proposed export by Executive Order. In this specific case, provision is made for a reciprocal communication and information procedure between the President and the NRC the latter being required to provide the Executive with relevant information, comments or views on the licence application. In addition, the President must give the Congress and its Committee advance notice of his decision.

II. Strengthening of international safeguards

The adoption of this highly restrictive policy with regard to nuclear exports at the national level is echoed at the international level by the toughening of the American attitude with regard to importing countries. Here, direct and indirect United States action needs to be considered separately. Direct action applies to the countries' bilateral relations and indirect action to the larger framework of multinational co-operation via the IAEA.

(a) In bilateral relations, new criteria are applied to exports. The Act sets out a set of obligations incumbent on Contracting Parties which will now have to undertake:

- not to use the nuclear materials supplied by the United States for military purposes or for research with military purposes in view;
- to obtain the written consent of the United States for the re-exportation of any fissile materials or nuclear equipment of American origin to other countries;
- not to reprocess, enrich or alter nuclear substances and equipment of American origin without the approval of the United States;
- to obtain prior approval from the United States for any transfer to other countries of sensitive nuclear technology of American origin;

- not to stock plutonium, U 233 or highly enriched uranium supplied by the United States or recovered from reactors of American origin without the approval of the United States;

- maintain adequate measures for the physical safety of American nuclear materials and equipment.

All exports involving a transfer of sensitive nuclear technology or relating to enrichment or reprocessing facilities are prohibited unless the recipient country complies with the obligations laid down by the Non-Proliferation Act.

In addition, direct U. S. control applies to American fissile materials and nuclear equipment throughout the period of their use and operation in the importing country. The effect of this is that the United States will be able to suspend immediately any supplies to a country that detonates a nuclear explosive device for the first time, abrogates or materially violates the IAEA Safeguards or is found by the President to have violated a co-operation agreement with the United States. This "sanctions" aspect of the Act is further accentuated by the provision that, in addition to suspending supplies, the United States has the right to require the return of fissile materials and nuclear equipment from the offending country.

(b) The strengthening of the IAEA safeguards system is deemed to be the right way of ensuring non-proliferation at the level of multilateral co-operation. The wish to consolidate and develop the IAEA's role fits in with the United States' concern to guard against any risk of nuclear "contamination" from facilities not under direct United States surveillance. This explains the obligation which the present Act imposes on all countries importing American nuclear fuel to adopt and apply the IAEA safeguards and in particular to extend them to all their nuclear activities, even those for which there is no agreement with the United States. This requirement for the generalised extension of the IAEA safeguards system applies to the non-nuclear-weapon States which, being now subject to the combined safeguards of the United States as regards facilities using materials of American origin and of the IAEA as regards other facilities, are thus discouraged from diverting nuclear fuel to military purposes.

The IAEA safeguards are applied to all phases of the export procedure:

- during consideration of the application by the responsible bodies;

- on issue of the export licence;

- during the period of surveillance in the recipient countries;

- during the inspections made in cases of re-exportation or transfer.

The need for the IAEA's safeguards to be adopted and enforced is therefore underscored; in fact they are given as one of the main criteria laid down for the exportation of American nuclear fuel.

III. A new co-operation policy

(a) These export conditions are in line with the objectives of U. S. non-proliferation policy, but the adoption of these more restrictive measures has two immediate effects:

- For negotiations now in hand, application of the new legislation means severer demands on the American side and a toughening of the United States attitude by comparison with its earlier position. There is therefore a risk that negotiations may be reconsidered, postponed or even cancelled because some importing countries may not be prepared to accept conditions that are imposed on a unilateral basis or felt to be too severe.

- As regards existing agreements, the present Act calls for their renegotiation. By no means one of the least important features of the new Act is that all agreements currently in force with regard to the supply of American materials must be renegotiated but this renegotiation is seen purely and simply in terms of the criteria laid down by the American Act. In a way, this is tantamount to bringing earlier international undertakings into line with criteria established by national legislation. However, a period of two years is given for countries receiving American nuclear materials to adjust to the new criteria. Admittedly, the Act provides that the NRC may continue to grant export licences if no material change takes place, but it is also empowered to suspend licences in the event of disagreement between the two parties.

However, the severity of this requirement is tempered by the fact that the President is entitled, if the NRC takes a negative decision or fails to take any decision, to authorise exports if he considers that refusal would be prejudicial to American policy. The Presidential decision is subject to Congressional disapproval by concurrent resolution and in that case the proposed agreement cannot enter into force during the period of 60 days that Congress is allowed to formulate its resolution. The Committees on International and Foreign Relations have the right to table amendments, delete certain conditions and add others.

(b) The severity of this nuclear export policy is counterbalanced by the United States' assurances that it will supply fuel to those countries complying with its conditions. For one thing, they will be allowed to associate themselves with certain enrichment activities under American auspices.

At the level of multilateral co-operation, the United States urges all countries to ratify the non-proliferation treaty but also proposes that binding and compulsory international legal instruments be established. In order to make this system more effective it would need to be equipped with a system of sanctions. New procedures will be submitted for negotiation with all countries concerned to deal with situations in which nuclear materials and equipment might be subject to hijacking, theft or sabotage. In this context of international reorganisation, the United States also suggests that an International Nuclear Fuel Authority (INFA) be set up responsible for the supply and distribution of nuclear fuel in accordance with the terms of the agreements between INFA and the producing and importing countries.

Measures will also be taken in favour of developing countries to help them meet their energy requirements.

In order to reconcile the objectives of economic development and social well-being with those of non-proliferation, the United States invites all countries concerned to participate in an International Nuclear Fuel Cycle Evaluation programme (INFCE). It will also be conducting research into various nuclear fuel cycles not involving direct access to materials that can be used in explosive devices.

REGIME OF NUCLEAR INSTALLATIONS

The Nuclear Siting and Licensing Bill of 1978

The Department of Energy (DOE), in accordance with President Carter's National Energy Plan, is proposing legislation to improve the efficiency and effectiveness of the nuclear facility siting and licensing process. This Bill was put before the House of Representatives and the Senate in March 1978.

A. Purpose and main characteristics of Bill

The purpose of this Bill is to reduce the uncertainties associated with the siting and licensing of nuclear power plants and to reduce the time of the process from 10 - 12 years to 6 - 7 years. The shorter time, from utility commitment to plant completion would facilitate energy planning and reduce costs to the consumer without compromising health, safety and environmental considerations. The legislation also provides for early public participation in the hearing process and an increased role for the States.

(a) Key Provisions

Early site selection and site "banking":

- Approval permitted before construction permit request
- Pre-Approved sites held in "bank" for future plants
- Full environmental review of site based on projected future need for power projections.

Standardized plant design

- Early approval of standardized plant design permitted independent of site-specific application.

Combined construction permit/operating licence

- Application must contain sufficient data to support both site approval and final design approval.

Early public notice and participation

- Provides for increased public involvement in decision-making process.

Increased State authority

- Provides for State responsibilities on need for power and environmental acceptability

- Eliminates duplication of effort by Federal Government.

Limitation on reopening old issues

- Provides full public participation in resolution of all issues

- Limits the reconsideration of issues that could have been raised in prior proceedings, in the absence of significant new information.

Intervenor funding

- Provides for five-year pilot program for funding intervenors.

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The legislation also provides that:

- Notices of Intent to file applications would be published in major media at least six months before applications are filed.

- Interim operating licences valid for one year could be granted before completion of a hearing if the Nuclear Regulatory Commission (NRC) determines that there is an urgent public need or emergency and all health and safety aspects of the proceeding are completed.

- Interim amendments to operating licences could be granted before completion of a hearing if the NRC determines that it is in the public interest and all health, safety and environmental requirements have been met.

- Site approvals would be valid for ten years and could be renewed for additional ten-year periods.

- Approvals for standardized designs would be valid for five years and could be renewed for additional three-year periods.

- No filing or issuance fees would be required for an application for approval of a standardized design.

- The NRC would be authorized to establish nonbinding time schedules for Federal, State and regional reviews in co-operation with the respective agencies.

- The NRC would be authorized to make annual grants to States or authorized interstate and regional agencies to assist them in doing environmental impact reviews.

(b) Energy Planning

"Decoupling" the site and power plant design reviews from a specific plant application could reduce to about six years the time it takes a utility to bring a plant into operation, once it has determined that a new plant is needed. By selecting from a "bank" of approved sites and using approved standardized designs, the utility industry

could predict with certainty the time required to get the plant in operation. The shorter time from commitment to completion would facilitate energy planning and reduce costs to the consumer.

(c) Environmental Reviews

With NRC approval, individual States or authorized regional groups of States could assume responsibility for conducting some or all of the required environmental impact reviews required by the National Environmental Policy Act ("NEPA"), except as they pertain to radiological health and safety. The NRC would prepare and forward to a State its conclusions on the radiological impacts of reactor operation. Also, States would have the definitive responsibility for determining need for power from the proposed plant. States would be required to use hearing procedures comparable to procedures used by the NRC.

(d) Elimination of Duplication

Both the environmental reviews and need-for-power determinations are now made by the NRC and in many cases duplicated by the States. By authorizing the States to assume some or all of the NEPA responsibilities, the bill seeks to avoid duplication of efforts. For early site approval, a determination of need for power may be based on a projection of generic future need for electric power.

(e) Public Hearings

In the proposed legislation, public hearings are designed to provide full opportunity for a hearing on any issue, but preclude subsequent reopening of issues for which an opportunity for a hearing existed in a prior proceedings, except upon a prima facie showing of significant new information.

In most proceedings, including consideration of applications for construction permits, operating licences and renewals of or amendments to site and standardized design approvals, hearings would be held only upon request and would be limited to issues on which there had not been an earlier opportunity for a hearing. The NRC would be required to hold a formal hearing in any proceeding for the granting of an initial site permit, approval of a standardized design or for issuance of a combined construction permit and operating licence. The NRC shall hold adjudicatory hearings for all health and safety issues, and "hybrid" hearings (a combination of legislative and adjudicatory procedures) for NEPA determinations.

(f) Licensing Review Procedure

All of the issues now considered in the licensing of nuclear power plants would continue to be considered. However, proposed sites and standardized plant designs could be reviewed and approved in advance of the application to construct a plant. This would reduce the cost and the time required to complete a project.

Separate proceedings before the NRC, the responsible Federal Agency, under the proposed legislation would involve consideration of:

- applications from utilities, States or organisations for approval of specific sites for one or more nuclear plants;

- applications from nuclear power plant manufacturers or architect-engineers for approval of standardized nuclear power plant designs; and

- applications from electric utilities for construction permits or combined construction permits and operating licences using the previously reviewed and approved sites and designs.

(g) Impact of Delays

The current licensing process has expanded over the years so that today, a great deal of time is spent in meeting regulatory requirements. Site selection, environmental reviews, financial considerations, labor, equipment deliveries, re-design requirements and duplication of efforts are some of the areas in which delays can occur.

One example often cited by industry to highlight the problems of the licensing process is the comparison between Millstone Unit No. 2 and Shoreham. Construction permit applications for both plants were filed in 1969. Original construction schedules and cost estimates were comparable for both plants, yet Millstone Unit No. 2 went on line in December of 1975 at an estimated cost of $434 million while Shoreham is scheduled for commercial operation in the fall of 1980 at an estimated cost of $1.2 billion. One of the main causes for the differential in time and cost was the length of time between start of hearings and issuance of construction permits. The time interval between the start of hearings and issuance of construction permit for Millstone Unit No. 2 was approximately three months; for Shoreham it was approximately thirty-six months.

B. Analysis of the Bill's basic concepts

Five basic concepts are represented in the DOE licensing Bill:

- increased emphasis on open and advance planning for energy facilities, including nuclear power reactors, at the State or regional level;

- improved co-ordination of Federal and State agency nuclear power plant reviews to eleminate unnecessary delays and strengthen Federal-State co-operation;

- a revised licensing process that more fully accommodates early NRC nuclear plant site reviews and decisions and pre-reviewed and approved standardized nuclear plant designs;

- elimination of duplicative environmental and need for the plant reviews by permitting the States to assume part or all of the Commission's responsibilities for making environmental and need for the plant determinations;

- provisions for funding intervenors in NRC licensing proceedings.

The advance planning provisions would authorise DOE to provide financial and technical assistance to State and regional energy planning programs which meet DOE guidelines. These programs, which have as their objective greater Federal-State co-operation and consistency with certain Federal energy policies and planning responsibilities, would include projections of future need for energy proceedings. Other provisions would be used by NRC to encourage or require open and advance planning by the utilities themselves, to participate in certain DOE electric power adequacy and reliability programs, and to receive and make public early notice of application for certain licences, permits and other approvals.

The Bill's improved co-ordination provision, for the first time, would offer a statutory mechanism for co-ordinated Federal and State reviews of a nuclear power plant application. The provisions would require NRC to establish schedules for completing its reviews and decisions and would vest NRC with authority to co-ordinate and set target dates for reviews and completion of decision-making on the various Federal and State actions associated with approval of nuclear power plant siting, construction and operation. NRC, or the State in cases where a State elects to make all the required environmental and need for the plant determinations, would also be designated as the lead agency for purposes of preparing any environmental impact statement required by NEPA for any action taken under the Atomic Energy Act. All co-operative efforts under these provisions, including target dates, must be consistent with the statutory obligations of the affected Federal and State agencies, and the Commission cannot require any agency to reach any particular decision on the merits.

The revisions to the licensing process include the authority for NRC to issue site permits for nuclear power facilities even though no application for a construction permit has been filed. Although the provisions would authorise both States and utilities to "bank" sites as part of long-range plans, they would not foreclose use of the sites for other types of energy facilities.

Other provisions in the Bill would establish a clear statutory framework for pre-review and approval (either by rule or by issuance of a manufacturing licence) of standardized plant designs outside of the confines of a particular construction permit or operating licence application. In the case of site permits and standardized design approvals a formal adjudicatory hearing would be required before the site permit is issued or the design approved. In those cases when both a pre-approved plant design and site are utilized, the scope of Commission review and hearing necessary prior to actual construction or operation would be defined so as not to duplicate the previous reviews of both site and design. The Commission would also be authorized to issue a combined construction permit and operating licence when a final standardized design is submitted for review at the construction permit stage. When a combined permit and licence has been issued, the review required prior to actual operation would be carefully limited. Other reforms to the licensing process include the elimination of mandatory hearing requirements for certain construction permit applications where no interested person requests a hearing; the elimination of certain mandatory Advisory Committee on Reactor Safety (ACRS) reviews where neither the Committee nor the Commission believe that a review is warranted; provisions for the issuance of interim operating licences in cases of urgent public need or emergency and interim amendments where necessary in the public interest; and the expansion of public notice requirements for certain licence, permit and other applications where public interest is likely to be high.

The provisions for eliminating duplicative environmental and need for the plant reviews would permit interested States or regional organisations at their option to assume, either in whole or in part, NRC authority to conduct those reviews and make the required determinations. The State or regional review program would be reviewed in advance by NRC under guidelines promulgated by the Commission, and the State or regional agency itself would be required to comply with NEPA. A State not electing to assume those responsibilities may, as an alternative, provide the Commission with environmental and need for the plant data and analyses which may be used by NRC in performing its NEPA responsibilities. Unlike the case of an approved State or regional NEPA program, these

State data and analyses could be challenged before NRC. Federal financial and technical assistance would be available both to States with approved programs for making NEPA determinations and to States which provide NRC with data and analyses for use in NRC proceedings. These provisions would not alter the pre-emptive responsibility of the Federal government for radiation protection matters for nuclear power plants.

Finally, the Bill would establish a pilot program for funding intervenors in NRC licensing proceedings under criteria set forth in the Bill and otherwise established by NRC. Funding of intervenors in NRC rulemaking proceedings would be at the Commission's discretion. Other provisions of the Bill would authorise the use of Federal assistance to the States which elect to assume some or all of NRC's NEPA responsibilities for the funding of intervenors in the associated State proceedings.

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The above note is based on documents provided by the Department of Energy. In the "Articles" Chapter of this issue, readers will find, in addition to this information, a critical commentary of the Bill prepared by Professor Green.

• *Venezuela*

ORGANISATION AND STRUCTURE

Decree of 1975 on the development of nuclear industry

Decree No. 926 of the President of the Republic dated 16th May, 1975 creates two bodies responsible for developing the nuclear industry. The National Council for the Development of Nuclear Industry is made up of representatives of:

- the Ministries of External Relations, Defence, Public Works, Education, Health and Social Assistance, Mines, and Hydrocarbons;
- public bodies such as the Social Service for Co-ordination and Planning, the National Scientific and Technological Research Council, the Venezuelan Institute for Scientific Research;
- the Chairman of the Council for the Management and Production of Electricity.

The President of the Republic appoints the Chairman and the Vice-Chairman of the Council from among its members. The Council is assisted by an Executive Secretariat which prepares the studies required for achievement of the programmes to be implemented by the Company for the Management and Production of Electricity.

The Council's duties are numerous and include:

- definition of the standard general policy for the development and use of nuclear energy for peaceful purposes;
- formulation of the basic orientations of the industry's programme of action;
- proposal of rules for controlling acquisition, transport, storage, use and trade in equipment, nuclear installations and radioactive materials;
- recommendation of standards for the safety of installations and environmental protection;
- provision of advice to the Government concerning international agreements and representations in specialised international agencies, maintenance of technical relations with the national bodies of allied countries, etc.

The Company for the Management and Production of Electricity is responsible for the Council's running expnditure.

The Company for the Management and Production of Electricity applies the policy defined by the Government in accordance with the directives and plans laid down by the Council. The Company may set up public enterprises to achieve its purposes. Its duties are defined as follows:

- elaboration of directives for undertakings in the nuclear industry;
- exploration, exploitation, marketing of radioactive ores and industrialisation throughout the stages of the nuclear fuel cycle;
- importation, manufacture, and marketing of radioactive materials and substances;
- organisation of the development of nuclear industry;
- establishment of the rules of management and co-ordination of staff in the different undertakings;
- creation of research centres to promote innovations regarding protection of persons and the environment against radioactivity.

This Decree which was published in the Official Gazette of 28th May, 1975 declares development of the nuclear industry as being in the public interest.

CASE LAW AND ADMINISTRATIVE DECISIONS

CASE LAW

• *Federal Republic of Germany*

CONSTITUTIONALITY OF SECTION 7 OF THE ATOMIC ENERGY ACT IN RELATION TO FAST BREEDERS

On 18th August, 1977, the Administrative Court of Appeals for the Land North Rhine-Westphalia at Münster submitted the matter concerning the SNR-300 fast breeder nuclear power station at Kalkar to the Federal Constitutional Court at Karlsruhe (see NLB No. 20). On 31st January, 1978 the Federal Constitutional Court accepted the submission as admissible because of the general and fundamental importance of the case for the public interest. The court is now proceeding to examine whether the submission is well founded in law.

DECISION BY THE UNITED STATES SUPREME COURT ON THE VERMONT YANKEE AND MIDLAND NUCLEAR POWER PLANTS

By Decision of 4th April, 1978 the Supreme Court revised two lower court rulings which had remanded licences issued for the Vermont Yankee and the Midland nuclear power plants. This potential far-reaching decision might result in curtailing the use of the courts as a means of opposing nuclear power. The Supreme Court criticized the Court of Appeals for the District of Columbia for overstepping its authority when it ruled that the licensing procedures used by the former Atomic Energy

Commission were inadequate, and ruled that Federal judges may play only a limited role in environmental decision-making on nuclear power safety unless they find "substantial procedural or substantive reasons" to intervene. The Court of Appeals had ruled that the Commission had failed to consider adequately the dangers of nuclear waste in approving the licences to two power companies for nuclear reactors in Vermont and Michigan.

In the Vermont Yankee case, the Court of Appeals had faulted procedures used in a 1974 rule-making that assessed the environmental impacts of fuel reprocessing and waste management. The Supreme Court said that adjudicatory hearings were not required for rule-making procedures and that the Commission did not even need to hold a formal hearing as long as it followed the Administrative Procedure Act and other relevant law.

In the Midland case, the Supreme Court overturned the decision to remand a construction licence on the grounds that the AEC had not considered energy conservation. The record showed that the project was needed and "time and resources are simply too limited to hold that an impact statement fails because the Commission failed to ferret out every possible alternative" the Supreme Court concluded.

The Supreme Court concluded with a strongly worded general statement warning that nuclear energy is not an appropriate question for the judiciary to address. "Congress has made a choice to at least try nuclear energy, establishing a reasonable review process in which courts are to play only a limited role. The fundamental policy questions appropriately resolved in Congress and in the state legislatures are not subject to re-examination in the Federal courts under the guise of judicial review of agency action."

While the Supreme Court overturned the Court of Appeals procedural findings, it remanded the case for determination of whether the rule pertaining to the back end of the fuel cycle at issue in the case is "arbitrary and capricious". Therefore, the Court of Appeals will now rule on the substance of that rule rather than on the procedures involved.

INTERNATIONAL ORGANISATIONS AND AGREEMENTS

INTERNATIONAL ORGANISATIONS

• *The OECD Nuclear Energy Agency*

REVISION OF THE AGENCY STATUTE

The OECD Nuclear Energy Agency (NEA), when it was set up on 1st February, 1958 only included European Member countries which explains why it was originally called the European Nuclear Energy Agency. Its Statute, which took the form of a Decision of the Council of the Organisation dated 20th December, 1957, was amended on several occasions, in step with the Agency's growing membership which now includes all the OECD Member countries with the exception of New Zealand. The Agency's name was changed to the present one when Japan acceded in 1972 (see NLB No. 10).

Apart from these minor amendments, the Statute has remained unchanged in substance since its adoption. The question of modernising the Statute was raised after the Council had approved the revision of the Agency's programme and priorities in 1973; this revision reoriented NEA's activity in three main directions:

- safety and regulatory aspects of nuclear activities;
- technical and economic studies on nuclear energy development;
- technical co-operation and nuclear information;

and also took account of the situation resulting from the energy crisis and the creation in the Organisation of the International Energy Agency (IEA) in 1974. The purpose of modernising the Statute was to include the new objectives assigned to the Agency and to make the necessary amendments in view of this new perspective.

With experience, the NEA Statute has shown itself to be a remarkably flexible instrument for directing the Agency's programme and activities; moreover, as it was not planned to amend its substance, it

seemed preferable to modify it rather than to replace it by an entirely new Statute. Therefore, the Council Decision of 20th December, 1957 simply been amended.

The changes to the Statute may be summarised as follows:

- a number of provisions which became obsolete in view of the changes since creation of the Agency have been deleted while minor amendments were made, in particular, to take account of the structural evolution in OECD;

- the provisions defining the Agency's general objectives and its system of operation within OECD have been considered still valid; however, the present concern regarding the problem of non-proliferation has resulted in the introduction of a reference to this matter in the purpose of the Agency which is now defined as follows:

  "Taking due account of the public interest and mindful of the need to prevent the proliferation of nuclear explosive devices, the purpose of the Agency shall be to further the development of the production and uses of nuclear energy, including applications of ionizing radiations, for peaceful purposes by the participating countries, through co-operation between those countries and a harmonization of measures taken at the national level".

  However, Member countries have interpreted that this amendment is not intended to express more than this international consensus, nor to imply references to particular international agreements or adherence to them;

- furthermore, the Statute reaffirms and defines more specifically the Agency's task concerning, in particular, promoting the protection of workers and the public against the hazards of ionizing radiations as well as preservation of the environment, promoting the safety of nuclear installations, and the Agency's contribution to elimination of obstacles to international trade and development of nuclear industry as well as dissemination of information, notably with respect to the safety and regulation of nuclear activity.

The Agency's revised Statute was adopted by the OECD Council on 5th April, 1978 and has been published and is available on request.

MODERNISATION OF THE PARIS CONVENTION AND THE BRUSSELS SUPPLEMENTARY CONVENTION

The Paris Convention on Third Party Liability in the Field of Nuclear Energy was signed on 29th July, 1960 by sixteen OECD Member countries and came into force on 1st April, 1968. To date, twelve Signatories have ratified the Convention, and Finland has acceded to it (see NLB No. 20).

The Brussels Supplementary Convention was signed on 31st January, 1963 by thirteen of the Signatories to the Paris Convention and came into force on 4th December, 1974. Eight Signatories have now ratified it and Finland has acceded to it (see NLB No. 19).

The provisions of the Paris Convention have remained unchanged since its adoption. Eighteen years is a long time in view of the rapid development of nuclear energy during that period both at technological and economic level. This is why the question was raised of whether the Paris Convention should be adapted to the present situation. Article 22(c) of the Convention lays down that a revision conference should be convened by the Secretary-General of the Organisation after a period of five years as from the date of its coming into force, namely on 1st April, 1973.

In April 1972, the NEA Steering Committee had asked the NEA Group of Governmental Experts on Third Party Liability in the Field of Nuclear Energy to prepare implementation of that Article. However, for various reasons, the Group of Experts recommended at that time that the Paris Convention should not be revised and decided that the Secretariat should closely follow the evolution of the situation and report to the Group if new developments warranted a review of the prospects for revising the Paris Convention.

Since then, two factors have induced the Experts to resume study of the financial and monetary aspects of both Conventions the need to replace the European Monetary Agreement unit of account (EMA u/a) by another unit of account, and raising the maximum amounts of liability in view of inflation.

Replacement of the EMA u/a

The amounts of liability and compensation laid down in both Conventions are expressed in EMA u/a which is itself defined in relation to gold. The abolition of the official price of gold by the International Monetary Fund (IMF) led to considerable uncertainties concerning the monetary value of this unit of account.

Therefore the Group of Experts acknowledged unanimously that the EMA u/a referred to in Article 7(b) of the Paris Convention and Article 3(g) of the Brussels Suplementary Convention should be replaced by the Special Drawing Right (SDR) of the IMF since the trend is to recognise the SDR as the international unit of account; it has been introduced in four maritime conventions (1976), in the Montreal Protocols of 1975, in the 1976 London Convention on Civil Liability for Oil Pollution Damage, and is also used by different international bodies, namely the Financial Support Fund established in 1975 within OECD and the International Fund for Agricultural Development created by a United Nations Conference in 1976.

The Group agreed that the "variable" SDR, made up of a "basket" of the sixteen most important currencies, should be adopted as the unit of account. This would mean that the SDR should be the unit currently fixed by the IMF in accordance with the method of valuation used for its own operations and transactions. Consequently, if the IMF were to change its method of valuation (e.g. the composition of the currency components in the basket or their respective percentage weights) this would apply equally to the valuation of the SDR for the purposes of the Paris Convention and the Brussels Supplementary Convention. The choice of the variable SDR will enable its continuous conversion into national currencies on the basis of daily calculations published by the IMF.

Increase of the maximum amounts

The rate of inflation (changes in consumer price indices) in the sixteen countries Signatory to the Paris Convention and Finland for the period from 1960 (the year of adoption of the Paris Convention) and from 1963 (the year of adoption of the Brussels Supplementary Convention) to 1976 has resulted in an increase of the average index from 100 in 1960 to 262.3 in 1976 and from 100 in 1963 to 235.4 in 1976.

Therefore, the majority of the members of the Group are in favour of increasing the amounts in view of inflation since the adoption of the Conventions. With regard to the amounts laid down in the Paris Convention, the capacities of the national and international insurance markets would also have to be taken into account. Most are of the opinion that these should be the only factors to be considered in fixing the new amounts and that technical questions pertaining to the present state of nuclear safety as compared to the early 1960s should not be taken into account. It was pointed out that, irrespective of the progress achieved in nuclear safety technology over the past years, and however low probabilities might be for incidents in nuclear installations or during transport of nuclear substances, these could not be excluded. As the very purpose of the two Conventions is to provide adequate compensation for victims of a nuclear incident, even if the chances of such an occurrence are remote, the amounts of liability and compensation should be adapted to the rate of inflation.

Certain members of the Group consider, on the other hand, that it is desirable to take into account the present status of nuclear safety as compared to the early 1960s, in order to determine whether the amounts established by the two Conventions should be changed. These amounts had been established in a totally empirical manner, and paragraph 43 of the Exposé des Motifs to the Paris Convention set out the rules and not the reasons having led to their determination. Since an evaluation of the risks connected with a nuclear incident had not been made when the Conventions were established, it should now be undertaken. There was reason to believe that the increased safety of nuclear installations had led to a lower probability of nuclear incidents, regardless of the increase in the number and size of reactors and of the frequency of nuclear substances being transported. This was confirmed by the results of the Rasmussen Study which estimates the probability of 100 or more fatalities to be 1 in 100,000 years, and of 1,000 or more fatalities to be 1 in 1 million years, both figures based on 100 power reactors in operation. As regards property damage, the chance of an accident causing, for example, 150 million dollars of damage would be about 1 in 100,000 per reactor per year and 1 in 1 million per plant per year of causing damage of about 1,000 million dollars.

The Steering Committee, to which the Group of Governmental Ex erts submitted a report in October 1977, confirmed the mandate of the Group and noted the progress of work on modernisation of the Paris Convention and the Brussels Supplementary Convention. It decided that the Conventions should be revised with respect to the unit of account, and agreed that this revision work should be continued at expert level with a view to being brought to an early conclusion.

DECISIONS OF THE STEERING COMMITTEE FOR NUCLEAR ENERGY ON THE EXCLUSION OF CERTAIN KINDS OR QUANTITIES OF NUCLEAR SUBSTANCES FROM THE APPLICATION OF THE PARIS CONVENTION

The Paris Convention on Third Party Liability in the Field of Nuclear Energy establishes a special regime intended to cover solely risks of an exceptional nature for which the rules and customs of ordinary law are not suitable. Every time that risks, even those connected with nuclear activities, may normally be submitted to the law in force, they are therefore left outside the scope of the Convention. Article 1(b) of the Paris Convention lays down that "the Steering Committee may, if in its view the small extent of the risks involved so warrants, exclude any nuclear installation, nuclear fuel, or nuclear substances from the application of this Convention". The decisions taken by the Steering Committee under this Article must be adopted by mutual agreement of the members representing the Contracting Parties in accordance with Article 16 of the Convention.

Decision on exclusion of small quantities of nuclear substances

In 1964 the Steering Committee for Nuclear Energy adopted a Decision under Article 1(b) of the Paris Convention which laid down that the nuclear operator was not liable, under the Convention, for damage caused by certain limited quantities of nuclear substances consigned from his installation, provided that when leaving the installation they complied with the conditions and quantitative limits specified in an attached Annex, and with other relevant requirements "in the then applicable edition of the Regulations for the Safe Transport of Radioactive Materials of the International Atomic Energy Agency". The Annex to that Decision was written in terms of the 1964 Edition of the IAEA Transport Regulations.

Since this Decision came into effect, the IAEA have published two subsequent editions of their Regulations: in 1967 when minor amendments which did not substantially affect the Decision were incorporated into the Regulations, and in 1973 when the Regulations were completely revised. The increasing adoption of this latter Edition in the regulatory requirements of national and international transport authorities means that the specific requirements set out in the Annex of the 1964 Decision were no longer compatible with those applying in the practical field of transport. Because of the lack of technical harmony serious uncertainties in determining the consignor's liability in the event of a nuclear incident could arise.

This is why, on 27th October, 1977 the Steering Committee adopted a Decision intended to restore compatibility between the provisions of the 1964 Decision and those which are based on international regulations applicable to the transport of radioactive substances.

This Decision which replaces that taken in 1964 is considered as an interim measure, pending the elaboration of a completely new Decision on the exclusion of small quantities of nuclear substances in course of transport.

Decision on the exclusion of certain kinds of nuclear substances

This Decision which was also adopted by the Steering Committee on 27th October, 1977 came into force on 18th January, 1978 following withdrawal of the reservation expressed by a Contracting Party; its purpose is to exclude certain kinds of nuclear substances which, from a practical viewpoint, present no greater risk than natural or depleted uranium which is already excluded from the definition of nuclear substances within the meaning of the Paris Convention. The kind of nuclear substance referred to in this Decision is reprocessed uranium within acceptable limits of residual contamination and with a specified content of uranium 235.

Therefore, according to this Decision:

- when uranium is present in an installation which, because of operations carried out there, is already a nuclear installation under the Convention, the material will remain within the special liability regime, whether or not it complies with the requirement for exclusion laid down by this Decision;
- where uranium complying with the requirements for exclusion is stored on a site which does not otherwise qualify as a nuclear installation within the meaning of the Convention, the site will be exempt from the special liability regime;
- finally, the operator of a nuclear installation will not be liable under the terms of the Paris Convention for damage caused by an incident in the course of carriage to or from that installation involving only nuclear substances excluded by this Decision.

RECOMMENDATIONS FOR IONIZATION CHAMBER SMOKE DETECTORS IN IMPLEMENTATION OF RADIATION PROTECTION STANDARDS

In the framework of the different tasks assigned to it by its Statute, the Agency is entrusted, in particular in the field of radiation protection, with elaborating common rules intended to serve as a basis for national legislation. This work is carried out by the Committee on Radiation Protection and Public Health created within the Agency.

The Committee has made a study of the radiation protection problems raised by the use of ionization chamber smoke detectors (ICSDs). This study which was entrusted to an expert group resulted in Recommendations which were adopted by the NEA Steering Committee in 1977.

The purpose of these Recommendations is to promote adoption of a harmonized policy by the competent national authorities concerning the issue of licences for the manufacture, import, use and disposal of ICSDs while ensuring that individual and collective exposure doses are kept as low as is reasonably achievable.

These Recommendations take into account the work of the International Commission on Radiological Protection (ICRP) and also follow the principles set out in the NEA Guide for safety analysis and control of products containing radionuclides and available to the general public.

Finally, these Recommendations were designed to be adapted to national control systems when the latter provide that products or devices containing radionuclides may not be manufactured or distributed without a licence or an exemption from the general prohibition measures issued by the national competent authorities.

• *International Atomic Energy Agency*

COMMUNICATIONS RECEIVED FROM CERTAIN MEMBER STATES REGARDING GUIDELINES FOR THE EXPORT OF NUCLEAR MATERIAL, EQUIPMENT OR TECHNOLOGY

On 11th January, 1978 the Director General of the IAEA received communications from the Resident Representatives to the IAEA of Belgium, Canada, Czechoslovakia, France, the German Democratic Republic, the Federal Republic of Germany, Italy, Japan, the Netherlands, Poland, Sweden, Switzerland, the United Kingdom, the United States of America and the Union of Soviet Socialist Republics concerning the common policy they had agreed upon with regard to the export of nuclear material, equipment and technology. At the request of the Governments concerned, the texts of the communications received by the IAEA regarding guidelines for nuclear transfers have been circulated to Member States in document INFCIRC/254. It was emphazised in the communications that the documents sent to the IAEA were a demonstration of support by the Governments concerned for the IAEA non-proliferation objectives and safeguards activities. On 21st February, 1978 the Resident Representative of Australia sent a letter to the IAEA on the same subject. The attachments to the various communications, which are in every case identical, setting forth the Guidelines for nuclear transfers under the form of an Appendix, are reproduced in the "Texts" Chapter of the present issue of the Bulletin.

PHYSICAL PROTECTION OF NUCLEAR MATERIAL

A second meeting of governmental representatives to consider the drafting of a convention on physical protection of nuclear material was held at the IAEA Headquarters from 10th to 20th April, 1978 with the participation of forty countries. Four other States and the European Atomic Energy Community were represented by observers at the meeting.

Three working groups were set up to deal with the objectives and scope of the convention, legal and technical matters respectively. Some progress was achieved with respect to a number of draft articles such as those concerning the definition of nuclear material, international nuclear transport, the levels of physical protection of nuclear material in international transport, punishable offence under internal law, settlement of disputes. However, some basic issues required further discussions, namely whether nuclear material used for military purposes should be covered by the convention, and whether the scope of the convention should be limited to international transport of nuclear material or should also cover national transport and nuclear

material in nuclear facilities. The meeting therefore decided to hold another session from 5th to 16th February 1979, prior to which informal discussion on the scope of the convention will take place in Vienna from 4th to 8th September 1978.

RESOLUTIONS OF THE UNITED NATIONS GENERAL ASSEMBLY

Among the resolutions adopted by the General Assembly of the United Nations during its thirty-second session (20th September - 21st December 1977) that relate to or have a bearing on the IAEA activities and programme, it is worth mentioning in particular:

- Resolution 32/49 in which the General Assembly notes with appreciation the contribution of the IAEA to the international community in facilitating the elaboration of a convention on the physical protection of nuclear materials and urges prompt completion of the work on this convention; and

- Resolution 32/50 in which the General Assembly sets forth the following principles which it invites all States as well as the international organisations concerned to respect and observe·

  "(a) the use of nuclear energy for peaceful purposes is of great importance for the economic and social development of many countries;

  (b) all States have the right, in accordance with the principle of sovereign equality, to develop their programme for the peaceful use of nuclear technology for economic and social development, in conformity with their priorities, interests and needs;

  (c) all States, without discrimination, should have access to and should be free to acquire technology, equipment and materials for the peaceful use of nuclear energy;

  (d) international co-operation in the field covered by the present resolution should be under agreed and appropriate international safeguards applied through the International Atomic Energy Agency on a non-discriminatory basis in order to prevent effectively proliferation of nuclear weapons".

ADVISORY SERVICES IN NUCLEAR LEGISLATION

Though Egypt is a Party to the Vienna Convention on Civil Liability for Nuclear Damage which entered into force on 12th November 1977, there is no national legislation addressing such liability. Moreover, such legislation is needed in connection with contractual arrangements being negotiated by the Egyptian Nuclear Power Plants Authority with a foreign manufacturer for the construction of a 600 MWe nuclear plant, scheduled for operation by 1983. The Egyptian authorities have therefore requested the IAEA to provide advisory services in nuclear liability and insurance matters.

For the first time in the provison of such advisory services to a Member State, the IAEA has called upon and obtained the fullest co-operation of the British Insurance (Atomic Energy) Committee. A mission composed of Mr. H.W. Francis, Director of the said Committee, and of a senior officer of the IAEA Legal Division visited Cairo in the last week of March. The mission participated in several meetings with representatives of the Ministry of Foreign Affairs, the Ministry of Electricity and Energy, the Atomic Energy Authority, the Nuclear Power Plants Authority and the Egyptian insurance and reinsurance companies. During such meetings, the existing legal framework for and the functional organisation of different competent bodies in nuclear energy in Egypt as well as the relationship between nuclear third party legislation and the insurance aspects of nuclear installations were thoroughly discussed and reviewed. As a result of such discussions, a draft law on civil liability for nuclear damage has been prepared for consideration by the authorities and suggestions formulated as regards the setting up of an Egyptian nuclear insurance pool and related reinsurance possibilities and arrangements.

• *Euratom*

EURATOM LOANS

By Decision No. 77/270 EUR of 29th March, 1977, the Council, in implementation of Article 172, paragraph 4 of the EURATOM Treaty, authorised the Commission to take out loans to finance projects relating to the industrial generation of nuclear electricity and to industrial installations connected with the fuel cycle. The Commission is responsible for individual measures concerning the granting of loans. A ceiling of 500 million units of account was fixed by the Council under Decision 77/271 EURATOM of the same day.

EURATOM DIRECT ACTION PROGRAMME

By Decision No. 77/488/EEC-EURATOM, the Council of the European Communities adopted a direct action programme for the period 1st January, 1977 to 31st December, 1980 covering five series of actions which include in particular nuclear safety and support for various research work including fissile materials control. Action in the field of thermonuclear fusion technology as well as a nuclear action covering high temperature materials are set out in the "Future Energy" part of the joint programme.

EURATOM INDIRECT ACTION PROGRAMME

By Decision No. 78/264/EURATOM, the Council of the European Communities decided on 6th March, 1978 for a three year period (1978 - 1980) an R and D programme by means of contracts (indirect action) concerning exploration for and extraction of uranium.

AGREEMENTS

• *F.R. of Germany - Iran*

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

The German Federal Minister of Research and Technology has published an Agreement with the Iranian Atomic Energy Organisation concerning Co-operation in the Field of the Peaceful Uses of Nuclear Energy (Bundesgesetzblatt 1978 II page 284). The Agreement was signed on 4th July, 1976 and entered into force on 11th November, 1977.

The Contracting Parties agreed to collaborate - inter alia - in the following fields:

- scientific and technological research and development;
- planning, construction and operation of nuclear power plants, other nuclear installations, and research facilities;
- education and training of scientific and technical personnel;
- technology of nuclear power;
- safety of nuclear installations and radiation protection;
- nuclear fuel cycle;
- use of nuclear energy for other purposes than the generation of electricity;
- production and use of radioisotopes.

• *Federal Republic of Germany*

AMENDMENT TO THE REGULATIONS ON THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD

Annexes A and B of the European Agreement on the Carriage of Dangerous Goods by Road (ADR) of 30th September, 1957 were modified by amendments which were brought into force for the Federal Republic of Germany by an Ordinance of 4th November, 1977 [Bundesgesetzblatt 1977 II page 1190]. The Ordinance entered into force on 1st December, 1977.

• *United States-Japan*

AGREEMENT ON REPROCESSING NUCLEAR MATERIAL OF UNITED STATES ORIGIN

On 12th September, 1977 Japan and the United States signed an agreement called the Tokai Mura Agreement under which Japan undertakes to reprocess up to 99 tons of irradiated fuel material received from the United States and to defer during the initial period of operation, the construction of the plutonium conversion facility scheduled to be attached to the facility.

The United States, for its part, will consider on an annual basis Japanese plutonium requirements and will seek ways to ensure that any shortfalls of plutonium resulting from deferral of the construction of the plutonium conversion facility will not entail any delays in the Japanese programme.

Throughout the operating period of the main facility, experimental coprocessing work will be conducted in the Operational Test Laboratory (OTL). The results will be made available to the International Nuclear Fuel Cycle Evaluation Program (INFCE).

At the end of the initial period of operation, the conventional reprocessing method will be converted to full scale coprocessing if both Governments acknowledge such coprocessing as being technically feasible and effective, as a result of the experimental work undertaken by OTL and the studies carried out within INFCE.

IAEA will be empowered to apply to the facility its safeguards defined in the existing and future international agreements in that field.

• *International Atomic Energy Agency*

TREATY ON THE NON-PROLIFERATION OF NUCLEAR WEAPONS

Portugal and Liechtenstein acceded to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) on 15th December, 1977 and 20th April, 1978 respectively. Thus 104 States were Parties to the Treaty, including three nuclear-weapon States (United Kingdom, United States and USSR), in late April 1978.

SAFEGUARDS AGREEMENTS

On 21st February, 1978 the Board of Governors approved the following agreements to be concluded by the IAEA:

- with Guatemala and Peru respectively, in connection with the Treaty for the Prohibition of Nuclear Weapons in Latin America and NPT;
- with Western Samoa in connection with NPT;
- with France and the European Atomic Energy Community (EURATOM) for the application of safeguards in France.

The agreement to be concluded between France, EURATOM and the IAEA is similar to the Agreement of 6th September, 1976 between the United Kingdom, EURATOM and the IAEA. However, the fields of application of the two agreements differ in that the United Kingdom has agreed to submit to IAEA safeguards all its installations having no bearing on national security; in the case of France, only certain nuclear material to be designated by France will be subject to the application of IAEA safeguards. The protocol to the French agreement concerning the co-ordination between the IAEA and EURATOM in the application of safeguards is also similar to that of the United Kingdom Agreement.

It may be recalled that in September 1976 the Board of Governors had approved an agreement between the United States of America and the IAEA for the application of safeguards to all nuclear installations in the USA except those related to national security.

Of the 101 non-nuclear weapon States that are Party to the NPT, 66 have concluded the safeguards agreements with the Agency required by Article III.2 of NPT; 55 of these agreements are currently in force. In 1977 the IAEA applied safeguards to significant nuclear activities in 30 States under NPT agreements and in 20 States under non-NPT agreements. During 1977 the IAEA carried out 706 inspections in 45 States, as compared with 565 inspections in 40 States during 1976.

In February 1978 the Board of Governors also approved a Project Agreement between Peru and the IAEA and a Supply Agreement between Argentina, Peru, the USA and the IAEA for the transfer of a research reactor and fuel elements from Argentina to Peru for use in the training

of personnel at the Peruvian Nuclear Research Centre, Lima. The fuel elements, which are fabricated in Argentina, contain enriched uranium of United States origin and therefore the USA is also party to the quadripartite supply agreement.

REGIONAL CO-OPERATIVE AGREEMENT

In 1972 the IAEA concluded a five-year Regional Co-operative Agreement (RCA) with Member States in Asia and the Pacific for research, development and training related to nuclear science and technology (INFCIRC/167). Within this framework, eleven participating countries (Bangladesh, India, Indonesia, Republic of Korea, Malaysia, Pakistan, Philippines, Singapore, Sri Lanka, Thailand and Viet Nam) have carried out various projects on radiation preservation of fish and fishery products, other food irradiation and agricultural, medical and industrial applications of nuclear techniques.

In June 1977 the RCA Agreement was extended for a further five year period and eight Member States are so far Parties to the Agreement as extended: Australia, India, Indonesia, Malaysia, Pakistan, Philippines, Singapore and Thailand. Japan has also expressed interest in the Agreement. New projects will be started this year dealing with the use of induced mutation for the improvement of grain - legume production, the use of nuclear techniques in improving buffalo production and in health - related environmental research, and applied research on nuclear techniques.

MULTILATERAL AGREEMENT

THE URANIUM INSTITUTE

In the early 1970s when the price of uranium was particularly low, the main world producers had decided to encourage a price increase which accelerated following the oil crisis and the forecast of the speedy development of nuclear industry. Therefore the Uranium Institute was set up in this context in June 1975 on the initiative of sixteen uranium producers from among the most important in the world. Although it did not follow a previously existing organisation, due to circumstances which had led to its creation, the Institute appeared to be, from the start, the outcome of an agreement between the producers and the creation of a uranium cartel.

The Institute is an international association with a private vocation. As from January 1976, following adoption of a special Resolution its membership no longer simply comprises producers but also consumers. The novelty of the Institute is that it brings together four types of members: producers of natural uranium, nuclear consumers and operators, organisations which since they do not belong to the two preceding catagories are associate members, and individuals who may

be elected as honorary members. In June 1977, the Institute had twenty-two producers, ten consumers and eight associates from eleven countries: Australia, Belgium, Canada, France, Federal Republic of Germany, Iran, Italy, Japan, South Africa, Sweden and the United Kingdom. The absence of the United States must be stressed; its industrial undertakings cannot join the Institute as they may be sued under anti-trust legislation. Since 1976 the Institute has put before the United States Department of Justice a case to demonstrate that from the legal point of view the Institute as a private organisation does not violate the rules of the European Communities on agreements or the United States anti-trust law, as its purpose is not to determine the price of uranium, which is fixed on the market according to supply and demand.

The main objective of the Institute is to promote development of the production of uranium and its peaceful uses as a world energy source. To this effect the Institute encourages research, exchanges of information, consultation at all levels and between all the partners. It grants scholarships, publishes brochures, enlists subscriptions, thus encouraging wide dissemination of all types of information (legal, technical and economic) concerning uranium.

The Institute's general policy is defined at every Annual General Meeting; members having paid up their contribution take part in the vote by a show of hands or by secret ballot. A quorum is required; one quarter of each class of member must be present. An Extraordinary General Meeting may be convened for specific questions.

The Institute is run by a Council of Management made up of thirty-two persons appointed from among the principal representatives of the members. The Council is responsible for the proper operation of the Institute at financial and administrative level and may establish rules for implementing the resolutions adopted by the members at the Annual General Meetings. All decisions of the Council are taken by a simple majority, each member having a vote, the Chairman having the deciding vote.

TEXTS

• *Norway*

1976 REGULATIONS ON THE SUPERVISION AND USE OF INSTALLATIONS, APPARATUS, MATERIAL AND SUBSTANCES WHICH RELEASE IONIZING OR OTHER RADIATION REPRESENTING A DANGER TO HEALTH*

Issued by Royal Decree of 23rd January, 1976 pursuant to the Act of 18th June, 1938 relating to the Use of X-Rays and Radium etc. laid down by the Ministry of Social Affairs

Section 1

The State Institute of Radiation Hygiene shall exercise supervision in accordance with Act No. 1 of 18th June, 1938 relating to the Use of X-Rays and Radium etc.

The Institute is empowered to authorize installations and apparatus etc. covered by the said Act (cf. Section 3 of the Regulations) and to issue special regulations and instructions in accordance with the third paragraph in Section 1 of the Act, as well as prohibitions in accordance with Section 4 of the Act. Regardless of whether the conditions required for authorisation obtain in other respects, authorisation may be refused if satisfactory maintenance cannot be counted upon.

Such supervision etc. as is carried out in accordance with these Regulations does not take the place of supervision etc. carried out in accordance with other regulations, for example regulations in respect of electrical installations.

Section 2

The Ministry of Social Affairs is the appellate instance for the decisions the Institute takes pursuant to these Regulations. The Act of 10th February, 1967 relating to the Procedure in Administrative Cases (short title: The Public Administration Act) is applicable in respect of the appeals procedure.

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* Unofficial translation by the Norwegian Authorities.

Section 3

The supervision etc. pursuant to Section 1 applies to all installations, apparatus, material and substances which produce ionizing radiation and which are used for medical, veterinary, scientific, industrial or other purposes, as well as stocks, waste and discharge of substances which produce ionizing radiation. In addition, the supervision etc. pursuant to Section 1 shall also include all use of lasers, radar, microwaves and other electromagnetic radiation representing a danger to health, in pursuance of the second paragraph of Section 6 of the Act.

The provisions in the first paragraph regarding supervision do not apply to installations, apparatus, material and substances which are excepted pursuant to specific provisions by the Defence establishment.

Section 4

Installations etc. which are covered by Section 3 and which are already in operation shall be notified to the Institute if it so requires.

New installations etc. and extensions or major alterations etc. shall be notified to the Institute before the work is commenced, and must not be taken into use before the Institute has given its permission.

Before the sale or use of apparatus or material etc. may be effected, notification shall be given to the Institute which may prohibit sale or use before authorisation has been granted.

In individual cases, the Institute may grant dispensation from the notification requirement.

Section 5

The owner of an installation, apparatus and substances etc. is responsible for seeing that the obligations incumbent on him pursuant to the Act and these Regulations are observed.

Any person in charge of the operation of an installation and apparatus etc. shall be under an obligation to see that these are not used contrary to the regulations or instructions from the Institute. It is compulsory to notify the owner if installations or apparatus may be considered to have defects which can endanger life or health. If such defects are not rectified, the Institute shall be notified.

The owner of an installation, apparatus and substances etc. who is authorised in accordance with the second paragraph of Section 1 of these Regulations is under an obligation to notify the Institute immediately in writing upon discontinuance of such use, the closing down of the installation etc. The authorisation lapses when such notification is registered in the Institute.

Section 6

The Institute is empowered to issue special regulations concerning training for those who use installations, apparatus and substances etc. covered by Section 3 of the Regulations.

Section 7

For supervision and authorisation, the owner of an installation etc. shall pay an annual fee which for each individual case is laid down in a scale of fees approved by the Ministry of Social Affairs.

In special cases the Ministry may waive the fee, in whole or in part.

If the installation etc. is operated on behalf of a person other than the owner, such a person is likewise responsible for payment of the fee.

The fee is collected by the Institute and falls due 14 days after demand for payment.

If the fee has not been paid by the due date, interest on the overdue fee shall be subsequently paid at the applicable rate of interest for value-added tax in arrears.

For supervision and investigations carried out on request by the Institute over and above the required regular supervision, a special remuneration shall be paid at the rates which in the relevant case may be determined by the Ministry of Social Affairs.

Section 8

These Regulations shall enter into force immediately.

From the same date, the regulations regarding the supervision of X-Ray installations and radium etc., laid down in the Royal Decree of 22nd October 1948, are repealed.

The Ministry of Social Affairs is empowered to supplement, amend and repeal these Regulations.

• *IAEA*

GUIDELINES FOR NUCLEAR TRANSFERS*

1. The following fundamental principles for safeguards and export controls should apply to nuclear transfers to any non-nuclear-weapons State for peaceful purposes. In this connection, suppliers have defined an export trigger list and agreed on common criteria for technology transfers.

Prohibition on nuclear explosives

2. Suppliers should authorize transfer of items identified in the trigger list only upon formal governmental assurances from recipients explicitly excluding uses which would result in any nuclear explosive device.

Physical protection

3. (a) All nuclear materials and facilities identified by the agreed trigger list should be placed under effective physical protection to prevent unauthorised use and handling. The levels of physical protection to be ensured in relation to the type of materials, equipment and facilities, have been agreed by suppliers, taking account of international recommendations.

(b) The implementation of measures of physical protection in the recipient country is the responsibility of the Government of that country. However, in order to implement the terms agreed upon amongst suppliers, the levels of physical protection on which these measures have to be based should be the subject of an agreement between supplier and recipient.

(c) In each case special arrangements should be made for a clear definition of responsibilities for the transport of trigger list items.

Safeguards

4. Suppliers should transfer trigger list items only when covered by IAEA safeguards, with duration and coverage provisions in conformance with the GOV/1621 guidelines. Exceptions should be made only after consultation with the parties to this understanding.

5. Suppliers will jointly reconsider their common safeguards requirements, whenever appropriate.

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* Text circulated by the IAEA in document INFCIRC/254.

Safeguards triggered by the transfer of certain technology

6. (a) The requirements of paragraphs 2, 3 and 4 above should also apply to facilities for reprocessing, enrichment, or heavy-water production, utilizing technology directly transferred by the supplier or derived from transferred facilities, or major critical components thereof.

(b) The transfer of such facilities, or major critical components thereof, or related technology, should require an undertaking (1) that IAEA safeguards apply to any facilities of the same type (i.e. if the design, construction or operating processes are based on the same or similar physical or chemical processes, as defined in the trigger list) constructed during an agreed period in the recipient country and (2) that there should at all times be in effect a safeguards agreement permitting the IAEA to apply Agency safeguards with respect to such facilities identified by the recipient, or by the supplier in consultation with the recipient, as using transferred technology.

Special controls on sensitive exports

7. Suppliers should exercise restraint in the transfer of sensitive facilities, technology and weapons-usable materials. If enrichment or reprocessing facilities, equipment or technology are to be transferred, suppliers should encourage recipients to accept, as an alternative to national plants, supplier involvement and/or other appropriate multinational participation in resulting facilities. Suppliers should also promote international (including IAEA) activities concerned with multinational regional fuel cycle centres.

Special controls on export of enrichment facilities, equipment and technology

8. For a tranfser of an enrichment facility, or technology therefor, the recipient nation should agree that neither the transferred facility, nor any facility based on such technology, will be designed or operated for the production of greater than 20% enirched uranium without the consent of the supplier nation, of which the IAEA should be advised.

Controls on supplied or derived weapons-usable material

9. Suppliers recognise the importance, in order to advance the objectives of these guidelines and to provide opportunities further to reduce the risks of proliferation, of including in agreements on supply of nuclear materials or of facilities which produce weapons-usable material, provisions calling for mutual agreement between the supplier and the recipient on arrangements for reprocessing, storage, alteration, use, transfer or retransfer of any weapons-usable material involved. Suppliers should endeavour to include such provisions whenever appropriate and practicable.

Controls on retransfer

10. (a) Suppliers should transfer trigger list items, including technology defined under paragraph 6, only upon the recipient's assurance that in the case of:

(1) retransfer of such items,

or

(2) transfer of trigger list items derived from facilities originally transferred by the supplier, or with the help of equipment or technology originally transferred by the supplier;

the recipient of the retransfer or transfer will have provided the same assurances as those required by the supplier for the original transfer.

(b) In addition the supplier's consent should be required for: (1) any retransfer of the facilities, major critical components, or technology described in paragraph 6; (2) any transfer of facilities or major critical components derived from those items; (3) any retransfer of heavy water or weapons-usable material.

SUPPORTING ACTIVITIES

Physical security

11. Suppliers should promote international co-operation on the exchange of physical security information, protection of nuclear materials in transit, and recovery of stolen nuclear materials and equipment.

Support for effective IAEA safeguards

12. Suppliers should make special efforts in support of effective implementation of IAEA safeguards. Suppliers should also support the Agency's efforts to assist Member States in the improvement of their national systems of accounting and control of nuclear material and to increase the technical effectiveness of safeguards.

Similarly, they should make every effort to support the IAEA in increasing further the adequacy of safeguards in the light of technical developments and the rapidly growing number of nuclear facilities, and to support appropriate initiatives aimed at improving the effectiveness of IAEA safeguards.

Sensitive plant design features

13. Suppliers should encourage the designers and makers of sensitive equipment to construct it in such a way as to facilitate the application of safeguards.

Consultations

14. (a) Suppliers should maintain contact and consult through regular channels on matters connected with the implementation of these guidelines.

(b) Suppliers should consult, as each deems appropriate, with other Governments concerned on specific sensitive cases, to ensure that any transfer does not contribute to risks of conflict or instability.

(c) In the event that one or more suppliers believe that there has been a violation of supplier/recipient understandings resulting from these guidelines, particularly in the case of an explosion of a nuclear device, or illegal termination or violation of IAEA safeguards by a recipient, suppliers should consult promptly through diplomatic channels in order to determine and assess the reality and extent of the alleged violation.

Pending the early outcome of such consultations, suppliers will not act in a manner that could prejudice any measure that may be adopted by other suppliers concerning their current contacts with that recipient.

Upon the findings of such consultations, the suppliers, bearing in mind Article XII of the IAEA Statute, should agree on an appropriate response and possible action which could include the termination of nuclear transfers to that recipient.

15. In considering transfers, each supplier should exercise prudence having regard to all the circumstances of each case, including any risk that technology transfers not covered by paragraph 6, or subsequent retransfers, might result in unsafeguarded nuclear materials.

16. Unanimous consent is required for any changes in these guidelines, including any which might result from the reconsideration mentioned in paragraph 5.

ANNEX A

TRIGGER LIST REFERRED TO IN GUIDELINES

PART A: Material and equipment

1. Source or special fissionable material as defined in Article XX of the Statute of the International Atomic Energy Agency; provided that items specified in sub-paragraph (a) below, and exports of source or special fissionable material to a given recipient country, within a period of 12 months, below the limits specified in sub-paragraph (b) below, shall not be included:

(a) Plutonium with an isotopic concentration of plutonium-238 exceeding 80%.

Special fissionable material when used in gram quantities or less as a sensing component in instruments; and

Source material which the Government is satisfied is to be used only in non-nuclear activities, such as the production of alloys or ceramics;

(b)

Special fissionable material	50 effective grams;
Natural uranium	500 kilograms;
Depleted uranium	1000 kilograms; and
Thorium	1000 kilograms.

2.1 Reactors and equipment therefor:

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

2.1.2 Reactor pressure vessels:

Metal vessels, as complete units or as major shop-fabricated parts therefor, which are expecially designed or prepared to contain the core of a nuclear reactor as defined in paragraph 2.1.1 above and are capable of withstanding the operating pressure of the primary coolant.

2.1.3 Reactor fuel charging and discharging machines:

Manipulative equipment especially designed or prepared for inserting or removing fuel in a nuclear reactor as defined in paragraph 2.1.1 above capable of on-load operation or employing technically sophisticated positioning or alignment features to allow complex off-load fuelling operations such as those in which direct viewing of or access to the fuel is not normally available.

2.1.4 Reactor control rods:

Rods especially designed or prepared for the control of the reaction rate in a nuclear reactor as defined in paragraph 2.1.1 above.

2.1.5 Reactor pressure tubes:

Tubes which are especially designed or prepared to contain fuel elements and the primary coolant in a reactor as defined in paragraph 2.1.1 above at an operating pressure in excess of 50 atmospheres.

2.1.6 Zirconium tubes:

Zirconium metal and alloys in the form of tubes or assemblies of tubes, and in quantities exceeding 500 kg per year, expecially designed or prepared for use in a reactor as defined in paragraph 2.1.1 above, and in which the relationship of hafnium to zirconium is less than 1:500 parts by weight.

2.1.7 Primary coolant pumps:

Pumps especially designed or prepared for circulating liquid metal as primary coolant for nuclear reactors as defined in paragraph 2.1.1 above.

2.2 Non-nuclear materials for reactors:

2.2.1 Deuterium and heavy water:

Deuterium and any deuterium compound in which the ratio of deuterium to hydrogen exceeds 1:5000 for use in a nuclear reactor as defined in paragraph 2.1.1 above in quantities exceeding 200 kg of deuterium atoms for any one recipient country in any period of 12 months.

2.2.2 Nuclear grade graphite:

Graphite having a purity level better than 5 parts per million boron equivalent and with a density greater than 1.50 gram per cubic centimetre in quantities exceeding 30 metric tons for any one recipient country in any period of 12 months.

2.3.1 Plants for the reprocessing of irradiated fuel elements, and equipment especially designed or prepared therefor.

2.4.1 Plants for the fabrication of fuel elements.

2.5.1 Equipment, other than analytical instruments, especially designed or prepared for the separation of isotopes of uranium.

2.6.1 Plants for the production of heavy water, deuterium and deuterium compounds and equipment especially designed or prepared therefor.

Clarifications of certain of the items on the above list are annexed.

PART B: Common criteria for technology transfers

under paragraph 6 of the Guidelines

(1) "Technology" means technical data in physical form designated by the supplying country as important to the design, construction, operation, or maintenance of enrichment, reprocessing, or heavy water production facilities or major critical components thereof, but excluding data available to the public, for example, in published books and periodicals, or that which has been made available internationally without restrictions upon its further dissemination.

(2) "Major critical components" are:

(a) in the case of an isotope separation plant of the gaseous diffusion type: diffusion barrier;

(b) in the case of an isotope separation plant of the gas centrifuge type: gas centrifuge assemblies, corrosion-resistant to UF_6;

(c) in the case of an isotope separation plant of the jet nozzle type. the nozzle units;

(d) in the case of an isotope separation plant of the vortex type: the vortex units.

(3) For facilities covered by paragraph 6 of the Guidelines for which no major critical component is described in paragraph 2 above, if a supplier nation should transfer in the aggregate a significant fraction of the items essential to the operation of such a facility, together with the knowhow for construction and operation of that facility, that transfer should be deemed to be a transfer of "facilities or major critical components thereof".

(4) The definitions in the preceding paragraphs are solely for the purposes of paragraph 6 of the Guidelines and this Part B, which differ from those applicable to Part A of this Trigger List, which should not be interpreted as limited by such definition.

(5) For the purposes of implementing paragraph 6 of the Guidelines, the following facilities should be deemed to be "of the same type (i.e. if their design, construction or operating processes are based on the same or similar physical or chemical processes)":

Where the technology transferred is such as to make possible the construction in the recipient State of a facility of the following type, or major critical components thereof·	The following will be deemed to be facilities of the same type:
(a) an isotope separation plant of the gaseous diffusion type	any other isotope separation plant using the gaseous diffusion process.
(b) an isotope separation plant of the gas centrifuge type	any other isotope separation plant using the gas centrifuge process.
(c) an isotope separation plant of the jet nozzle type	any other isotope separation plant using the jet nozzle process.
(d) an isotope separation plant of the vortex type	any other isotope separation plant using the vortex process.
(e) a fuel reprocessing plant using the solvent extraction process	any other fuel reprocessing plant using the solvent extraction process.

(f) a heavy water plant using the exchange process		any other heavy water plant using the exchange process.
(g) a heavy water plant using the electrolytic process		any other heavy water plant using the electrolytic process.
(h) a heavy water plant using the hydrogen distillation process		any other heavy water plant using the hydrogen distillation process.

Note: In the case of reprocessing, enrichment, and heavy water facilities whose design, construction, or operation processes are based on physical or chemical processes other than those enumerated above, a similar approach would be applied to define facilities "of the same type", and a need to define major critical components of such facilities might arise.

(6) The reference in paragraph 6(b) of the Guidelines to "any facilities of the same type constructed during an agreed period in the recipient's country" is understood to refer to such facilities (or major critical components thereof), the first operation of which commences within a period of at least 20 years from the date of the first operation of (1) a facility which has been transferred or incorporates transferred major critical components or of (2) a facility of the same type built after the transfer of technology. It is understood that during that period there would be a conclusive presumption that any facility of the same type utilized transferred technology. But the agreed period is not intended to limit the duration of the safeguards imposed or the duration of the right to identify facilities as being constructed or operated on the basis of or by the use of transferred technology in accordance with paragraph 6(b)(2) of the Guidelines.

Annex

CLARIFICATIONS OF ITEMS ON THE TRIGGER LIST

A. Complete nuclear reactors (Item 2.1.1 of the Trigger List)

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

2. The export of the whole set of major items within this boundary will take place only in accordance with the procedures of the Guidelines. Those individual items within this functionally defined boundary which will be exported only in accordance with the procedures of the Guidelines are listed in paragraphs 2.1.1 to 2.1.5.

The Government reserves to itself the right to apply the procedures of the Guidelines to other items within the functionally defined boundary.

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

B. Pressure vessels
(Item 2.1.2 of the Trigger List)

4. A top plate for a reactor pressure vessel is covered by item 2.1.2 as a major shop-fabricated part of a pressure vessel.

5. Reactor internals (e.g. support columns and plates for the core and other vessel internals, control rod guide tubes, thermal shields, baffles, core grid plates, diffuser plates, etc.) are normally supplied by the reactor supplier. In some cases, certain internal support components are included in the fabrication of the pressure vessel. These items are sufficiently critical to the safety and reliability of the operation of the reactor (and, there, to the guarantees and liability of the reactor supplier), so that their supply, outside the basic supply arrangement for the reactor itself, would not be common practice. Therefore, although the separate supply of these unique, especially designed and prepared, critical, large and expensive items would not necessarily be considered as falling outside the area of concern, such a mode of supply is considered unlikely.

C. Reactor control rods
(Item 2.1.4 of the Trigger List)

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

D. Fuel reprocessing plants
(Item 2.3.1 of the Trigger List)

7. A "plant for the reprocessing of irradiated fuel elements" includes the equipment and components which normally come in direct contact with and directly control the irradiated fuel and the major nuclear material and fission product processing streams. The export of the whole set of major items within this boundary will take place only in accordance with the procedures of the Guidelines. In the present state of technology, the following items of equipment are considered to fall within the meaning of the phrase "and equipment especially designed or prepared therefor":

(a) Irradiated fuel element chopping machines: remotely operated equipment especially designed or prepared for use in a

reprocessing plant as identified above and intended to cut, chop or shear irradiated nuclear fuel assemblies, bundles or rods; and

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

8. The Government reserves to itself the right to apply the procedures of the Guidelines to other items within the functionally defined boundary.

E. Fuel fabrication plants
(Item 2.4.1 of the Trigger List)

9. A "plant for the fabrication of fuel elements" includes the equipment:

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

(b) Which seals the nuclear material within the cladding.

10. The export of the whole set of items for the foregoing operations will take place only in accordance with the procedures of the Guidelines. The Government will also give consideration to application of the procedures of the guidelines to individual items intended for any of the foregoing operations, as well as for other fuel fabrication operations such as checking the integrity of the cladding or the seal, and the finish treatment to the sealed fuel.

F. Isotope separation plant equipment
(Item 2.5.1 of the Trigger List)

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

- gaseous diffusion barriers,
- gaseous diffuser housings,
- gas centrifuge assemblies, corrosion-resistant to UF_6,
- jet nozzle separation units,
- vortex separation units,
- large UF_6 corrosion-resistant axial or centrifugal compressors,
- special compressor seals for such compressors.

ANNEX B

CRITERIA FOR LEVELS OF PHYSICAL PROTECTION

1. The purpose of physical protection of nuclear materials is to prevent unauthorised use and handling of these materials. Paragraph 3(a) of the Guidelines document calls for agreement among supplies on the levels of protection to be ensured in relation to the type of materials, and equipment and facilities containing these materials, taking account of international recommendations.

2. Paragraph 3(b) of the Guidelines document states that implementation of measures of physical protection in the recipient country is the responsibility of the Government of that country. However, the levels of physical protection on which these measures have to be based should be the subject of an agreement between supplier and recipient. In this context these requirements should apply to all States.

3. The document INFCIRC/225 of the International Atomic Energy Agency entitled "The Physical Protection of Nuclear Material" and similar documents which from time to time are prepared by international groups of experts and updated as appropriate to account for changes in the state of the art and state of knowledge with regard to physical protection of nuclear material are a useful basis for guiding recipient States in designing a system of physical protection measures and procedures.

4. The categorisation of nuclear material presented in the attached table or as it may be updated from time to time by mutual agreement of suppliers shall serve as the agreed basis for designating specific levels of physical protection in relation to the type of materials, and equipment and facilities containing these materials, pursuant to paragraph 3(a) and 3(b) of the Guidelines document.

5. The agreed levels of physical protection to be ensured by the competent national authorities in the use, storage and transportation of the materials listed in the attached table shall as a minimum include protection characteristics as follows:

CATEGORY III

Use and Storage within an area to which access is controlled.

Transportation under special precautions including prior arrangements among sender, recipient and carrier, and prior agreement between entities subject to the jurisdiction and regulation of supplier and recipient States, respectively, in case of international transport specifying time, place and procedures for transferring transport responsibility.

CATEGORY II

Use and Storage within a protected area to which access is controlled, i.e. an area under constant surveillance by guards or electronic devices,

surrounded by a physical barrier with a limited number of points of entry under appropriate control, or any area with an equivalent level of physical protection.

Transportation under special precautions including prior arrangements among sender, recipient and carrier, and prior agreement between entities subject to the jurisdiction and regulation of supplier and recipient States, respectively, in case of international transport, specifying time, place and procedures for transferring transport responsibility.

CATEGORY I

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

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

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

6. Suppliers should request identification by recipients of those agencies or authorities having responsibility for ensuring that levels of protection are adequately met and having responsibility for internally co-ordinating response/recovery operations in the event of unauthorised use or handling of protected materials. Suppliers and recipients should also designate points of contact within their national authorities to co-operate on matters of out-of-country transportation and other matters of mutual concern.

TABLE: CATEGORIZATION OF NUCLEAR MATERIAL

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

a/ As identified in the Trigger List.

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

c/ Less than a radiologically significant quantity should be exempted.

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

e/ Although this level of protection is recommended, it would be open to States, upon evaluation of the specific circumstances, to assign a different category of physical protection.

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

STUDIES AND ARTICLES

ARTICLES

THE ROAD TO NUCLEAR LICENSING REFORM*

Professor Harold P. Green**

My own view is that the public interest requires the rapid installation of nuclear power, but I believe that process is equally as important as outcome. That is, it is just as important that decisions about nuclear power be made in the right way as it is that nuclear power flourish. I reject the view that we who have superior knowledge of the facts have a sacred duty to cram nuclear power down the throats of the American people because we know that the medicine is essential for their survival.

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* Prepared for delivery at the Atomic Industrial Forum's Conference on Legal and Legislative Affairs, Miami Beach, Florida, 12th December, 1977.

** Professor of Law, The George Washington University; Partner in the law firm of Fried, Frank, Harris, Shriver and Kampelman, Washington, D.C. The ideas expressed and the facts given in this Article are under the sole responsibility of the author.

The course of nuclear power during the past several years has been steadily downhill. We may take comfort in the fact that obstructionist referenda are defeated in six states and that public opinion polls show that the majority of the public likes, wants, and does not fear nuclear power. But at the same time, the effective opposition seems to mount and gain new disciples, and nuclear power is moribund, if not actually near demise.

Time does not permit an adequate recounting of the history of the past twenty-five years that has led nuclear power to its present plight, but let me try a capsule version. The right granted in Section 189(a) of the original 1954 Act for a hearing in any licensing proceeding at the request of a person whose interest might be affected, was never intended by Congress to be used in connection with health, safety, or environmental decisions. Fermi I set the pattern with a major assist from the Joint Committee on Atomic Energy which gave us mandatory hearings as a harsh reaction to the AEC's premature issuance of a construction permit for Fermi I. From that time on, the substance of nuclear power licensing has been inextricably intertwined with procedure. Converting a necessity into a virtue, the AEC espoused hearings as a propoganda technique for attempting to persuade the public that nuclear power plants were indeed safe.

Then, in the late 1960s, with the rise of the environmental movement and public interest law, almost every licensing case became an adjudicatory battlefield. Again, the AEC converted a statutory necessity into a public policy virtue by extolling the desirability of "public participation". Through a bizarre process of semantics, public participation in decision-making has come to mean nothing less than participation in full-fledged adversary, adjudicatory proceedings; and the war over nuclear power is advanced in other fields as the paradigm of public participation.

That is precisely the rub. The AEC, the NRC, and always the JCAE, while extolling and maintaining the façade of public participation have in fact worked to contain and curtail its scope. Public participation to them has been good, true, and beautiful, but only if it does not stop or delay the licensing of plants. It is great to let intervenors in but only, it appears, so long as they are not able to accomplish their objectives. Please understand that I am not criticizing this per se. In my view the vice is in making a fetish of the concept of public participation and not in curtailing its scope. This means, however, that public participation from the standpoint of the public participants themselves is nothing more than a charade, a delusion, a bottomless pit into which the participants pour untold quantities of money, effort, and emotion. Its principal effect is to frustrate, alienate, and radicalize the unfortunate human beings - lawyers and their clients alike - who permit themselves to be sucked into the intervention abyss. Almost every lawyer I know - including the public interest breed - thinks that he receives a fair shake even when he loses a case in some other forum. But I do not know a single lawyer who has represented intervenors in nuclear power cases who thinks he got anything other than outrageously unfair treatment before the AEC and NRC.

If we are going to encourage interventions, we should correlatively have procedures designed to give intervenors a fair shot at what it is they intervene for. I am not recommending this, however. On the contrary, my view is that the system should not encourage interventions at all because intervenors can contribute very little, if

anything - and then only on a random or fortuitous basis - to the quality of the licensing process or to the safety and environmentally benign impact of nuclear power plants. It simply is not conceivable - even if we had ample funding of intervenors - that they would come remotely close to matching the technical competence of the experts available to the NRC staff and the applicant. Indeed, the purpose of an adversary adjudication is, in the first instance, to establish facts that are in dispute. In nuclear power licensing, however, it is not so much the facts as it is the inferences to be drawn from the facts that are in dispute. The issues that are really disputed lie more in the realm of law and policy than in the realm of fact. The most unfortunate aspect of the nuclear power licensing process is that the NRC's rules compel intervenors to raise factual issues they really do not care about in order to pay the ante so that they may have a procedural basis for raising some - but relatively few - of the issues that led them to intervene in the first place.

The fact is that most of the issues that intervenors wish to litigate are generic questions that do not belong in licensing cases at all but should be pursued at the political level before Congress.

There is the second rub. For about twenty years after 1954, the atomic energy scene was dominated by an all-powerful Joint Committee on Atomic Energy with the symbiotic co-operation of the Atomic Energy Commission. Carefully nurturing the myth that somehow atomic energy was a unique, sacred preserve in which decisions could be made only by the elite, the JCAE was single-mindedly interested in more nuclear capacity faster, and it exercised its raw political power in furtherance of this objective. The steamroller effectively stifled opposition and dissent. One consequence was that the doors to meaningful political activity were effectively barred to the great unwashed opponents of nuclear power. Accordingly, they took their fears, doubts, and antagonisms into the licensing proceedings where they were entitled, as a matter of due process, to at least a superficially respectful hearing. In more recent years, with the power of the JCAE broken, and now with the JCAE extinct, opposition to nuclear power is spilling back into the political arena but the imperative virtues of public participation keep the opposition in the licensing area as well. Parenthetically, as another heritage from the past, some powerful members of Congress, long frustrated and resentful of the role of the JCAE that effectively excluded them from effective participation in nuclear power policy formulation, are now in a position to aid and abet the attack on nuclear power.

One of the tragedies of the role of the Joint Committee, and the mirroring attitude of the AEC, is that they tried very hard to do what they sincerely believed was right. Knowing in their hearts that nuclear power was safe, environmentally preferable to other forms of electric power generation, and indispensable to meeting the future energy needs of the United States, they tried to protect the American public against the consequences of what they regarded as the public's irrational and emotional concerns about nuclear power. For a time, the public was willing to accept the assurances of "Big Brother", but in more recent years, as the public interest, anti-establishment, anti-authority spirit, particularly among the younger people in the country, has grown, the attitude of the JCAE and the AEC came increasingly to be regarded as dishonest, biased, dissembling, and unworthy of trust or confidence.

This is not the first time that reform of nuclear power licensing has been deemed necessary. In each prior instance, the action taken was to pay lip service to the desirability of public participation via intervention, while at the same time restricting the ability of intervenors to participate effectively. Intervenors were sucked into the process and then given short shrift. Every one of these reforms has made matters worse rather than better because (even though they may have temporarily relieved some pressures on the licensing process) in the not too-long run they served to alienate and embitter more and more members of the public.

The licensing reform legislation now emerging from the Department of Energy is another example of the same misguided approach, cut from the same cloth. Not only is lip service paid to public participation, but opponents of nuclear power would be handed the penultimate quid pro quo - public funding of intervenors - to purchase their acquiescence. In reality, however, the game is further rigged against intervenors by stripping them of even more of their limited opportunities to achieve their goals. Similarly, the Administration's bill would give the states a positive, superficially important role in the decision-making porcess, but the game is rigged against them by requiring them uncritically to accept the NRC's party-line version of environmental effects of radiological impacts. Make no mistake about it: if through some remotely possible occurrence Congress should enact legislation resembling what the Department of Energy is now proposing, the consequences will be nothing less than a Wash-740 economic and political catastrophe for the nuclear power industry.

The current version of licensing reform, like the versions of earlier years, addresses only the procedural part of the problem while ignoring, although exacerbating, the political part. We treat interventions as inherent, necessary, and desirable parts of the licensing system. We close our eyes to the indisputable fact that interventions are there in the first place only because important segments of the public lack confidence in the licensing process. Our goal should be to reduce, rather than to encourage, the perceived need for interventions and to ensure, if there are interventions, that the intervenors emerge with a good taste in their mouths and with confidence in and respect for the system. The indispensable first step in licensing reform in order to give nuclear power a future is to build confidence in the process so that the public trusts the NRC the way it trusts the Federal Aviation Administration, Federal Drug Administration, and the folks who install elevators in high-rise buildings. This is not to say that exponents of the public interest have undiluted confidence in these agencies, but only that they have sufficient trust that they do not feel an insistent need to intervene in their proceedings.

Here we are trapped in a dilemma by the myth of public participation. We cannot build confidence so long as intervenors are frustrated and alienated by their experience; and we cannot avoid this consequence without letting intervenors frustrate the timely licensing of nuclear power plants. The only way out of the dilemma is to find some confidence-building substitute for interventions.

But, some will argue that interventions in adjudicatory hearings have become so integral a part of licensing that it is politically impossible to eliminate them. I agree in part. The correct approach is not to eliminate the opportunity for hearings, but rather to create a situation of confidence in which potential intervenors will not feel compelled to intervene. A new policy - by both industry and the NRC - of full and completely candid disclosure, would greatly reduce the volume and intensity of interventions.

It is, perhaps, unfair for me to so criticize the Administration's version of licensing reform without offering my own substitute prescription for reform. I am pleased to do so. My main complaint with the Administration's approach is that it tries to get rid of the symptoms without coping with the disease. I would cope with the disease through the following measures:

1. Eliminate the present two-step licensing process to the extent that it contemplates two separate administrative proceedings. There should be a single license authorizing both construction and operation, but operation should require a specific NRC approval without statutory opportunity for hearing. The two-step licensing process has always been anomalous and is a source of enormous and unnecessary delay and expense to all of those concerned with the proceeding.

2. License applications should not be docketed until they are complete. A preliminary public hearing should commence very shortly after docketing so that the game of "questions and answers" that is now played behind the scenes in correspondence, visits, and conferences between the NRC staff and the applicant will be played in public. This will make the inquisitorial, prosecutorial, skeptical, demanding role of the NRC staff fully visible to the public and put an end to the present appearance of the NRC staff as the faithful spear-bearer and ally of the industry. No intervention should be permitted at this preliminary hearing, but the staff should be encouraged to interact with "public participants" who are not yet parties so that questions of concern to potential intervenors will be pursued and hopefully resolved during the preliminary hearing. The outcome of this hearing would be a preliminary decision by some official or body before whom the hearing is held as to whether or not the license should be issued. This preliminary decision would, in effect, be a substitute for the decision now made by the staff and reflected in its Safety Evaluation Report and its Environmental Impact Statement. If it is desired to retain the institution of Atomic Safety and Licensing Boards, this preliminary hearing might well be conducted before an ASLB since its role in such a hearing would not have a frustrating, alienating, or infuriating impact on intervenors and the general public in attendance. My assumption is that such a preliminary hearing could be completed in about the same elapsed time - after a complete application has been filed - that is presently taken for staff and ACRS review.

3. Section 189(a) of the Act should be amended to provide that a person whose interest is affected by the preliminary decision may intervene in the licensing proceeding for purposes of obtaining review of the preliminary decision. Such review would be conducted before a competent Administrative Law Judge. It would be a de novo review and would include evidentiary hearings, but only on matters with respect to which a prima facie case is made as to the inadequacy of the preliminary hearing or decision. Proceedings before the Administrative Law Judge would be a substitute for the hearings now held before ASLB's. The Administrative Law Judge might be given discretionary authority, within certain limits, to authorize funding of intervenors with respect to issues that are accepted for evidentiary hearing.

4. The Atomic Safety and Licensing Appeal Board would have jurisdiction to review on its own motion actions by the ASLB and to consider appeals from actions of the Administrative Law Judge.

Although my prescription is in sketchy outline form and does not go into detail, I believe its implementation would represent meaningful and feasible reform. It would dramatically speed up the licensing process, contribute to public confidence, reduce the incidence of intervention, enhance the effectiveness of such interventions that will occur without burdening or delaying the licensing process, and open up the entire process for more meaningful political scrutiny. In short, it would involve a great deal of benefit for everyone, and especially for the real public interest. It would also provide a core around which modular add-ons can be built; for example, a role for the states and early site determinations. It avoids the necessity for the illogical and circuitous approach now being taken with respect to standardized design.

At the same time, let me say that there are many roads to Rome and many other roads to licensing reform. Not all roads lead to Rome, however, and no approach will produce nuclear licensing reform that does not address itself specifically to the building of public confidence. The approach I suggest will build confidence and has the merit of being the least obtrusive upon existing structures.

I have one final plea. The licensing provisions of the 1954 Act were unduly complex to begin with, and each successive amendment has added to their length, verbosity, and complexity, thereby exacerbating the problem of meaningful reform. The Administration's bill would add several thousand new words to the Atomic Energy Act and would grotesquely complicate an already absurdly complicated licensing process. One must shudder to contemplate the hundreds of pages of grotesquely complex new rules and regulations that NRC would have to draft to implement such legislation.

Meaningful licensing reform is impossible without reform that creates public confidence in the process. This reform does not necessarily require legislation. Some meaningful reform is possible under the existing, albeit absurdly complicated, statutory framework if NRC would adopt new rules and regulations directed in the first instance more to building public confidence than to expediting the licensing process. I believe, of course, that if public confidence were built up, the licensing process would, in fact, be expedited as a consequence. I suspect, however, as a practical matter, that NRC is too committed to the dead hand of the past to undertake major reform without a legislative shove. But meaningful reform via legislation is impossible to achieve if the present statutory language is to be lengthened and encumbered with new hair-splitting and angel's-dancing verbiage. The basic rule of thumb for which I would plead is that no amendment to the present Atomic Energy Act will produce reform if it adds to, rather than subtracts from, the number of words presently found in the Act. The present problem urgently cries out for simplification - not complication.

In conclusion, I would like to refer to a talk I gave eight years ago at the Atomic Industrial Forum's Annual Conference in a panel discussion on "The Nuclear Controversy". The year was 1969, the first year of real controversy, and before NEPA became law. I suggested that acceptability of a nuclear power plant was not a scientific, but a socio-political, question in the resolution of which the public should participate. I rejected the notion that the question be put to a popular vote, and urged that the public be given a fuller opportunity to understand both risks and benefits, to make its views known in individual licensing cases, and to seek political recourse if, rationally or irrationally, it believes it is being asked to assume risks which it regards as unacceptable.

My recommendation was that the AEC's licensing process introduce procedures calculated to produce fuller and more candid disclosure of both risks and benefits to replace the existing system in which all participants (except intervenors) co-operated symbiotically to minimize the play down risks, so that the public would not be unduly alarmed and would accept nuclear power. I argued that it would be better to abandon public hearings altogether and let the public know that it must place blind faith in the experts who make the licensing decisions than to maintain the existing system which misleads and lulls the public.

I predicted that the "nuclear controversy" was here to stay and would not be dissipated through slick advertising and public relations campaigns or carefully staged Congressional hearings. I sympathized with the plight of the industry faced, as it was, with so many critics, some of whom had taken extreme and ill-founded positions but pointed out that the nuclear establishment itself engaged in extremism at the opposite pole in taking the position that the risks of nuclear power are virtually zero. Since extremism at one pole breeds extremism at the other pole, it was urged, to defuse the controversy, that all parties recede from extremist positions. An indispensable first step, I argued, was for industry, the AEC, and the Joint Committee to adopt a policy of greater candor with respect to the risks and uncertainties inherent in nuclear power technology so as to encourage a more constructive colloquy among the various parties in the hope that they might sit down together to talk about how the United States can meet its growing needs for energy.

The problem to which licensing reform is addressed is the same problem that existed in December 1969, although it has become exacerbated and complicated by time, emotion, and previous "reform" efforts. I sincerely hope, given the magnitude of the stakes in 1977, that all of us - government, industry, environmentalists, friends and foes of nuclear power, alike - will free ourselves of our bondage to the past and move forward to the kind of imaginative reconstruction that is necessary for true reform.

LEGAL, ADMINISTRATIVE AND FINANCIAL ASPECTS OF LONG TERM MANAGEMENT OF RADIOACTIVE WASTE*

Pierre Strohl**

Deputy Director, Safety and Regulation

OECD Nuclear Energy Agency

Basic Considerations

1. Practical implementation of policies for the disposal of long-lived radioactive waste on earth, either into geologic formations or into the seabed, requires further research work and technical experiments. The purpose of current research, development and demonstration programmes is to investigate and confirm the feasibility and safety of disposal techniques. In addition, the management of radioactive waste raises considerable social and economic problems with which national authorities are being confronted, particularly for the long term future. It is therefore clear that the success of scientific and technical programmes is only part of the solution to the disposal problem and that the development of a coherent regulatory policy based on a full evaluation of social and economic consequences is required.

2. Sound policies for radioactive waste management should be based on a balanced judgement on the best objectives which can be reached for the protection of man and his environment taking into account the practical performances and the cost of available technological methods and the efficiency of legal, administrative and financial mechanisms to be used, as well as the benefit to be derived from the use of nuclear energy. This level of global judgement has not yet been attained in the frame of current discussions which have a tendency to veer to antagonism between proponents of idealistic moral imperatives on one side, and experts who are satisfied that the technical solutions available are feasible and safe on the other (1).

3. It should be recognised that the disposal techniques being developed have regulatory implications which often appear to be unprecedented in human experience and which should be considered in parallel with scientific and technical work. It is in fact necessary to develop an overall regulatory policy which would ensure to the extent required, an effective control by technical and institutional methods of the risk associated to categories of waste which will remain radioactive at a hazardous level during periods of time measured in terms of millenaries or more. A recently published NEA Report on "Objectives, Concepts and Strategies for the Management of Radioactive Waste Arising from Nuclear Power Programmes" (known as the "Polvani Report") (2), discusses, in Chapter V, some of the problems involved in the definition of appropriate regulatory policies, such as respective

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* Prepared for delivery at the Atomic Industrial Forum's Conference on Regulatory Nuclear Energy, Brussels, 16th - 19th May, 1978.

** Responsibility for the ideas expressed and facts given in this paper rests solely with its author.

responsibilities of industry and governments during the entire process from waste production to disposal of long-lived waste; the development of regulatory provisions, including administrative arrangements such as recording and surveillance to be maintained over a certain period of time; the definition of an appropriate third party liability regime for compensation in case of unforeseen occurrences resulting from radioactive waste disposed of; and finally, the need for suitable financial schemes for costs not normally covered by nuclear operators. The Polvani Report recommends further consideration of these points and emphasizes their international implications.

4. Before discussing the regulatory aspects, it is necessary to recall some technical definitions, which are drawn from the Polvani Report. Excluding deliberate release of effluents into the environment (which is outside the scope of this paper because the corresponding regulatory problems are evidently of a different nature), disposal means emplacement of waste materials without intention of retrieval, while storage means emplacement of waste materials with the intention and therefore the possibility of retrieving them later. The regulatory problem which we should analyse is related to the technique of disposal through containment and isolation from the environment practically forever, which it is imperative to foresee for long-lived waste; disposal into geologic formations of solidified high-level waste from reprocessing is the most concrete example. This concept of disposal is based on the assumption that the natural barriers will provide, without relying on any form of human intervention, the required isolation over a sufficient period of time. In principle therefore, it does not require continued surveillance as in the case of storage, for which this surveillance - a combination of technical and administrative actions - is an essential element.

5. However, from the regulatory point of view, a number of nuances should be added to the purely technical concept of disposal, which does complicate the analysis of the problem. First, some form of continued surveillance must be maintained of disposed waste as will appear both feasible and beneficial for a given period of time to prevent intrusion by man. Furthermore, it might be advantageous and possible for emplacement of waste into geologic formations not to be a completely irreversible solution so that the possibility of recovering these wastes can be maintained during a limited period of time and allow various types of intervention, if necessary, as a result of further progress in research and development work, or change in disposal policy.

6. Paradoxically the problem of institutional control, as part of the regulatory policy to be developed, appears as much more dramatic for disposal than for storage, although the regulatory requirement of surveillance is predominant in the latter technical concept and not in the first, in relation to which such surveillance should only represent a temporarily limited and ancillary precaution. This derives partly from the fact that storage is a measure relying heavily on institutional control during a certain period of time, while disposal should necessarily be conceived as a permanent solution independent of man's control. However, storage could be applied over relatively long periods of time implying a reasonable confidence in the longevity of particular surveillance actions, as in the case of disposal. The main explanation of the difficulty we are facing in relation to disposal lies therefore in the fact that the type of administrative surveillance or any similar form of regulatory control by institutional means of repositories of permanently disposed high-level waste - which despite the basic technical concept seems to be unavoidable or at least very desirable - has not been sufficiently analysed and is far more unusual

than the measures required in relation to storage. It is indeed very difficult to visualize in abstracto the nature and scope of such regulatory measures and their appropriate duration (which too often appears as necessarily unlimited in practice, due to the very long-term nature of the risk to be controlled) as well as to predict their performances.

7. As far as the basic technical concept is concerned disposal into the seabed shares a number of common features with disposal into geologic formations; however, research work on this apparently promising method is only at a preliminary stage; also, it is even less easy to obtain a clear picture of the regulatory measures which it will require, if successful. The main original characteristic in this case will be the emplacement of the radioactive waste in an international area and the regulatory policy will be greatly influenced by the current evolution of the law of the sea and the plans of the United National Conference to create an International Seabed Authority. Depending on the functions entrusted to such Authority, its agreement might be necessary for disposal into the seabed. In any event, it would be premature to be more specific concerning the international regulatory system to be applied, due to uncertainties on the technical feasibility of this solution and its political and legal acceptability (3). Finally, possible disposal of spent fuel into geologic formations - which might, at this stage, be more appropriately defined as long-term storage - would present a number of similarities - from the technical and regulatory point of view - with disposal of waste from reprocessing. However, significant differences may be envisaged due essentially to the potential value of this material as a possible source of energy - which may impose retrievability - and to non-proliferation and safeguards requirements. Institutional arrangements might therefore be more complex and stringent than for high-level waste. On the basis of the above considerations, this paper will concentrate on disposal of high-level waste into geologic formations as the best illustration of regulatory problems relating to long-term management of radioactive waste, it being understood that certain aspects may also be valid for the other techniques which have been considered.

Main features of regulatory policies for disposal of long-lived waste

8. In the definition of a regulatory policy for disposal into geologic formations, the time factor will evidently be a decisive one. However, in approaching such a problem it is of primary importance to eliminate the confusion which results from a general impression that regulatory requirements should be maintained for several thousands of years, corresponding to the almost complete decay of the radioactivity of certain categories of disposed waste. It is clearly beyond the scope of human imagination to conceive, with a reasonable degree of credibility, any system of responsibilities and obligations, even of a governmental nature, which would be maintained for millenaries.

9. It is first necessary to distinguish two phases in a suitable regulatory control for disposal of long-lived waste into geologic formations:

- measures needed in relation to disposal operations;
- provisions for maintaining an administrative surveillance and other forms of regulatory mechanisms, to the extent required, in relation to disposal sites after the repository has been closed.

10. With respect to the first phase, the Polvani Report (pages 61 and 62) already suggests that direct responsibility for disposal operations should be entrusted to governments or governmental agencies and this responsibility would not be limited to the usual regulatory functions. In addition to licensing and inspection, it may include the overall management and control of disposal operations (including preparation and transportation of waste, or subsequent to delivery of waste, to a centralised facility), for example through a governmental agency, a public enterprise or an organisation controlled by the government, as well as supporting research, development and demonstration work. The specific reasons for this extension of governmental responsibilities which are given by the Polvani Report, are related to the need to avoid possible shortcomings of commercial competition, to the nature and importance of programmes for the development and demonstration of disposal facilities as well as to the size of the required investments. The regulatory process itself will mainly include the definition of criteria for waste forms suitable for disposal depending on the type of waste and the disposal method, as well as procedures for the selection of disposal sites and specifications for the design and construction of the repository, waste emplacement into the repository and closure of the site. In general, the licensing and inspection mechanism to be applied to disposal operations will probably be similar to those which are currently applied to other nuclear operations, with appropriate adjustments, and taking into account the special situation which may result from more direct and broader governmental responsibilities.

11. As to the second phase, the full responsibility of governments will even be more essential because all longer term actions which it would be necessary to foresee are of a purely regulatory nature. A preliminary remark which emerges from the technical considerations in the first part of this paper and is well summarized in a report recently published by the U.S. Environmental Protection Agency (4), is that

> "Clearly, institutional means of controlling radioactive wastes should be used as supplements to other methods for as long as they are effective and efficient."

More generally, the regulatory system to be developed should comprise, in addition to technological barriers ensuring isolation from the biosphere, a number of legal and administrative measures designed to reinforce and supplement technical means. Such measures should be considered as a subsidiary safety factor whose validity will be limited to the period of time during which their continuing application could be reasonably guaranteed.

12. Assuming that a disposal facility will be designed in such a way that it can be ultimately abandoned (after the repository has been filled and sealed and the surface equipment removed or decommissioned) with possible restoration of surface land to normal use, the following longer term measures would, in particular, have to be provided: keeping of records of disposed waste as long as this is required as a background for regulatory functions and accurate assessment of future potential risk; restriction of access to the site (for example, by a land use control system or by public ownership) and administrative surveillance to ensure that interference with the integrity of the repository will not occur, for instance by encroachment on the site for purposes of underground investigations or mining; post-disposal monitoring of surrounding areas, if considered desirable; provisions for ensuring appropriate remedies for unforeseen occurrences resulting in an abnormal risk, as well as allowing for subsequent deliberate

intervention by responsible authorities if it is decided to implement a new policy. It should be underlined that, depending on a number of factors (characteristics of the waste and level of associated risk, nature of the isolation system selected ...), the requirements for the above-mentioned measures may vary considerably, in particular with respect to the period of time during which their continuity would be feasible and desirable. However, none of these measures should be conceived as a perpetual requirement.

13. In all countries engaged in a nuclear programme, legislation and regulations provide a solid framework for the use of nuclear energy, as well as detailed requirements and procedures for controlling all aspects of current activities. However, provisions relating specifically to radioactive waste disposal are relatively scarce, which is not surprising at this stage. However, some basic requirements already exist in this respect which, no doubt, will have to be further developed and supplemented in parallel with practicable implementation of the techniques under consideration. The Revised Atomic Energy Act of 31st October, 1976 of the Federal Republic of Germany (5) provides that any person holding radioactive waste should transfer it to installations to be established by the States for interim storage, and by the Federal Government for final storage [Article 9(a)]. The U.S. Nuclear Regulatory Commission's policy on transfer of solidified high-level waste to a Federal repository for permanent custody, within ten years following separation of fission products (6), as well as the proposals in the report of the Task Force for review of Nuclear Waste Management prepared for the U.S. Department of Energy (7), also reflect the trend towards government responsibility for ultimate disposal. The same impression results from Section 28 of the Canadian Bill presently under consideration by the House of Commons (8), according to which the Atomic Energy Control Board shall assume responsibility for radioactive substances where it would be unreasonable or impractical to require the operator to continue to be responsible therefor. Other provisions on disposal of radioactive waste are of a general or procedural nature (9).

14. Another important aspect is related to nuclear third party liability provisions. In broad terms, current international conventions and corresponding legislation provide for the absolute liability of operators and compulsory insurance coverage (within given financial limits) with respect to damage caused by a nuclear installation or by nuclear substances, including radioactive waste, originating from such installations. This system might be suitable for disposal operations, with certain adjustments. It is doubtful however, that these international conventions and regulations would cover waste repositories (as is the case for storage facilities) and that such coverage (based on private liability and insurance arrangements) would be well adapted, taking into account long term aspects and governmental responsibilities. In short, under Articles 3(a) and 4(a) of the Paris Convention (10), the operator of a nuclear installation is liable for damage caused by a nuclear incident involving radioactive waste in, or coming from, his installation until the operator of another nuclear installation has taken it in charge; facilities for storage of radioactive waste are amongst the installations to which the Paris Convention applies, but disposal repositories are not referred to in the Convention. It would evidently not be a practicable solution to consider that all operators in whose installations the waste was last held before disposal into a repository, would remain liable forever with respect to a nuclear incident caused by radioactive waste in a repository and would have an obligation to maintain corresponding insurance coverage under Article 10 of the Convention. Another solution could be envisaged under the Paris Convention: according to Article 4(d),

national legislation may provide the possibility for the carrier to be substituted for the operator, and the Exposé des Motifs of the Convention (paragraph 30) interprets the term "carrier" as including a person carrying on the business of disposing of radioactive waste. A number of Signatories to the Paris Convention have made use of this option which takes care of the possible creation of firms specialized in such activities. However, this solution would not eliminate the difficulty resulting from the need to maintain liability and insurance arrangements for durations far exceeding what is usual in current industrial practice (11).

15. It seems that an evolution towards responsibility of the government for disposed radioactive waste, including some form of governmental indemnification for damage to third parties, might offer a better answer to this problem. In any event, as it is not certain that the Paris Convention and other international conventions or national legislation on nuclear third party liability correspond to present concepts and practices related to disposal of radioactive waste, this issue has been submitted for consideration to the responsible Group of Governmental Experts of the OECD Nuclear Energy Agency, which could advise on the most satisfactory way to interpret, to modify or to supplement the present provisions of the Paris Convention.

16. Financing the disposal of high-level waste also raises specific problems insofar as significant resources will be needed which are at present not clearly specified. It is difficult to assess now the future cost of disposal of currently-produced waste, since disposal operations may not take place for a number of decades; and consequently, the authorities responsible for such disposal cannot ascertain clearly the most appropriate charge for waste producers in return for the public service to be provided at some future date. In the meantime, research, development and demonstration work must be funded and carried out, and the necessary resources have to be developed. Furthermore, other contingencies must be foreseen with regard to disposal costs, due to the possible need for intervention resulting from unexpected occurrences or changes in policy. In view of this, it would be prudent to make financial provision at the time of waste generation rather than wait until actual disposal takes place. The Polvani Report suggests that a fund be instituted, based on contributions levied from utilities according to the "polluter pays principle" (pages 63 and 64 and Annex XI). Along these lines, in the Federal Republic of Germany, according to the Revised Atomic Energy Act (5), costs for interim and final storage facilities should be levied from operators who have an obligation to transfer radioactive waste to such facilities, with the possibility when a licence is granted of requiring advance payments for handling this waste [Section 21(3)]. The Canadian Bill (8) also provides for the creation of a Radioactive Decontamination Fund. In short, this Fund would be fed by contributions from nuclear operators who are licensed to possess radioactive substances and used for expenses which cannot practicably be recovered from this operator [Sections 51 to 55]. Finally, the U.S. Department of Energy announced in October 1977 a proposal by the Federal Government to accept and take responsibility for spent reactor fuel from utilities on payment of a one-time fee, covering the full cost of providing storage and disposal of the spent fuel, should this be required. Clearly, however, the adequacy of various financial schemes should be considered in relation to the scope of the proposed regulatory policy and the broad division of responsibilities between industry and governments.

To what extent is it reasonable to rely on the perenniality of regulatory systems?

17. It is obvious from this broad analysis that a key question is the dependence which can be placed on continuity and longevity of regulatory policies and, in particular, institutional control. In this respect, it seems that there are two objectives to be met:

(i) to define a reasonable period of time during which some form of effective regulatory control and surveillance would have to be maintained over radioactive waste repositories (to provide a substantial and realistic complement to waste isolation barriers independent of man), given all relevant technical parameters (such as decay of the radioactivity, physical and technological barriers ...) and environmental protection criteria;

(ii) to evaluate whether this period of time (which may vary according to each regulatory measure to be considered), as derived from technical and social considerations, can be reconciled with the continued effectiveness of the regulatory system conceived for that purpose.

The solution to be adopted in relation to (i) will evidently be greatly facilitated by an agreed interpretation of the moral imperative which is to avoid leaving unjustifiable risks for future generations. All industry generates additional risks as well as additional advantages - both of which are often of a permanent nature. There is therefore no justifiable rule prohibiting the creation of any additional risk for future generations. A far more reasonable objective, from the socio-ethical point of view, would be to endeavour to achieve the same level of safety for the future as for the present, account being taken of the balance of risks, costs and benefits transmitted to future generations, insofar as these can be estimated.

18. An evaluation of the period of time during which it would be reasonable to rely on the continuous effectiveness of an appropriate regulatory system would mainly be derived from the experience gained from past history. As opposed to the intrinsic fragility and short or limited duration of obligations based on private conventions, it appears that legal rules enacted through legislation or administrative regulations are, in general, of a permanent duration. This is because one of the main functions of law is to provide for the degree of certainty and stability which is a necessary foundation for social relations and political structures. The history of the old European nations shows numerous examples of specific legal rules which have endured several centuries, are still effectively applied today without interruption, and have demonstrated their ability to adapt to drastic changes in the social, economic and technical context (12).

19. Furthermore, the implementation of legal rules through institutional mechanisms offers an additional guarantee of continuity and duration. Institutions are often criticized because of their tendency to self-perpetuation (13), which in this case appears to be a definite advantage rather than a weakness. Without elaborating on the legal theory of institutions, it is obvious that an institution is mainly characterised by a specific purpose of common interest to a social group and by a certain duration required for achieving this purpose, often through an organic complex of rules designed for regulating a given situation. All these characteristics are relevant to the problem of long-term control of disposed radioactive waste. Here

again, examples are not scarce of very old public institutions having carried out the same functions during several centuries despite historical upheavals (14). Finally, the "legal memory" does not often lapse and it has proved possible to maintain judicial or administrative archives, with practically no gaps, for very long periods of time, even by very rudimentary means (15); this particular aspect is important in relation to the problem of recording, which can now be tackled by using far more reliable techniques.

20. An additional guarantee of continuity and duration could be provided by supplementing national regulatory provisions and mechanisms through appropriate international agreements, taking into account the fact that disposal of long-lived waste has international implications naturally leading to co-operation between interested countries. The purpose of such agreements would be to reinforce and, if necessary, to replace the regulatory functions primarily entrusted to national authorities in relation to disposal sites on their territory. This device would be particularly justified in the case of Regional Fuel Cycle Centres (16) in charge of disposal of radioactive waste originating from several countries. It may seem paradoxical to suggest relying on the stability of international arrangements at a time where international life is dominated by uncertainties and antagonisms. However, according to international law, treaties are in general intended to be of a perpetual duration and should not be terminated unilaterally; and a number of provisions in treaties are not abrogated even due to war but are maintained (for example, treaties regulating permanent civil regimes or protecting rights of nationals). In fact, experience shows that treaties have often been applied over long periods of time (17); furthermore, although the phenomenon of institutionalization is relatively recent in international relations, some international administrative bodies (which only appeared for the first time during the 19th century) have now existed and pursued their objectives - with few or no intermissions - for over a century (18).

21. Such conclusions are probably not easily accepted by scientists who are not as familiar as lawyers with the strength and near indestructibility of legal traditions (19). A more scientific approach would consist of undertaking an in-depth investigation of sociological aspects of juridical systems. This would most probably confirm that the natural permanency of legal rules or of regulatory and administrative mechanisms is even greater with respect to provisions aimed at protecting the private interests or ensuring the safety of groups of population; and it would not only be true at the national level but also in the frame of international law. It is easy to understand that, in principle, provisions of this type should not be endangered by political changes or even civil or international war, because it would be contrary to their objective and this is generally confirmed by experience.

22. In adopting a balanced view, it should be recognized that predictions on the long-term reliability of institutional control which would be based only on historical experience would be open to criticism. As observed in the EPA Report referred to above: "Although it may be argued that there are numerous examples of public and private institutions which have functioned for periods of much more than several hundreds of years, there is little basis for presuming that a given current social organisation will survive for a like period of time or that it will be aware of or have concern for radioactive wastes. The distinction is one of perspective; historical citations are certain, while predictions are not" (page 26). For this reason, it is important also to judge whether, as the observations in the preceding paragraphs

tend to demonstrate, the type of legal rules and administrative mechanisms which are relevant to the control of long-term risks associated with disposal into geological formations:

> have an in-built stability and longevity which is even less affected by discontinuities in economic, social and technical conditions or political structures than other legal provisions or institutions.

A positive answer would confirm the ability of institutional control to provide for a few centuries the additional safety guarantee which it is expected to associate with technological methods.

23. However, there are obvious limitations in the long-term effectiveness of regulatory policies. It would not be acceptable to plan to rely on an institutional control for a much longer duration, such as 500 years or a millenary which is a time-scale appropriate for measuring the longevity of politically structured civilisations rather than of regulatory policies (20). This reasoning leads to a preliminary impression on how to optimise and integrate the respective performances of technical and institutional controls. In fact, from the technical point of view (based on the decay of radioactivity) the question has been formulated in the following illustrative manner:

> "Are radioactive wastes a million-year problem, a thousand-year problem or only a three-hundred-year problem?" (21)

If technical solutions could be developed to ensure that no residual risks at an unacceptable level requiring some form of control by man, would remain after something like 300 years, then regulatory control and surveillance could be reasonably regarded as in harmony with technical objectives. In developing a regulatory criterion in this respect, governments might nevertheless consider this figure as the maximum acceptable in order to introduce an additional safety factor. For example in its report, EPA suggests that it would be imprudent to "plan waste storage and disposal systems in which basic elements of safety rely on the performance of human functions for more than about 100 years" (page 27), which would indeed be a very conservative criterion.

*

* *

24. This preliminary review of regulatory considerations related to available disposal options for long-lived waste might help to eliminate the dramatic impression that society is faced in this respect by an unprecedented challenge. Further investigations at international level on these subjects would certainly be of assistance in the formulation of national policies for long-term management of radioactive waste. An international consensus on the main aspects, such as nuclear third party liability and regulatory criteria for waste disposal, would have the considerable merit of providing reasonable and acceptable objectives to be attained. Following the recommendations in the Polvani Report, the OECD Nuclear Energy Agency will certainly attempt to make its contribution to the development of such consensus.

References and Notes

(1) See the comment by Margaret M. Maxey: "Radwastes and Public Ethics: Issues and Imperatives", in Health Physics, Pergamon Press (February 1978, Volume 34) page 135:

"The problem of radwaste management is only symptomatic of a much deeper problem: how is the public decision-making process to be made more ethically responsible in serving the common social good? How can it provide a more just and balanced protection of the general public's health and safety? How can a corrective be applied to an inherently deficient social mechanism?

...

If we are to avoid excessively costly and destructive policy decisions made by regulatory agencies, which are in conflict with the common good of the many, the public must be educated to reallocate the financial and social costs of safety. Zero risks and absolute safety are indeed costly illusions. Man does not live by safety alone. The ultimate challenge is to rediscover what else we live by."

(2) Organisation for Economic Co-operation and Development (September 1977): This Report has been prepared by a Group of experts under the chairmanship of Dr. C. Polvani and does not commit governments or the OECD, but is intended as a contribution to the development of an international consensus on matters of public concern.

(3) See David A. Deese, in "Seabed Disposal Program", Annual Report, Part II (January-December 1976), Sandia Laboratories.

(4) "Considerations of Environmental Protection Criteria for Radioactive Waste" (February 1978) page 27.

(5) Supplement to NEA Nuclear Law Bulletin No. 18 (December 1976). See also Radiological Protection Order of 13th October 1976 (Section 47 and Chapter 8).

(6) Appendix F, Title 10, Chapter 1, Code of Federal Regulations (Part 50).

(7) DOE/ER-0004/D (February 1978).

(8) Bill C-14 - An Act to provide for the regulation, control and supervision of the development, production, use and application of nuclear energy and matters related thereto (November 1977).

(9) See for example:

Belgium: Arrêté Royal portant règlement général de la protection de la population et des travailleurs contre le danger des radiations ionisantes du 28 février 1963 (Articles 17 and 33 to 37);

Canada: Atomic Energy Control Regulations (1974), Section 25. Supplement to NEA Nuclear Law Bulletin No. 14 (November 1974);

Sweden: Act No. 140 on the Special Permit to Load a Nuclear Reactor with Nuclear Fuel, 21st April 1977, Section 2: Nuclear Law Bulletin No. 20 (December 1977);

Switzerland: Draft Federal Order concerning the Atomic Energy Act (Sections 1 and 10): Nuclear Law Bulletin No. 20 (December 1977).

(10) The Convention on Third Party Liability in the Field of Nuclear Energy was signed in Paris on 29th July 1960 and came into force on 1st April 1968; it is now in force in 13 European countries and has been used as a model for other international conventions and national legislation in countries not parties to the Convention. The Convention on Civil Liability for Nuclear Damage adopted in Vienna on 21st May 1963 to promote on a world-wide basis a similar regime, came into force on 12th November 1977 in 8 countries.

(11) The Paris Convention also contains a provision on liability for radioactive products or waste which have been "jettisoned" or "abandoned" [Article 8(b)] but this certainly does not cover the case of deliberate disposal with the intention of non-retrieval, but of abandonment in distress, for example in the course of transport.

(12) As explained later in paragraph 22 of the paper, historical examples have relatively little significance outside the context of a more comprehensive study of juridical sociology which would evidently by far exceed the scope of this paper, and therefore it limits itself to a few comments in this respect. What is relevant to the problem of duration is certainly not the existence of very old legal traditions of which the best example is provided by the influence of Roman law in a number of European countries since the end of the Middle Ages until today, or even in non-European countries as a consequence of Western colonialism. It is probably more relevant to observe that specific legal rules have continuously existed for a very long time in the form of custom, statute law or judicial precedent. This is often the case in maritime law (one of the most traditional branches of law) in which a number of rules substantially date from ancient Rome or even Greece (for example, general average or bottomry), or in mercantile customs, law on agriculture and forestry, real estate ... More generally, it is not difficult to find in the British common law system, modern judicial cases referring to rules formulated between the 14th and 18th centuries; in France, a major part of private law is still based on the provisions in the Codes established early in the 19th century and some previous customs or laws were even maintained in existence after this codification; in Spain, ancient local laws (derecho foral) have long kept an important place despite the codification during the 19th century.

(13) Maurice Duverger: Introduction à la politique (Paris 1964): "Les institutions subsistent longtemps après qu'ont disparu les facteurs qui les avaient engendrées" (page 135).

(14) A large number of existing administrative or other bodies appear as a legacy, through successive transformations, of much older institutions. Amongst others, universities and tribunals offer good examples of durability. For instance, the English juridical structure did not change substantially since the 12th century until the important reforms of the 19th century.

(15) See examples of civil status records and of judicial archives in many countries; the archives of the Court of Exchequer have been maintained since 1156, with very few gaps and those of most other English courts since the end of the 12th century.

(16) See the Report of the International Atomic Energy Agency (1977) on a study project of this concept.

(17) As an illustration: "Some existing British treaties have endured for nearly six centuries, and many for three", Lord McNair: The Law of treaties (Oxford 1961) page 494.

(18) For example, the Central Commission for the Navigation of the Rhine set up in accordance with the Acts of the Congress of Vienna (1815) and whose present structure is largely based on the Mannheim Convention (1868) as subsequently amended; the International Telegraph Union established in 1865 and later transformed into the International Telecommunications Union; a number of other international administrative organisations, such as the Universal Postal Union or the International Union for the Protection of Industrial Property, have their origin in the second part of the 19th century.

(19) M. Maxey, idem, page 132: "In any case, no responsible person would ever rely on expectations about the stability and longevity of social institutions".

(20) One of the best examples of longevity of this nature is the ancient Egyptian Empire (3000-2181 B.C.).

(21) M. Maxey, idem, page 132.

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Twenty years of nuclear insurance in Belgium - 1957-1977. Belgian Nuclear Insurance Syndicate, Brussels, 1977, 55 pages

On the occasion of its twentieth anniversay, the Belgian Nuclear Insurance Syndicate (SYBAN) published a booklet relating to the creation and development of private insurance for atomic risks. This is a status report on its activities, its national and international participation in three types of insurance: insurance of damage to third parties which covers nuclear civil liability, civil liability of operators of fixed nuclear installations, civil liability for carriage of nuclear substances; and finally, insurance of damage to nuclear installations (property damage), i.e. breakdown of machinery, additional operating costs, insurance for industrial accidents.

The SYBAN is also responsible for the insurance of Belgian risks and for reinsurance of foreign risks.

• *France*

Exportations nucléaires et non-prolifération by Simone Courteix, published with the assistance of the Centre National de la Recherche Scientifique, Economica Editions, Paris, 1978, 260 pages

This works, which contains a foreword by Professor Colliard, deals with the relationship between international law and nuclear exports. In addition to the different domestic laws which include very similar legislation and regulations, there are a series of international regimes for nuclear activities.

In Part One, the author considers the existing safeguards system, founded on the Non-Proliferation Treaty and the IAEA Safeguards. However, as the system is not comprehensive, it was found necessary to adopt another legal instrument, the London Agreements, for the purpose of enabling the development of nuclear exports in compatibility with the policy on the non-proliferation of nuclear weapons. Part Two analyses the Agreements. Part Three is devoted to the evolution of the non-proliferation strategy, following the London Agreements. The author

considers the policies of the United States, Russia, the United Kingdom, Canada and France and also studies the position of the Third World vis-à-vis the main exporting countries.

Finally, this book contains annexes and a selective bibliography.

• *Federal Republic of Germany*

Deutsches Verwaltungsblatt, Cologne, 1978

The law journal "Deutsches Verwaltungsblatt" (Cologne) has devoted its first issue of 1978 mainly to articles on nuclear law. These articles deal with the licensing of nuclear power stations with special attention given to the judgments of the administrative courts and are the following:

- Prof. Fritz Ossenbühl, Bonn: Die gerichtliche Überprüfung der Beurteilung technischer und wirtschaftlicher Fragen in Genehmigungen des Baus von Kraftwerken (DVBI. 1978, p. 1-9) (The judicial revision of technical and economic questions in power station licences).

- Prof. Joseph Listl, Augsburg: Die Entscheidungsprärogative des Parlaments für die Errichtung von Kernkraftwerken (DVBI. 1978, p. 10-17) (The decision prerogative of the Parliament concerning the construction of nuclear power stations). This article deals with the decision of the Administrative Court of Appeal at Münster concerning the fast breeder reactor at Kalkar (cf. NLB 20 p. 21).

- Judge Hartmut Albers, Münster: Atomgesetz und Berstsicherung für Druckwasserreaktoren (DVBI. 1978, S. 22-28) (Atomic Energy Act and precautions against bursting of pressurized water reactors).

Göttinger Atomrechtskatalog, Partie B, Volume 29, Institut für Völkerrecht der Universität Göttingen, Göttingen, 1977, 350 pages

The Institute for Public International Law of the University of Göttingen recently published Volume 29 of its Atomic Law Catalogue. This Volume is the fourth in the new Part B Series (Bibliography and Sources), and is a register, i.e. keywords with their numbers (in English, French and German) containing an analytical index (also in English, French and German) and an author and corporate author index. (For the contents of Volumes 26, 27 and 28, see Nuclear Law Bulletin Nos. 17, 18 and 19.)

• *United States*

Comparative Analysis of United States and French Nuclear Power Plant Siting and Construction Regulatory Policies and their Economic Consequences, by Michael W. Golay, Isi I. Saragossi and Jean-Marc Willefert, Energy Laboratory Report No. MIT-EL 77-044-WP, Massachusetts Institute of Technology, 1977, 107 pages

This Report contains a comparative analysis of the regulatory processes in the United States and France for nuclear power plant siting and their economic consequences. In comparing the licensing procedures in France and the United States it considers economic structures, procedures and regulations in both countries that determine the siting and licensing policies for nuclear power plants.

The Report surveys the different practices in the licensing procedure followed by the American utilities and analyses the delays which have affected the United States system since 1965. French practices emphasise an attempt to shift consideration of design issues in the early stages of the construction permit process before major on-site construction commitments are made.

Other differences are that the French process is co-operative and flexible while the American process is legalistic, rigid and based on an adverserial method. The French process allows for limited public participation or review of regulatory decisions while the American process allows for wider participation by public and non-federal agencies at several administrative and judicial levels. It may be noted that power station construction and operating delays are common in the United States and rarer in France.

The Licensing of Power Plants in the United States - A Report by Arthur W. Murphy with D. Bruce La Pierre and Neil Orloff, Seven Springs Center, an Affiliate of Yale University, 1978, 102 pages

This Report provides an in-depth analysis of the licensing system for nuclear power plants in the United States. It recommends reforms in the regulatory process to reduce present delays and uncertainties, thus improving conscious, rational decisions about energy and the environment. Delays have been identified as a major obstacle to achieving a dynamic energy policy. The Executive, as well as the Federal Government and the States are attached to resolving the problem. The Report analyses the reasons for present failings and assesses various solutions. It does not provide an analysis of all legislation on licensing but simply concentrates on the basic texts.

• *IAEA*

Non-Proliferation and International Safeguards, IAEA, Vienna, 1978, 75 pages

In connection with the United Nations Special Session of the General Assembly Devoted to Disarmament, to be held in New York from 23rd May to 28th June, 1978 and to which the Director General of the IAEA has been invited by the Assembly to make a statement, the IAEA has issued a publication entitled "Non-Proliferation and International Safeguards", under the reference 78 - 2070. The contents of this publication comprise the following items:

- The International Scope of IAEA Safeguards.
- Application of Safeguards Procedures.
- Computer Based Safeguards Information and Accounting System.
- IAEA Training Activities Related to State Systems of Nuclear Materials Accountancy and Control.
- Surveillance and Containment Measures to Support IAEA Safeguards.
- International Plutonium Management.
- Safeguards for Reprocessing and Enrichment Plants.
- Non-Destructive Assay: Instruments and Techniques for Agency Safeguards.
- The Safeguards Analytical Laboratory: Its Functions and Analytical Facilities.
- Resolution of the UN General Assembly on the Treaty on the Non-Proliferation of Nuclear Weapons of 12th June, 1968.
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- Final Declaration of the Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, May 1975.
- Resolutions on the IAEA's Work in the Field of the Peaceful Uses of Atomic Energy, adopted by the UN General Assembly on 8th and 12th December, 1977.
- Map on the NPT situation in the world (with explanations).

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No 40.875 1978

PRINTED IN FRANCE

NUCLEAR LAW Bulletin

SUPPLEMENT TO N° 21

B R A Z I L

ACT NO. 6453 OF 17th OCTOBER, 1977

ON CIVIL LIABILITY FOR NUCLEAR DAMAGE AND CRIMINAL RESPONSIBILITY FOR ACTS RELATING TO NUCLEAR ACTIVITIES, AND OTHER PROVISIONS.*

CHAPTER I

DEFINITIONS

Section 1

For the purposes of this Act:

I. "Operator" means the legal person duly authorised to operate a nuclear installation.

II. "Nuclear fuel" means any substance which is capable of producing energy by a self sustaining chain process of nuclear fission.

III. "Radioactive products or waste" means any radioactive material produced in, or any material made radioactive by exposure to the radiation incidental to, the production or utilisation of nuclear fuel but does not include radioisotopes which have reached the final stage of fabrication so as to be usable for any scientific, medical, agricultural, commercial or industrial purpose.

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* Unofficial translation by the Secretariat.

IV. "Nuclear material" means nuclear fuel and radioactive products or waste.

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

VI. "Nuclear installation" means:

(a) any nuclear reactor, other than one with which a means of transport is equipped for use as a source of power whether for propulsion thereof or for any other purpose;

(b) any factory using nuclear fuel for the production of nuclear material or any factory for the processing of nuclear material, including any factory for the reprocessing of irradiated nuclear fuel;

(c) any facility where nuclear material is stored, other than storage incidental to the carriage of such material.

VII. "Nuclear damage" means personal injury or damage to property which arises out of or results from the radioactive properties or a combination of radioactive properties with toxic properties or other characteristics of nuclear materials that are in a nuclear installation or which come from or are sent to such installation.

VIII. "Nuclear incident" means any occurrence, or series of occurrences having the same origin, which causes nuclear damage.

IX. "Ionizing radiation" means any emission of alfa or beta particles, neutrons, accelerated ions or X or gamma rays capable of causing the formation of ions within the human body.

Section 2

Several nuclear installations located at the same site and having the one operator may be considered by the National Nuclear Energy Commission as a single nuclear installation.

Section 3

Where damage has been caused by a nuclear incident jointly with other occurrences, it shall, to the extent it is not reasonably separable from non-nuclear damage, be deemed to be nuclear damage.

CHAPTER II

CIVIL LIABILITY FOR NUCLEAR DAMAGE

Section 4

Under this Act, the operator of a nuclear installation shall be exclusively liable, regardless of where the fault may lie, for compensation of nuclear damage due to nuclear incident:

I. occurring in the nuclear installation;

II. caused by nuclear materials from the nuclear installation when such incident occurs:

(a) before liability with regard to nuclear incidents involving the nuclear materials has been assumed, pursuant to the express terms of a contract in writing, by the operator of the nuclear installation to which such materials are being sent;

(b) in the absence of such contract, before the operator of the other nuclear installation effectively takes the materials in charge;

III. caused by nuclear materials sent to that nuclear installation when such incident occurs:

(a) after liability with regard to the incident caused by such materials has been assumed by him pursuant to the express terms of contract in writing from the operator of the other nuclear installation;

(b) in the absence of such contract, after the operator of the nuclear installation has effectively taken in charge the materials sent to him.

Section 5

Where more than one operator is liable, they shall be jointly and severally liable; insofar as the damage attributable to each operator is not reasonably separable, the provisions of Sections 9 to 13 shall apply.

Section 6

Where it is proved that the damage was caused exclusively by the victim, the operator shall be relieved, but only as regards such victim, from the obligation to pay compensation.

Section 7

The operator shall be entitled to exercise a right of recourse only if such right is expressly provided for by a contract in writing, or against the natural person who caused the incident with intent to cause damage.

Section 8

The operator shall not be liable for compensation of damage due to a nuclear incident directly due to an act of armed conflict, hostilities, civil war, insurrection or an exceptional case of force majeure.

Section 9

The liability of the operator for compensation of nuclear damage shall be limited, for each incident, to an amount equal to 1,500,000 adjustable Treasury bonds.

Single paragraph: The ceiling fixed by this Section shall not include interest for delay, lawyers' fees or legal costs.

Section 10

Where compensation for damage caused by a given nuclear incident exceeds the ceiling specified in the preceding Section, successful claimants will be allocated pro rata amounts in proportion to their entitlement.

(1) In such distribution, sums due for personal injuries shall be paid separately and shall have priority over sums due for damage to property. After settlement of such claims, the balance remaining shall be distributed among persons entitled to compensation for damage to property.

(2) The provisions of this Section shall apply in cases where the Federative Government, an international organisation or any other body makes funds available for compensation for nuclear damage and where the amount of such funds is insufficient to pay the compensation awarded in full.

Section 11

Proceedings for compensation of damage caused by a nuclear incident shall be brought before the appropriate Federal Court, questions of jurisdiction being decided in accordance with the provisions of the Code of Civil Procedure. Before delivering judgment, the Court shall give effect ex officio to the provisions of the preceding Section.

Section 12

The right to compensation for damage in accordance with this Act may be exercised for ten years from the date on which the nuclear incident occurred.

Single paragraph: Where the incident is caused by material which has been stolen, lost or abandoned, the limitation period shall be calculated as from the date of the incident, but shall in no event exceed twenty years from the date of such theft, loss or abandonment.

Section 13

The operator of the nuclear installation shall be required to maintain insurance or other financial security to cover his liability to pay compensation for nuclear damage.

(1) The nature and amount of such cover shall be determined, in each case, by the National Nuclear Energy Commission at the time of issue of the contruction or operating licence.

(2) The nature and amount of the insurance may be changed in the event of alterations to the installation.

(3) In determining the nature and amount of the security, account shall be taken of the type, capacity, purpose and site of each installation, as well as all other foreseeable factors.

(4) If the operator fails to fulfil his obligations under this Section, his licence shall be refused.

(5) The National Nuclear Energy Commission may exempt the operator from his obligations under this Section on the grounds of the minor risks involved in the case of certain specific nuclear materials or installations.

Section 14

The Federative Government shall guarantee, up to the ceiling specified in Section 9, the payment of compensation for nuclear damage for which the operator is liable, and shall supply the additional funds required where those from the insurance or the security are insufficient.

Section 15

In the event of a nuclear incident caused by nuclear materials the possession or use of which is unlawful and unconnected with any operator, the Federative Government shall take responsibility for damage up to the ceiling fixed by Section 9, subject to the right to take proceedings against the person responsible for such damage.

Section 16

This Act shall not apply to cases of damage caused by the emission of ionizing radiation where such occurrence does not constitute a nuclear incident.

Section 17

Compensation for damage or injury sustained by persons working with nuclear materials or within a nuclear installation shall be governed by the special legislation relating to industrial accidents.

Section 18

The provisions of this Act shall not apply to compensation for nuclear damage:

I. To the nuclear installation itself.

II. To any property on the site of the installation which is to be used in connection with that installation.

III. To the means of transport upon which the materials involved were at the time of the nuclear incident.

CHAPTER III

CRIMINAL LIABILITY

Section 19

This Chapter sets out the criminal offences connected with the exploitation and use of nuclear energy and is supplementary to the list of criminal offences contained in the legislation on national security and in other Acts.

Section 20

The production, processing, supply or use of nuclear materials without the necessary licence or for purposes other than those permitted by the law are subject to:

A penalty of four to ten years imprisonment.

Section 21

Allowing the person responsible for the nuclear installation to operate it without the necessary licence is subject to:

A penalty of two to six years imprisonment.

Section 22

The possession, acquisition, transfer, transport, custody or personal possession of nuclear materials without the necessary licence are subject to:

A penalty of two to six years imprisonment.

Section 23

The unlawful transmission of secret information relating to nuclear energy is subject to:

A penalty of four to eight years imprisonment.

Section 24

The unlawful mining, refining and buying or selling of nuclear ores are subject to:

A penalty of two to six years imprisonment.

Section 25

The exportation or importation without the necessary licence, of nuclear materials, nuclear ores or their concentrates, ores useable for the production of nuclear energy and ores or concentrates containing nuclear elements are subject to:

A penalty of two to eight years imprisonment.

Section 26

Failure to observe safety or protection rules applicable to the nuclear installation or to the use, transport, possession or custody of nuclear materials, or endangering the life, health or property of any other person is subject to:

A penalty of two to eight years imprisonment.

Section 27

Preventing or complicating the operation of the nuclear installation or the transport of nuclear materials is subject to:

A penalty of four to ten years imprisonment.

Section 28

This Act shall come into force on the date of its publication.

Section 29

All contrary provisions are hereby repealed.

3rd Session, 30th Parliament, 26 Elizabeth II, 1977

THE HOUSE OF COMMONS OF CANADA

BILL C-14

An Act to provide for the regulation, control and supervision of the development, production, use and application of nuclear energy and matters related thereto

Her Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:

SHORT TITLE

Short title

1. This Act may be cited as the *Nuclear Control and Administration Act*.

INTERPRETATION

Definitions

2. In this Act,

"Board" *«Commission»*

"Board" means the Nuclear Control Board established by section 6;

"nuclear energy" *«énergie nucléaire»*

"nuclear energy" means all forms of energy released in the course of nuclear fission, nuclear fusion or other nuclear transmutation;

"nuclear facility" *«établissement nucléaire»*

"nuclear facility" means a nuclear reactor, a subcritical nuclear assembly, a particle accelerator, a uranium or thorium mine or mill, a plant for the separation, processing, re-processing or fabrication of fissionable substances, a plant for the separation of deuterium or the production of deuterium compounds, a facility for the processing, handling, storage or disposal of prescribed substances and such other works and facilities as may be designated by regulations made under Part I and includes all lands, buildings, structures and equipment

3e Session, 30e Législature, 26 Elizabeth II, 1977

CHAMBRE DES COMMUNES DU CANADA

BILL C-14

Loi pourvoyant à la réglementation, au contrôle et à la surveillance du développement, de la production, des utilisations et des applications de l'énergie nucléaire et des matières connexes

Sa Majesté, sur l'avis et du consentement du Sénat et de la Chambre des communes du Canada, décrète ce qui suit:

TITRE ABRÉGÉ

Titre abrégé

1. La présente loi peut être citée sous le titre *Loi sur le contrôle et l'administration nucléaires*.

INTERPRÉTATION

Définitions

2. Dans la présente loi,

«Commission» *"Board"*

«Commission» désigne la Commission de contrôle nucléaire instituée par l'article 6;

«énergie nucléaire» *"nuclear energy"*

«énergie nucléaire» désigne toutes les formes d'énergie provenant de la fission nucléaire, de la fusion nucléaire ou de toute autre transmutation nucléaire;

«établissement nucléaire» *"nuclear facility"*

«établissement nucléaire» désigne n'importe lequel des établissements suivants: réacteurs nucléaires, assemblages nucléaires sous-critiques, accélérateurs de particules, mines ou une usine de traitement du minerai d'uranium ou de thorium, usines de séparation, de traitement, de retraitement ou de fabrication des matières fissiles, usines de séparation de deutérium ou de production de ses composés, établissements de traitement, de manutention, de stockage ou d'élimination des substances visées et autres ouvrages ou établissements que

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RECOMMENDATION

His Excellency the Governor General recommends to the House of Commons the appropriation of public revenue under the circumstances, in the manner and for the purposes set out in a measure entitled "An Act to provide for the regulation, control and supervision of the development, production, use and application of nuclear energy and matters related thereto".

RECOMMANDATION

Son Excellence le gouverneur général recommande à la Chambre des communes l'affectation de deniers publics dans les circonstances, de la manière et aux fins prévues dans une mesure intitulée «Loi pourvoyant à la réglementation, au contrôle et à la surveillance du développement, de la production, des utilisations et des applications de l'énergie nucléaire et des matières connexes».

that are connected or associated with any such work or facility;

"prescribed substance" means uranium, thorium, all elements of atomic number greater than 92, deuterium, their respective derivatives and compounds, radioactive nuclides, and any substances that are designated by regulations made under Part I as being capable of releasing nuclear energy or as being requisite for the production, use or application of nuclear energy;

"vehicle" means any ship, railway train, bus, automobile, truck, aircraft or other means of transport by sea, land or air.

les règlements établis en vertu de la Partie I désignent comme tels; doivent également y être assimilés tous les terrains, bâtiments, structures et équipements reliés ou associés à ces ouvrages ou établissements;

«substances visées» désigne l'uranium, le thorium, les éléments d'un numéro atomique supérieur à 92, le deutérium ainsi que leurs dérivés et composés respectifs, les radionucléides et toute substance que les règlements établis en vertu de la Partie I désignent comme capable de dégager de l'énergie nucléaire ou essentielle à sa production, son utilisation ou son application;

«véhicule» désigne un navire, un wagon de chemin de fer, un autobus, une automobile, un camion, un avion et tout moyen de transport terrestre, maritime ou aérien.

"prescribed substance" «substances visées»

"vehicle" «véhicule»

«substances visées» "prescribed substances"

«véhicule» "vehicle"

DECLARATION

DÉCLARATION

Works and undertakings

3. All works and undertakings whether heretofore constructed or hereafter to be constructed

(*a*) for the production, use and application of nuclear energy,

(*b*) for research and investigation with respect to nuclear energy, and

(*c*) for the exploration for, or for the mining, milling, production, refining, processing, handling, storage or disposal of prescribed substances,

are declared to be works for the general advantage of Canada.

3. Les ouvrages et entreprises construits jusqu'ici ou à construire à l'avenir

a) pour la production, l'utilisation et les applications de l'énergie nucléaire,

b) pour la recherche sur l'énergie nucléaire ou son étude, et

c) pour l'exploration relative aux substances visées, leur exploitation minière, production, affinage, traitement, manutention, stockage ou élimination ou pour le traitement du minerai qui en contient,

sont déclarés être à l'avantage général du Canada.

Ouvrages et entreprises

Binding on the Crown

4. This Act is binding on Her Majesty in right of Canada or a province and any agent thereof except that in any matter relating to national defence it is binding only to the extent that the Governor in Council may, by order, prescribe.

4. La présente loi lie Sa Majesté du chef du Canada ou d'une province et ses agents et mandataires; mais pour tout ce qui touche la défense nationale, elle ne lie Sa Majesté que dans la mesure où le gouverneur en conseil le prescrit par décret.

Sa Majesté est liée

PART I

CONTROL OF HEALTH, SAFETY, SECURITY AND ENVIRONMENTAL ASPECTS OF NUCLEAR ENERGY

PARTIE I

CONTRÔLE DES ASPECTS DE L'ÉNERGIE NUCLÉAIRE TOUCHANT LA SANTÉ, LA SÛRETÉ, LA SÉCURITÉ ET L'ENVIRONNEMENT

Interpretation

Interprétation

Definitions

5. In this Part,

"Canadian waters" has the meaning assigned to that expression by the *Canada Shipping Act;*

"Chairman" and "Vice-Chairman" mean the Chairman and Vice-Chairman of the Board designated by the Governor in Council pursuant to subsection 11(1);

5. Dans la présente Partie,

«Caisse» désigne la Caisse de décontamination radio-active établie par l'article 51;

«commissaire» désigne un membre de la Commission;

«eaux canadiennes» a le sens que la *Loi sur la marine marchande du Canada* donne à cette expression;

Définitions

"Canadian waters" «eaux...»

"Chairman" and "Vice-Chairman" «Président» et «Vice-Président»

«Caisse» "Fund"

«commissaire» "member"

«eaux canadiennes» "Canadian..."

"Fund" «caisse»
"Fund" means the Radioactive Decontamination Fund established by section 51;

"inspector" «inspecteur»
"inspector" means a person designated as an inspector under section 37;

"licence" «permis»
"licence" means a licence issued pursuant to section 22;

"member" «commissaire»
"member" means a member of the Board;

"Minister" «Ministre»
"Minister" means such member of the Queen's Privy Council for Canada as is designated by the Governor in Council to act as the Minister for the purposes of this Part;

"prescribed equipment" «matériel visé»
"prescribed equipment" means equipment designated by the regulations as being designed for use in the production, use or application of nuclear energy;

"prescribed technology" «technologie visée»
"prescribed technology" means the technical information that is designated by the regulations as capable of being used in the production, use or application of nuclear energy or prescribed equipment;

"regulation" «règlements»
"regulation" means any regulation made under section 56.

«inspecteur» désigne une personne nommée inspecteur en vertu de l'article 37;
«inspecteur» "inspector"

«matériel visé» désigne le matériel que les règlements désignent comme conçu pour la production, l'utilisation ou les applications de l'énergie nucléaire;
«matériel visé» "prescribed equipment"

«Ministre» désigne le membre du Conseil privé de la Reine pour le Canada que le gouverneur en conseil désigne pour agir à titre de ministre aux fins de la présente Partie;
«Ministre» "Minister"

«permis» désigne un permis délivré en vertu de l'article 22;
«permis» "licence"

«président» et «vice-président» désignent le président et le vice-président de la Commission nommés par le gouverneur en conseil en vertu du paragraphe 11(1);
«président» et «vice-président» "Chairman..."

«règlements» désigne les règlements établis en vertu de l'article 56;
«règlements» "regulations"

«technologie visée» désigne les renseignements techniques que les règlements désignent comme utilisables dans la production, l'utilisation ou les applications de l'énergie nucléaire ou de l'équipement visé.
«technologie visée» "prescribed technology"

Board established

Board established
6. There shall be a board to be known as the Nuclear Control Board consisting of not less than five and not more than nine members to be appointed by the Governor in Council on the recommendation of the Minister of whom not less than two and not more than five shall be appointed on a full-time basis.

Tenure of office
7. (1) Each member shall be appointed to hold office for a term not exceeding five years.

Age limit for appointment
(2) A person who has reached the age of seventy years is not eligible to be appointed a member.

Re-appointment
(3) On the expiration of his term of office, a member who is not disqualified by age is eligible for re-appointment.

Salary
8. (1) Each member is entitled to be paid by the Board a salary to be fixed by the Governor in Council.

Expenses
(2) Each member is entitled to be paid by the Board reasonable travel and other expenses incurred by him while absent from his ordinary place of residence in the course of his duties and functions under this Part.

Institution de la Commission

Institution de la Commission
6. Est instituée une commission sous le nom de Commission de contrôle nucléaire composée d'au moins cinq et d'au plus neuf commissaires nommés par le gouverneur en conseil sur avis conforme du Ministre, dont au moins deux et au plus cinq sont nommés à plein temps.

Durée du mandat
7. (1) Les commissaires sont nommés pour une durée maximale de cinq ans.

Âge limite
(2) Une personne âgée de soixante-dix ans ou plus n'est pas éligible au poste de commissaire.

Renouvellement
(3) Le mandat d'un commissaire âgé de moins de soixante-dix ans à la fin de son mandat est renouvelable.

Salaire
8. (1) Les commissaires ont droit de recevoir de la Commission le traitement que fixe le gouverneur en conseil.

Dépenses
(2) Les commissaires ont droit au remboursement par la Commission des frais de voyages et autres frais raisonnables que leur occasionne l'exercice des fonctions que leur confère la présente Partie, pendant qu'ils sont absents de leur lieu ordinaire de résidence.

Substitute members

9. In the event of the absence or incapacity of any member, the Governor in Council may appoint a substitute member for such period and on such terms and conditions as he deems appropriate.

Commissaires substituts

9. Le gouverneur en conseil peut nommer un commissaire substitut pour la durée et aux conditions qu'il prescrit, en cas d'absence ou d'empêchement d'un commissaire.

Eligibility

10. (1) A person is not eligible to be appointed or to continue as a member if he is not a Canadian citizen or if

(*a*) as owner, shareholder, director, officer, partner or otherwise he is engaged in, or

(*b*) he holds any bond, debenture or other security of a corporation that is engaged in the business of producing, selling, buying, exporting or importing prescribed substances, prescribed equipment or nuclear facilities.

Conditions d'éligibilité

10. (1) Ne peuvent être nommées au poste de commissaire ou ne peuvent y demeurer les personnes qui ne sont pas citoyens canadiens ou qui,

a) à titre de propriétaire, actionnaire, administrateur, cadre, associé ou autrement, s'adonnent, ou

b) sont détenteur de cautionnements, de débentures ou d'autres sûretés d'une société commerciale qui s'adonne

à la production, la vente, l'achat, l'exportation ou l'importation de substances visées, de matériel visé ou d'établissements nucléaires.

Conflict of interests

(2) A member shall not accept or hold any office or employment inconsistent with his duties and functions under this Part.

Conflit d'intérêt

(2) Les commissaires ne doivent accepter ni détenir aucun poste ou emploi incompatible avec les fonctions que leur confère la présente Partie.

Disclosure and disposal of interest

(3) Where any interest prohibited by subsection (1) vests in any member by will or succession for his own benefit, he shall forthwith disclose such interest to the Chairman and the Minister and within three months thereafter absolutely dispose of such interest.

Avis et disposition de la participation

(3) Lorsqu'une participation visée au paragraphe (1) échoit à un commissaire à titre personnel, par legs ou par dévolution successorale, il doit immédiatement en aviser le président et le Ministre et se départir définitivement de cette participation dans les trois mois qui suivent.

Chairman and Vice-Chairman

Président et vice-président

Chairman and Vice-Chairman

11. (1) The Governor in Council shall designate one of the full-time members to be Chairman of the Board and one of the full-time members to be Vice-Chairman of the Board.

Président et vice-président

11. (1) Le gouverneur en conseil nomme deux commissaires à plein temps respectivement président et vice-président de la Commission.

Chairman

(2) The Chairman is the chief executive officer of the Board, has supervision over and direction of the work and the staff of the Board and presides at meetings of the Board.

Président

(2) Le président est le premier dirigeant de la Commission; il dirige ses travaux, contrôle la gestion de son personnel et préside à ses réunions.

Vice-Chairman

(3) In the event of the absence or incapacity of the Chairman or if the office of Chairman is vacant, the Vice-Chairman has and may exercise and perform all the powers, duties and functions of the Chairman.

Vice-président

(3) En cas d'absence ou d'empêchement du président, ou de vacance de son poste, le vice-président est investi des pouvoirs et fonctions du président.

Interim

12. The Board, with the approval of the Governor in Council, may authorize one of its members to act as Chairman for the time being in the event that the Chairman and the Vice-Chairman are absent or unable to act or if the offices are vacant.

Intérim

12. En cas d'absence ou d'empêchement du président et du vice-président ou de vacance de leur poste, la Commission peut, avec l'approbation du gouverneur en conseil, autoriser un commissaire à remplacer provisoirement le président.

Divisions of the Board

13. (1) The Chairman may establish divisions of the Board, each consisting of one or more members, and may direct any such division to carry out, at such times and places as are specified by him, such of the duties and functions of the Board specified by him as are authorized by by-laws made by the Board under section 18 to be carried out by a division of the Board, and, in carrying out such duties and functions, a division of the Board may exercise all of the powers conferred on the Board by this or any other Act of Parliament.

Sections de la Commission

13. (1) Le président peut créer des sections de la Commission, chacune étant composée d'un ou de plusieurs commissaires et peut leur enjoindre de remplir, dans les limites permises par les règlements administratifs établis par la Commission en vertu de l'article 18, les fonctions de la Commission qu'il précise; ce faisant, une section peut exercer tous les pouvoirs que la présente loi ou toute autre loi du Parlement confère à la Commission.

Acts of divisions of the Board

(2) Any act or thing done by a division of the Board in accordance with a direction by the Chairman made pursuant to subsection (1) is deemed to be an act or thing done by the Board.

Mesures prises par les sections de la Commission

(2) Les mesures prises par une section de la Commission conformément à une directive du président donnée en vertu du paragraphe (1) sont présumées être celles de la Commission.

References to Board by divisions

(3) A division of the Board may, with the consent of the Chairman, and shall, on the direction of the Chairman, refer any matter that is before it to the Board.

Renvois à la Commission

(3) Une section de la Commission peut, avec l'assentiment du président, et doit, sur son ordre, renvoyer devant la Commission toute question dont elle est saisie.

Minimum number of members

(4) Notwithstanding subsection (1) and the terms of any by-law made under section 18, the Chairman may not direct a division of the Board consisting of less than three members to carry out duties and functions of the Board in relation to matters enumerated in subsection 32(2).

Nombre minimal de commissaires

(4) Nonobstant le paragraphe (1) et les dispositions des règlements administratifs faits en vertu de l'article 18, le président ne peut enjoindre à une section de la Commission composée de moins de trois commissaires de remplir les fonctions de la Commission relatives aux matières énumérées au paragraphe 32(2).

Head Office and Meetings

Siège social et réunions

Head office

14. (1) The head office of the Board shall be at such place in Canada as may be designated by the Governor in Council.

Siège social

14. (1) Le siège social de la Commission est situé au Canada à l'endroit que désigne le gouverneur en conseil.

Meetings

(2) The Board shall meet at least three times a year at its head office on such days as it may determine and may also meet at such other times and places in Canada as the Chairman deems advisable.

Réunions

(2) La Commission doit se réunir au moins trois fois par année au siège social aux dates qu'elle choisit; elle peut aussi se réunir au Canada aux lieux et dates que le président juge à propos.

Seal

15. The Board shall have an official seal, which shall be judicially noticed.

Sceau

15. La Commission a un sceau officiel qui est de connaissance judiciaire.

Staff

Personnel

Staff

16. (1) The Board may employ such professional, scientific, technical and other officers and employees as it considers necessary for the purposes of this Part, fix their tenure of employment and duties and, with the approval of the Treasury Board, fix and pay their remuneration.

Personnel

16. (1) La Commission peut employer les professionnels, scientifiques, techniciens, cadres et salariés dont elle estime avoir besoin aux fins de la présente Partie, fixer la durée de leur engagement et leurs fonctions et, avec l'approbation du conseil du Trésor, fixer et payer leur rémunération.

Technical assistance

(2) The Board may engage on a temporary basis the services of persons having technical or specialized knowledge to advise and assist the Board in the performance of its duties and, with the approval of the Treasury Board, may fix and pay the remuneration and expenses of such persons.

Conseillers techniques

(2) La Commission peut engager temporairement des techniciens ou spécialistes pour la conseiller et l'aider dans l'exécution de ses fonctions et, avec l'approbation du conseil du Trésor, elle peut fixer et payer leur rémunération et leurs allocations.

Public Service Superannuation Act

17. (1) Each full-time member and each person employed under subsection 16(1) is deemed to be employed in the Public Service for the purposes of the *Public Service Superannuation Act*.

Application of other Acts

(2) Each full-time member and each person employed under subsection 16(1) is deemed to be employed in the public service of Canada for the purposes of the *Government Employees Compensation Act* and any regulation made pursuant to section 7 of the *Aeronautics Act*.

Loi sur la pension de la Fonction publique

17. (1) Les commissaires à plein temps et les personnes employées en vertu du paragraphe 16(1) sont présumés faire partie de la Fonction publique aux fins de la *Loi sur la pension de la Fonction publique*.

Application d'autres lois

(2) Les commissaires à temps plein et les personnes employées en vertu du paragraphe 16(1) sont présumés faire partie de la fonction publique du Canada aux fins de la *Loi sur l'indemnisation des employés de l'État* et des règlements établis en vertu de l'article 7 de la *Loi sur l'aéronautique*.

By-laws

By-laws

18. The Board may make by-laws for the management of its internal affairs, the performance of its duties and functions, including the fixing of a quorum at any of its meetings, and the establishment of special and standing committees.

Règlements administratifs

Règlements administratifs

18. La Commission peut faire des règlements administratifs pour son administration interne, l'exécution de ses fonctions, y compris pour la fixation du quorum lors de ses réunions, et l'établissement de comités permanents ou spéciaux.

Directives

Directives

19. (1) The Governor in Council may, by order, on the recommendation of the Minister, issue policy directives to the Board and the Board shall comply therewith.

Publication

(2) An order made under this section shall be forthwith tabled in Parliament and published in the *Canada Gazette*.

Directives

Directives

19. (1) La Commission obéit aux directives de politique générale que lui donne par décret le gouverneur en conseil, sur avis conforme du Ministre.

Publication

(2) Les décrets mentionnés au présent article sont immédiatement déposés devant le Parlement et publiés dans la *Gazette du Canada*.

Objects

Objects

20. The objects of the Board are

(*a*) to regulate, control and supervise the development, production, possession and use of nuclear energy, prescribed substances, prescribed equipment and prescribed technology in order to

(i) ensure the preservation of the health and safety of persons and to protect the environment from the hazards associated with the production, possession and use of prescribed substances,

(ii) maintain national security,

(iii) ensure that nuclear energy and prescribed substances will be used only for peaceful purposes, and

(iv) ensure compliance with measures of international control undertaken by Canada; and

(*b*) to act as a source of information for the public on health, safety and environmental matters related to nuclear energy.

Objectifs

Objectifs

20. La Commission a pour objectif

a) de réglementer, contrôler et surveiller le développement, la production, la possession et l'utilisation de l'énergie nucléaire, des substances, du matériel et de la technologie visés pour

(i) préserver la santé et la sécurité des personnes et protéger l'environnement des risques que représentent la production, la possession et l'utilisation de substances visées,

(ii) assurer la sécurité nationale,

(iii) garantir que l'énergie nucléaire et les substances visées ne seront utilisées qu'à des fins pacifiques, et

(iv) assurer le respect des mesures internationales de contrôle auxquelles le Canada est partie; et

b) d'agir comme source de renseignements pour le public sur ces aspects de l'énergie nucléaire qui sont reliés à la santé, à la sûreté et à l'environnement.

Responsibility

21. For the purposes of achieving its objects under this Part, it is the responsibility of the Board to exercise regulatory and administrative jurisdiction in relation to the health, safety, security and environmental aspects of the production, possession and use of nuclear energy, prescribed substances, prescribed equipment and prescribed technology, taking into account health, safety, security and environmental standards established by or on the recommendation of other departments or agencies of government.

Responsabilité

21. Dans la poursuite de ses objectifs en vertu de la présente Partie, la Commission est responsable de la réglementation et de l'administration des questions de santé, de sécurité et de protection des personnes et de l'environnement qui concernent la production, la possession et l'utilisation de l'énergie nucléaire, des substances, du matériel et de la technologie visés, en tenant compte des normes relatives à la santé, à la sécurité et à la protection des personnes et de l'environnement établies par les autres ministères ou organismes du gouvernement ou sur leur recommandation.

Licences

22. (1) The Board may, on application made to it accompanied by such fee as is prescribed in relation thereto by the regulations, issue a licence authorizing the carrying out of such of the activities prohibited by sections 30 and 31 as are specified in the licence for a period of time specified therein that does not exceed any maximum period prescribed by the regulations.

Permis

22. (1) La Commission peut, sur demande et sur paiement des frais que les règlements peuvent exiger à cet égard, délivrer un permis autorisant la poursuite de celles des activités interdites par les articles 30 et 31 qu'elle précise dans le permis, pour la période qu'elle y indique ne dépassant toute période maximale prescrite par les règlements.

Terms and conditions

(2) The Board may impose such terms and conditions in respect of a licence issued or proposed to be issued by it pursuant to subsection (1), including terms and conditions relating to any evidence of financial responsibility that it may require from the applicant for a licence, as it considers to be appropriate to the achievement of its objects.

Modalités

(2) La Commission peut assortir des modalités qu'elle juge opportunes à la réalisation de ses objectifs les permis qu'elle délivre ou se propose de délivrer, y compris des modalités quant à la preuve de solvabilité qu'elle peut exiger de la personne qui demande un permis.

Site approval

(3) No licence to construct a nuclear facility other than a subcritical nuclear reactor assembly or a particle accelerator may be issued by the Board unless

(*a*) the approval of the site on which the nuclear facility is to be constructed has previously been obtained in writing from the Board; and

(*b*) the Board has received evidence satisfactory to it that the applicant for such a licence has complied with the conditions, if any, of such approval.

Approbation d'emplacement

(3) Sauf dans le cas d'un assemblage nucléaire sous-critique ou d'un accélérateur de particules, la Commission ne peut délivrer de permis de construction d'établissements nucléaires, à moins

a) d'avoir auparavant approuvé par écrit l'emplacement où sera construit l'établissement nucléaire; et

b) d'avoir reçu des preuves satisfaisantes que les conditions qu'elle a pu joindre à une telle approbation ont été respectées par la personne qui demande ce permis.

Revocation, etc.

(4) Subject to the procedure that may be prescribed by the regulations, the Board may amend, renew, suspend or revoke a licence or a site approval.

Modifications, etc.

(4) Sous réserve des règles de procédure qui peuvent être prescrites par les règlements, la Commission peut modifier, renouveler, suspendre ou annuler un permis ou une autorisation d'emplacement.

Content of application

23. An application for a licence or for a site approval referred to in section 22 shall be in such form, contain such information and be accompanied by such documents as may be prescribed by the regulations and shall be accompanied by any other supplementary information that the Board considers necessary.

Contenu de la demande

23. Une demande de permis ou d'approbation d'emplacement mentionnée à l'article 22 doit être en la forme, contenir les renseignements et être accompagnée des documents que peuvent exiger les règlements; elle doit aussi être accompagnée de tout autre renseignement supplémentaire que la Commission juge nécessaire.

Regional offices

24. The Board may establish laboratories and regional offices anywhere in Canada for the achievement of its objects.

Bureaux régionaux

24. La Commission peut mettre sur pied des laboratoires et des bureaux régionaux partout au Canada pour la réalisation de ses objectifs.

Agreements

25. (1) The Board may enter into agreements and cooperate and maintain contact with regulatory agencies in other countries or international agencies for the purpose of exchanging information relating to the regulation of nuclear energy and related matters.

Accords

25. (1) La Commission peut conclure des accords avec les agences de contrôle des autres pays et les agences internationales dans le but d'échanger des renseignements sur la réglementation de l'énergie nucléaire et des matières connexes.

Idem

(2) The Board may enter into agreements with any person or with any department or agency of the Government of Canada or of any province on matters related to the objects of the Board.

Idem

(2) La Commission peut conclure des accords avec toute personne ou tout ministère ou organisme du gouvernement du Canada ou d'une province sur tout sujet ayant trait à ses objectifs.

Idem

(3) An agreement entered into under subsection (2) may provide for the sharing of costs incurred pursuant to the agreement.

Idem

(3) Un accord conclu en vertu du paragraphe (2) peut porter sur le partage des frais qu'il occasionne.

Research programs

26. The Board may establish research programs in order to obtain independent scientific, technical and other information and advice that it considers necessary for the exercise of its powers and the proper performance of its duties.

Programmes de recherche

26. La Commission peut mettre sur pied des programmes de recherche dans le but d'obtenir des renseignements scientifiques, techniques ou autres et des avis de source indépendante afin d'exercer sa compétence et de mieux remplir ses fonctions.

Public information

27. The Board shall provide for the dissemination of information on the health, safety and environmental aspects of the development, production, use and application of nuclear energy.

Information

27. La Commission doit veiller à la diffusion des renseignements sur ces aspects de la production, du développement des utilisations et des applications de l'énergie nucléaire qui touchent la santé et la protection des personnes et de l'environnement.

Duty in respect of nuclear waste

28. In order to protect the health and safety of persons and in order to protect the environment, the Board shall assume responsibility for any prescribed substance or nuclear facility where, in the opinion of the Board,

(*a*) the substance or facility has been abandoned by the person in possession thereof or the operator thereof; and

(*b*) the circumstances of the case are such that it is unreasonable or impractical to require that person to continue to be responsible therefor.

Déchets nucléaires

28. Afin de protéger la santé et la sécurité des personnes et de protéger l'environnement, la Commission assume la responsabilité des substances prescrites et des établissements nucléaires lorsque, à son avis,

a) ils ont été abandonnés par leur possesseur ou exploitant; et

b) les circonstances sont telles qu'il ne serait pas raisonnable ou possible d'exiger de ceux-ci qu'ils continuent à en être responsables.

Information

29. The Board may, for the purposes of this Part, by notice in writing, require any person to provide it with any information relating to any prescribed substance, prescribed equipment or prescribed technology in his possession or to any activity carried out by him relating to nuclear energy.

Demandes de renseignements

29. Par un avis écrit, la Commission peut, aux fins de la présente Partie, exiger de toute personne des renseignements sur les substances, le matériel et la technologie visés en la possession de cette dernière ou sur celles de ses activités qui touchent l'énergie nucléaire.

Prohibitions

Prohibitions

30. No person shall, unless exempted by the regulations or unless he is the holder of a licence authorizing him to do so,

(*a*) explore for, develop, mine, mill, extract, produce, convert, enrich, reprocess or fabricate a prescribed substance;

(*b*) possess, transfer or use any prescribed substance, prescribed equipment or prescribed technology;

(*c*) import or export any prescribed substance, prescribed equipment or prescribed technology;

(*d*) import or export a nuclear facility;

(*e*) construct, operate or decommission a nuclear facility;

(*f*) construct, operate or decommission a nuclear-powered vehicle or a vehicle equipped with a nuclear reactor; or

(*g*) store, dispose of or abandon a prescribed substance or wastes resulting from the production, possession or use thereof.

Interdictions

Interdictions

30. A moins d'être titulaire d'un permis à cet effet ou d'en être dispensé par les règlements il est interdit

a) d'extraire, de produire, de transformer, d'enrichir, de retraiter ou de fabriquer des substances visées ou de se livrer à des activités d'exploration, de mise en valeur, d'exploitation minière ou de traitement de minerai, relatives à ces substances;

b) d'avoir en sa possession, de transmettre ou d'utiliser des substances, du matériel ou de la technologie visés;

c) d'importer ou d'exporter des substances, du matériel ou de la technologie visés;

d) d'importer ou d'exporter des établissements nucléaires;

e) de construire, de mettre en service ou de mettre hors service des établissements nucléaires;

f) de construire, de mettre en service ou de mettre hors service des véhicules à propulsion nucléaire ou des véhicules équipés d'un réacteur nucléaire;

g) d'entreposer, d'éliminer ou d'abandonner des substances visées ou des déchets provenant de leur production, possession ou utilisation.

Nuclear vehicles

31. (1) No person shall cause a nuclear-powered vehicle or a vehicle equipped with a nuclear reactor to enter Canada or Canadian waters unless he or the owner of the vehicle has been issued a licence authorizing the entry of the vehicle into Canada or into Canadian waters.

Véhicules à propulsion nucléaire

31. (1) Il est interdit de permettre aux véhicules à propulsion nucléaire ou aux véhicules équipés d'un réacteur nucléaire d'entrer au Canada ou de pénétrer dans les eaux canadiennes à moins d'être ou que leur propriétaire ne soit détenteur d'un permis à cet effet.

Limitation

(2) The powers given by this Part or the regulations to the Board or to any inspector shall be exercised in a manner that is not inconsistent with measures of international control undertaken by Canada.

Limite

(2) La Commission et les inspecteurs ne peuvent exercer les pouvoirs que leur donnent la présente Partie et les règlements qu'en conformité avec les mesures internationales de contrôle auxquelles le Canada est partie.

Hearings

Discretionary hearings

32. (1) The Board may, on its own motion, hold a public hearing in connection with any matter within its jurisdiction and in respect of which it deems such a hearing to be desirable.

Mandatory hearings

(2) The Board shall hold a public hearing in connection with the issue of a licence to construct

(*a*) a uranium or thorium mine, mill or processing plant;

Auditions

Auditions

32. (1) Dans le cadre de sa compétence, la Commission peut, de sa propre initiative, tenir les auditions publiques qu'elle estime opportunes.

Auditions obligatoires

(2) La Commission doit tenir une audition publique au sujet de la délivrance d'un permis de construction

a) d'une mine d'uranium ou de thorium ou d'une usine de traitement de ces métaux ou du minerai qui en contient;

(*b*) a nuclear reactor of power greater than 1 megawatt (thermal);
(*c*) a spent reactor fuel reprocessing plant;
(*d*) a radioactive waste management facility;
(*e*) a uranium enrichment plant; or
(*f*) a heavy water plant.

b) d'un réacteur nucléaire d'une puissance supérieure à 1 mégawatt thermique;
c) d'une usine de retraitement du combustible nucléaire irradié;
d) d'un établissement de stockage des déchets radio-actifs;
e) d'une usine d'enrichissement d'uranium; ou
f) d'une usine d'eau lourde.

Rules

33. The Board, with the approval of the Governor in Council, may make rules of procedure respecting hearings held under this Part.

33. La Commission peut, avec l'approbation du gouverneur en conseil, faire des règles de procédure concernant les auditions qu'elle tient en vertu de la présente Partie.

Règles de procédure

Part I of the *Inquiries Act*

34. For the purposes of this Part, the Board has all the powers of a commissioner under Part I of the *Inquiries Act*.

34. Aux fins de la présente Partie, la Commission a tous les pouvoirs d'un commissaire en vertu de la Partie I de la *Loi sur les enquêtes*.

Partie I de la *Loi sur les enquêtes*

Publication of Notices

Publication des avis

Notices

35. (1) The Board shall publish the following notices:

(*a*) notice of receipt of an application for a site approval or for a licence respecting the construction or operation of nuclear facilities referred to in subsection 32(2);

(*b*) notice of the issue, refusal to issue, amendment, renewal, suspension or revocation of a site approval or a licence respecting the construction or operation of nuclear facilities referred to in subsection 32(2); and

(*c*) notice of a public hearing.

35. (1) La Commission doit publier les avis suivants:

a) avis de réception d'une demande d'approbation d'emplacement ou de permis de construction ou de mise en service d'établissements nucléaires mentionnés au paragraphe 32(2);

b) avis de délivrance, de refus de délivrer, de modification, de renouvellement, de suspension ou d'annulation des approbations d'emplacement ou des permis de construction ou de mise en service d'établissements nucléaires mentionnés au paragraphe 32(2); et

c) avis d'audition publique.

Avis

How published

(2) A notice referred to in subsection (1) shall be published

(*a*) where applicable, in a newspaper circulated in the locality in which the nuclear facility is or is proposed to be sited, constructed or operated or in the locality that is likely to be affected by the nuclear facility, and

(*b*) in the *Canada Gazette*,

and shall be in such form and contain such information as may be prescribed by the regulations.

(2) Les avis mentionnés au paragraphe (1) doivent être publiés

a) selon le cas, dans un journal de la localité où est situé l'établissement nucléaire, dans celle choisie pour sa construction ou son opération ou dans les localités qui pourraient en subir les conséquences, et

b) dans la *Gazette du Canada*,

et ils doivent être en la forme et contenir les renseignements que peuvent exiger les règlements.

Publication

Disclosure of information

Divulgation des renseignements

Documents made available

36. (1) Subject to subsections (2) and (3), the Board shall make available for inspection by the public all documents in the possession of the Board that do not contain information that is within a class of information exempted from disclosure by the regulations.

36. (1) Sous réserve des paragraphes (2) et (3), la Commission doit permettre au public l'accès aux documents qu'elle a en sa possession et qui ne contiennent aucun renseignement dont la divulgation est interdite par les règlements.

Accès aux documents

Exception

(2) An applicant for a licence may request the Board not to disclose any information described in subsection (1) that he submits to the Board in connection with his application.

Idem

(3) A person who, pursuant to section 29, gives information to the Board relating to any prescribed substance, prescribed equipment or prescribed technology in his possession or to any activity carried out by him relating to nuclear energy may request the Board not to disclose any such information.

Procedure

(4) A request made under subsection (2) or (3) shall be in writing and shall be considered in accordance with the procedure established by the regulations.

Decision of the Board

(5) Where, after considering a request under subsection (2) or (3), the Board is satisfied that disclosure of the information to which the request relates is not required in the public interest or would unduly impair the competitive position of the person making the request, notwithstanding subsection (1), the Board shall not make available for inspection by the public the documents containing that information.

Inspectors

Designation of inspectors

37. (1) The Board or the Chairman may designate as an inspector for the purposes of this Part or for the purpose of complying with any international treaty obligation relating to the control of nuclear energy undertaken by Canada any person it or he deems qualified and may, subject to the approval of the Treasury Board, if that person is not an employee of Her Majesty in right of Canada or a province, or an employee of an agent of Her Majesty in right of Canada or a province, fix and pay his remuneration.

Agreements

(2) The Board may enter into an agreement with any person or with any department or agency of the Government of Canada or of any province for the designation, training, certification and employment of inspectors and the sharing of costs and expenses related thereto.

Inspector to show certificate

38. An inspector shall be furnished with a certificate of his designation setting out the purposes for which he has been appointed, the place, area, vehicle or premises in respect of which he has been appointed and the period for which he has been appointed and, on entering any place, vehicle or premises pursuant to section 39 or 40, shall, if so requested, produce the certificate to the person in charge thereof.

Exception

(2) La personne qui demande un permis peut demander à la Commission d'interdire l'accès à certains des renseignements que décrit le paragraphe (1) qu'elle lui a fournis à propos de sa demande.

Idem

(3) La personne qui, conformément à l'article 29, remet des renseignements à la Commission au sujet des substances, du matériel ou de la technologie visés qu'elle a en sa possession ou au sujet de celles de ses activités qui touchent l'énergie nucléaire peut demander à la Commission de ne pas les rendre publics.

Procédure

(4) Une demande en vertu des paragraphes (2) ou (3) doit être faite, par écrit, et doit être considérée conformément à la procédure que prévoient les règlements.

Décision de la Commission

(5) Nonobstant le paragraphe (1), la Commission ne doit pas permettre au public l'accès aux documents qui contiennent les renseignements visés par une demande faite en vertu des paragraphes (2) ou (3) lorsque après avoir considéré la demande, elle est convaincue que la divulgation de ces renseignements n'est pas essentielle dans l'intérêt public ou qu'elle nuirait indûment à la position compétitive de la personne qui a fait la demande.

Inspecteurs

Nomination des inspecteurs

37. (1) La Commission ou le président peut aux fins de la présente Partie ou d'un traité international sur le contrôle de l'énergie nucléaire auquel le Canada est partie nommer inspecteur toute personne qu'il juge compétente et, avec l'approbation du conseil du Trésor, fixer et payer sa rémunération si cette personne n'est pas un employé de Sa Majesté du chef du Canada ou d'une province ou d'un mandataire de Sa Majesté du chef du Canada ou d'une province.

Accords

(2) La Commission peut conclure des accords avec toute personne ou tout ministère ou organisme du gouvernement du Canada ou d'une province pour la nomination, la formation, la certification et l'emploi des inspecteurs et pour le partage des frais et dépenses occasionnés par ces accords.

Certificat

38. On doit remettre à l'inspecteur un certificat de sa nomination établissant les fins pour lesquelles il a été nommé, l'endroit, la région, le véhicule ou les lieux pour lesquels il a été nommé et la durée de sa nomination; en entrant dans un endroit, un véhicule ou un lieu en vertu des articles 39 ou 40, l'inspecteur doit, sur demande, présenter ce certificat à la personne responsable.

Powers of inspectors

39. (1) An inspector may, if so authorized in his certificate of designation, at any reasonable time,

(*a*) inspect any nuclear facility,

(*b*) inspect any vehicle transporting a prescribed substance and enter the vehicle and inspect the prescribed substance,

(*c*) inspect any nuclear-powered vehicle, or

(*d*) enter and inspect any premises on which a prescribed substance is located

in respect of which a licence has been issued, in order to verify that the requirements of this Part and the regulations and the conditions of the licence are being complied with.

Idem

(2) An inspector may, if so authorized in his certificate of designation, at any reasonable time, enter and inspect any place where components or parts intended for a nuclear facility for which a licence has been issued are being designed or manufactured.

Directions

(3) Where an inspector has reasonable grounds to believe that a theft or loss of a prescribed substance or a breach of a provision of this Part, the regulations or a condition of a licence has occurred, he may direct

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

(i) the circumstances of the theft, loss or breach, and

(ii) any remedial action that has been taken in respect thereof; and

(*b*) such action to be taken as he deems necessary to protect the health and safety of persons, to protect the environment or to maintain security.

Emergency powers

40. (1) An inspector may, at any reasonable time, enter and inspect any place, vehicle or premises in which he believes on reasonable grounds that

(*a*) there is radioactive contamination,

(*b*) prescribed substances are being used, stored or handled in a manner, or

(*c*) a nuclear facility is being operated in a manner or is in a state

that may endanger the health and safety of persons or endanger the environment.

Orders and report

(2) Where an inspector has reasonable grounds to believe that any place, vehicle or premises mentioned in subsection (1), any condition therein or anything being done

Pouvoirs de l'inspecteur

39. (1) L'inspecteur, autorisé à cette fin dans son certificat de nomination, peut, à tout moment raisonnable,

a) inspecter tout établissement nucléaire,

b) inspecter tout véhicule qui transporte des substances visées, y monter et y inspecter les substances visées,

c) inspecter tout véhicule à propulsion nucléaire, ou

d) inspecter tout lieu où se trouvent des substances visées

au sujet duquel un permis a été délivré, pour vérifier si sont respectées les exigences de la présente Partie, celles des règlements et les conditions du permis.

Idem

(2) L'inspecteur, autorisé à cette fin dans son certificat de nomination, peut, à tout moment raisonnable, inspecter tout endroit où sont conçus ou fabriqués des composants d'un établissement nucléaire pour lequel un permis a été délivré.

Directives

(3) L'inspecteur qui croit pour des motifs raisonnables que des substances visées ont été perdues ou volées ou qu'il y a eu violation des dispositions de la présente Partie, des règlements ou des conditions d'un permis, peut enjoindre

a) le titulaire du permis concerné de remettre un rapport à la Commission sur

(i) les circonstances du vol, de la perte ou de l'infraction, et

(ii) les mesures correctives qui furent prises à cet égard; et

b) toute personne de prendre les mesures correctives qu'il juge nécessaires pour protéger la santé et la sécurité des personnes, pour protéger l'environnement et assurer la sécurité.

Pouvoirs d'urgence

40. (1) L'inspecteur peut, à tout moment raisonnable, inspecter tout endroit, véhicule ou lieu où il a des motifs raisonnables de croire

a) qu'il s'y trouve une contamination radio-active,

b) que des substances visées sont utilisées, entreposées ou manipulées d'une façon, ou

c) qu'un établissement nucléaire est en service d'une façon ou est dans un état

qui pourrait mettre en danger la santé ou la sécurité des personnes ou mettre en danger l'environnement.

Directives et rapport

(2) L'inspecteur qui a des motifs raisonnables de croire qu'un endroit, véhicule ou lieu mentionné au paragraphe (1) ou que quelque chose qui s'y trouve ou qu'on y fait met en

therein endangers the health and safety of persons or endangers the environment or contravenes the requirements of this Part, he may order that

(*a*) the place, vehicle or premises be evacuated, closed, sealed and properly labelled,

(*b*) any prescribed substance in the place or vehicle or on the premises be stored, sealed and properly handled and labelled, or

(*c*) any nuclear facility in the place or vehicle or on the premises, if it is practical to do so, be put in a safe state

and he shall, forthwith after making the order, report thereon to the Board.

danger la santé ou la sécurité des personnes ou met en danger l'environnement, ou contrevient aux exigences de la présente Partie, peut ordonner

a) que cet endroit, ce véhicule ou ce lieu soit évacué ou fermé et que des scellés et des panneaux avertisseurs y soient apposés,

b) que les substances visées y soient entreposées, scellées, étiquetées et manipulées correctement, ou

c) que l'établissement nucléaire, dans la mesure du possible, soit mis en état sûr;

il doit en faire parvenir immédiatement un rapport à la Commission.

Dwelling

(3) An inspector shall not enter any room or place actually used as a dwelling without the consent of the occupant except under the authority of a search warrant.

(3) L'inspecteur ne peut pénétrer dans une pièce ou endroit utilisé comme maison d'habitation qu'avec le consentement de l'occupant ou un mandat de perquisition.

Maison d'habitation

Decontamination

41. On receipt of a report mentioned in subsection 40(2), the Board shall make an investigation and may take or order any person to take such remedial measures as it considers necessary to decontaminate any radioactively contaminated area or generally to protect the health and safety of persons or to protect the environment.

41. Sur réception du rapport mentionné au paragraphe 40(2), la Commission doit faire enquête et peut prendre ou ordonner à toute personne de prendre les mesures correctives qu'elle juge nécessaires pour décontaminer un endroit radio-actif ou, d'une façon générale, pour protéger la santé et la sécurité des personnes et pour protéger l'environnement.

Décontamination

Inspection

42. When inspecting any place, vehicle or premises, an inspector may

(*a*) use such equipment and, after notification to the person in charge of the place, vehicle or premises, if any, carry out such tests as he considers necessary or expedient;

(*b*) take samples of anything found therein; and

(*c*) examine and make copies and extracts of any books, records or other documents that, on reasonable grounds, he believes contain any information relevant to the enforcement of the provisions of this Part, the regulations or a condition of any licence.

42. Pendant l'inspection d'un endroit, véhicule ou lieu, un inspecteur peut

a) utiliser l'équipement et, après en avoir averti la personne responsable de l'endroit, du véhicule ou des lieux qu'il inspecte, faire les tests qu'il juge nécessaires ou opportuns;

b) prélever des échantillons des substances qu'il y trouve; et

c) examiner et faire des copies ou extraits des livres, registres ou autres documents qu'il a des motifs raisonnables de croire contenir des renseignements pertinents à l'application des dispositions de la présente Partie, des règlements ou des conditions d'un permis.

Inspection

Assistance to inspectors

43. The owner or person in charge of any place, vehicle or premises described in section 39 or 40 and every person found therein shall give an inspector all reasonable assistance in his power to enable the inspector to carry out his duties and functions under this Part or the regulations and shall furnish him with such information as the inspector may reasonably require.

43. Les propriétaires ou les responsables des endroits, véhicules ou lieux décrits aux articles 39 ou 40, ainsi que toute personne présente, doivent, afin de permettre à l'inspecteur d'exécuter ses fonctions prévues par la présente Partie et les règlements, lui prêter, dans la mesure du possible, leur concours et lui fournir les renseignements qu'il peut normalement exiger.

Aide aux inspecteurs

Obstruction of inspectors

44. Where an inspector is carrying out his duties and functions under this Part or the regulations, no person shall

44. Il est interdit, au cours de l'exercice par l'inspecteur des fonctions prévues par la présente Partie et les règlements,

Entrave

(*a*) fail to comply with any reasonable direction or requirement of the inspector;

(*b*) knowingly make any false or misleading statement either verbally or in writing to the inspector; or

(*c*) otherwise obstruct or hinder the inspector.

a) de passer outre à toute demande motivée émanant de lui;

b) de lui faire sciemment, oralement ou par écrit, des déclarations fausses ou trompeuses; ou

c) d'entraver son action d'une façon générale.

No civil action

45. No inspector is personally liable for anything done by him in good faith under the authority or purported authority of this Part or the regulations.

Aucune action en dommages

45. L'inspecteur n'est pas responsable des dommages qui peuvent résulter de tout acte qu'il pose de bonne foi en vertu de l'autorité que lui confèrent ou semblent lui conférer la présente Partie ou les règlements.

Seizure and Forfeiture

Saisie et confiscation

Seizure

46. Where an inspector has reasonable grounds to believe that any prescribed substance, prescribed equipment or prescribed technology is illegally in the possession of any person or that possession thereof by that person could be detrimental to the health or safety of other persons or detrimental to the environment, he may seize that prescribed substance, prescribed equipment or prescribed technology and thereupon shall forthwith send a report thereon to the Board.

Saisie

46. L'inspecteur qui a des motifs raisonnables de croire que la possession de substances, d'équipement ou de technologie visés par une personne est illégale ou met en danger la santé ou la sécurité d'autrui ou l'environnement peut saisir ces substances, équipement ou technologie visés et doit immédiatement en faire rapport à la Commission.

Forfeiture

47. Where a person is convicted of an offence against any provision of this Part, the judge, court or magistrate sentencing that person may, on application therefor by or on behalf of the Minister, in addition to any other punishment that may be imposed for the offence, declare any prescribed substance, prescribed equipment or prescribed technology that was seized from the convicted person pursuant to section 46 to be forfeited to Her Majesty.

Confiscation

47. Le juge, la cour ou le magistrat qui condamne une personne pour une infraction à une disposition de la présente Partie peut, en sus de toute autre peine qui peut être imposée pour l'infraction, sur demande à cet effet par ou au nom du Ministre, ordonner que les substances, l'équipement ou la technologie visés saisis en vertu de l'article 46 soient confisqués au profit de Sa Majesté.

Return of things seized

48. Where no proceedings in respect of an offence against a provision of this Part are commenced against a person from whom any prescribed substance, prescribed equipment or prescribed technology has been seized pursuant to section 46 within sixty days from the date of the seizure, or where such person is not found guilty of any such offence, anything seized pursuant to section 46 shall forthwith be returned to that person.

Remise

48. Les choses saisies en vertu de l'article 46 doivent être immédiatement remises à la personne qui en avait la possession au moment de la saisie lorsque aucune procédure relative à une infraction à une disposition de la présente Partie n'est intentée contre cette dernière dans les soixante jours de la saisie ou lorsqu'elle n'est pas trouvée coupable d'une telle infraction.

Care of things seized

49. The Board shall have the care and custody of any prescribed substance, prescribed equipment or prescribed technology seized pursuant to section 46 pending final decision in proceedings brought against the person from whom the prescribed substance, prescribed equipment or prescribed technology was seized.

Garde

49. La Commission a la garde et le contrôle des substances, de l'équipement et de la technologie visés saisie en vertu de l'article 46 jusqu'à décision finale dans les procédures intentées contre la personne qui en avait la possession au moment de la saisie.

Liability for costs

Liability

50. (1) Where a place, vehicle or premises becomes radioactively contaminated, the person who knowingly had the prescribed substance that caused the contamination in his possession at the time the contamination occurred is liable, without affecting the liability of an operator under the *Nuclear Liability Act* and without proof of fault or negligence, for all costs and expenses reasonably incurred by the Board or by any person acting on the order of the Board made pursuant to section 41 as a result of such contamination.

Extent of liability

(2) Nothing in this Act shall be construed as limiting or restricting any right of recourse or indemnity that a person liable pursuant to subsection (1) may have against any other person.

Radioactive Decontamination Fund

Fund established

51. (1) There is hereby established in the Consolidated Revenue Fund an account to be known as the Radioactive Decontamination Fund to which shall be credited

(*a*) all amounts received under subsections 53(1) and (2),

(*b*) interest computed in accordance with subsection (2), and

(*c*) any amount recovered by the Board pursuant to section 55,

and to which shall be charged

(*d*) all amounts that are directed to be paid pursuant to subsection 54(1), and

(*e*) any interest paid pursuant to subsection 54(2).

Interest to be credited to the Fund

(2) The Minister of Finance shall, at such times as the Governor in Council, by order, directs, credit to the Fund interest at a rate fixed by the Governor in Council on the balance from time to time standing to the credit of the Fund.

Board administers

52. The Board is the administrator of the Fund and shall report on its administration thereof in its annual report.

Contributions by licensees

53. (1) Every person to whom a licence is issued shall pay to the Receiver General at the time and in the manner prescribed by the regulations such amount per unit as is prescribed by the regulations in respect of each prescribed substance he is thereby authorized to have in his possession.

Responsabilité

Responsabilité

50. (1) Lorsqu'un endroit, un véhicule ou un lieu deviennent contaminés par la radioactivité, la personne qui, au moment où la contamination s'est produite, avait sciemment la possession de la substance visée qui a causé cette contamination est responsable, nonobstant la responsabilité de l'exploitant en vertu de la *Loi sur la responsabilité nucléaire*, sans qu'il soit nécessaire de prouver sa faute ou sa négligence, des frais et dépenses raisonnables engagés par la Commission ou par d'autres personnes sur son ordre en vertu de l'article 41, suite à cette contamination.

Étendue de la responsabilité

(2) Rien dans la présente loi ne doit s'interpréter comme limitant les recours qu'une personne responsable en vertu du paragraphe (1) peut avoir contre les tiers.

Caisse de décontamination radio-active

Création de la Caisse

51. (1) Est, par les présentes, établi au Fonds du revenu consolidé, un compte appelé Caisse de décontamination radio-active auquel doivent être crédités

a) les montants reçus en vertu des paragraphes 53(1) et (2),

b) l'intérêt calculé en conformité du paragraphe (2), et

c) les montants recouvrés par la Commission en vertu de l'article 55,

et duquel doivent être débités

d) les montants que la Commission ordonne de payer en vertu du paragraphe 54(1), et

e) l'intérêt payé en vertu du paragraphe 54(2).

Intérêt à créditer à la Caisse

(2) Le ministre des Finances doit, aux moments que le gouverneur en conseil indique, par décret, créditer à la Caisse un intérêt, calculé périodiquement au taux fixé par le gouverneur en conseil, sur le solde créditeur de la Caisse.

La Commission administre

52. La Commission administre la Caisse et fait rapport de son administration dans son rapport annuel.

Contributions des détenteurs de permis

53. (1) Pour chaque unité de substance visée qu'ils sont autorisés à avoir en leur possession, les détenteurs de permis doivent verser au receveur général au moment et de la façon que prescrivent les règlements, les sommes que ceux-ci exigent.

Interests on unpaid amount

(2) Where all or any portion of an amount payable under subsection (1) is not paid at the time provided in the regulations, interest is payable on the amount outstanding at a rate fixed by order of the Governor in Council.

Intérêt à payer

(2) Lorsque tout ou partie du montant à payer en vertu du paragraphe (1) n'est pas versé au moment prévu par les règlements, un intérêt est payable sur le solde à payer au taux fixé par décret du gouverneur en conseil.

Debts due to Her Majesty

(3) All amounts payable under subsections (1) and (2) are debts due to Her Majesty and are recoverable as such in any court of competent jurisdiction.

Dettes dues à Sa Majesté

(3) Les montants payables en vertu des paragraphes (1) et (2) sont des dettes dues à Sa Majesté recouvrables comme telles devant tout tribunal compétent.

Payments out of Fund

54. (1) Where there is no person against whom costs and expenses described in subsection 50(1) can be recovered as therein provided or, in the opinion of the Board, recovery from such a person pursuant to that subsection would be impractical, the Board shall pay the costs and expenses incurred by it as a result of the contamination referred to in that subsection and shall direct that the costs and expenses incurred by other persons acting on the order of the Board pursuant to section 41, as assessed by the Board, be paid out of the Fund.

Paiement

54. (1) Lorsqu'il n'y a personne contre qui on pourrait recouvrer les frais et dépenses décrits au paragraphe 50(1) ou que, de l'avis de la Commission, il serait impossible de les recouvrer d'une telle personne, la Commission doit payer les frais et dépenses qu'elle a encourus suite à la contamination mentionnée à ce paragraphe et doit ordonner que les frais et dépenses des autres personnes qui ont agi sur son ordre en vertu de l'article 41, selon l'évaluation qu'en fait la Commission, soient remboursés à même la Caisse.

Interest

(2) Where payment of all or any portion of an amount directed by the Board to be paid out of the Fund to a person who acted on the order of the Board pursuant to section 41 is delayed for more than one month from the time when the Board directed payment of the amount, interest on the unpaid amount, calculated from that time at a rate fixed, by order, of the Governor in Council, shall be paid to that person out of the Fund.

Intérêt

(2) Lorsque le paiement d'une partie ou de la totalité du montant que la Commission a ordonné de payer à une personne qui a agi sur son ordre en vertu de l'article 41 est retardé de plus d'un mois à partir du moment où la Commission en a ordonné le paiement, un intérêt sur le solde, calculé à partir de ce moment au taux fixé par décret du gouverneur en conseil, doit être payé à même la Caisse.

Subrogation

55. Where, pursuant to section 54, an amount is paid to a person who acted on the order of the Board, pursuant to section 41, the Board, as administrator of the Fund, is subrogated to all rights and claims of that person against any person liable to pay that amount pursuant to subsection 50(1) and any amount recovered by the Board by virtue of this section, otherwise than as costs of any proceedings, shall be paid to the Receiver General and credited to the Fund.

Subrogation

55. Lorsqu'un montant est payé, en vertu de l'article 54, à une personne qui a agi sur l'ordre de la Commission en vertu de l'article 41, la Commission, en tant qu'administrateur de la Caisse, est subrogée dans ses droits et réclamations contre toute personne responsable du paiement de ce montant en vertu du paragraphe 50(1); tout montant recouvré par la Commission, à l'exception des frais de procédures, doit être payé au receveur général et porté au crédit de la Caisse.

Regulations

Règlements

Regulations

56. (1) For the purposes of this Part, the Board may, with the approval of the Governor in Council, recognizing standards established by or on the recommendation of other departments and agencies of government, make regulations

(*a*) for controlling, licensing and supervising the development, production, use and application of nuclear energy;

Règlements

56. (1) Aux fins de la présente Partie et tout en reconnaissant les normes établies par les autres ministères et agences du gouvernement ou sur leur recommandation, la Commission peut, avec l'approbation du gouverneur en conseil, établir des règlements

a) sur le contrôle et la surveillance du développement, de la production, des applications et des utilisations de l'énergie nucléaire et sur la délivrance de permis à cet égard;

(*b*) governing the design, siting, construction, installation, operation, modification and maintenance of nuclear facilities;

(*c*) respecting the exploration, development, mining, milling, refining and processing of uranium and thorium;

(*d*) controlling the production, importation, exportation, refining, possession, use, transfer and disposal of prescribed substances;

(*e*) controlling the importation, exportation, possession, use and transfer of prescribed equipment and prescribed technology;

(*f*) prescribing the manner in which prescribed substances are to be packaged and handled and prepared for transportation;

(*g*) requiring the keeping of records by the holder of a licence;

(*h*) for the purpose of maintaining national security, requiring that classes of information specified in the regulations relating to the production, use, application and control of, and research and investigation with respect to, nuclear energy not be disclosed, except as prescribed in the regulations;

(*i*) designating places as protected places and prescribing special precautions to be taken to protect prescribed substances, prescribed equipment, prescribed technology and nuclear facilities from being lost, stolen or destroyed or falling into the possession of unauthorized persons;

(*j*) prescribing classes of information that are exempt from disclosure pursuant to subsection 36(1);

(*k*) prescribing the conditions, including any evidence of financial responsibility, that may be attached to a site approval or licence;

(*l*) prescribing classes of persons who are exempt from the application of section 30;

(*m*) for the general protection of the public and of the environment from hazards associated with the operation of nuclear facilities or the production, possession, transportation and use of prescribed substances;

(*n*) prescribing standards of construction and operation of nuclear-powered vehicles or vehicles equipped with a nuclear reactor;

(*o*) providing for the protection of persons who because of their work or professional activity may come into contact with or may be exposed to prescribed substances;

(*p*) for controlling the wastes resulting from the operation of a nuclear facility or from the use or storage of prescribed substances;

b) sur la conception, l'emplacement, la construction, l'installation, la mise en service, la modification et l'entretien des établissements nucléaires;

c) concernant l'exploration relative à l'uranium et au thorium, leur mise en valeur, exploitation minière, affinage, traitement et le traitement du minerai qui en contient;

d) sur le contrôle de la production, l'importation, l'exportation, l'affinage, la possession, l'utilisation, le transfert et l'élimination des substances prescrites;

e) sur le contrôle de l'importation, l'exportation, la possession, l'utilisation et le transfert de matériel et de technologie visés;

f) prescrivant les méthodes d'empaquetage et de manutention des substances visées et de leur préparation en vue du transport;

g) pour obliger les titulaires de permis à tenir des registres;

h) dans le but de maintenir la sécurité nationale, prescrivant que certaines catégories de renseignements spécifiées dans les règlements concernant la production, l'utilisation, les applications et le contrôle de l'énergie nucléaire ou la recherche à son sujet ne soient divulgués que dans la mesure où ils le prévoient;

i) désignant certains endroits comme protégés et prescrivant les précautions spéciales à prendre pour empêcher que des substances, du matériel ou de la technologie visés et des établissements nucléaires ne soient perdus, volés, détruits ou ne tombent entre les mains de personnes non autorisées;

j) prescrivant les catégories de renseignements qui ne sont pas accessibles au public conformément au paragraphe 36(1);

k) prescrivant les modalités, y compris les preuves de solvabilité, dont peuvent être assortis les approbations d'emplacement et les permis;

l) dispensant certaines catégories de personnes de l'application de l'article 30;

m) généralement pour la protection du public et de l'environnement contre les dangers inhérents à la mise en service d'établissements nucléaires et à la production, la possession, le transport et l'utilisation des substances visées;

n) prescrivant des normes de construction et de mise en service des véhicules à propulsion nucléaire ou des véhicules équipés d'un réacteur nucléaire;

(*q*) *governing the abandonment or disposal of prescribed substances and nuclear facilities;*

(*r*) establishing safety standards or codes to be complied with by persons who have in their possession or control prescribed substances;

(*s*) requiring and providing for the training, examination and certification of persons employed in nuclear facilities or on premises where prescribed substances are used or stored and prescribing the qualifications required of such persons;

(*t*) for the inspection of nuclear facility *components during manufacture or* installation;

(*u*) for the conduct of inquiries relating to the use of prescribed substances, the operation of nuclear facilities and the decontamination of radioactively contaminated places, vehicles and premises;

(*v*) requiring and providing for the training, examination, designation and certification of inspectors;

(*w*) respecting the enforcement of measures of international control undertaken by Canada relating to the control of nuclear material, facilities, equipment, technology and information;

(*x*) respecting the perpetual care of prescribed substances and prescribed equipment;

(*y*) prescribing or designating anything that is by any other provision of this Part or by section 2 to be prescribed or designated by regulations; and

(*z*) *generally for carrying out the purposes* and provisions of this Part.

o) pour la protection des personnes qui, à cause de leur travail ou activité professionnelle, peuvent être en contact avec des substances visées ou peuvent être exposées à leurs effets;

p) pour le contrôle des déchets provenant des établissements nucléaires ou de l'utilisation ou du stockage des substances visées;

q) concernant l'abandon des substances visées et des établissements nucléaires ou la façon de s'en débarrasser;

r) établissant des normes de sécurité ou des codes que doivent respecter les personnes qui ont des substances visées en leur possession;

s) concernant la formation et la vérification des compétences des personnes employées dans des établissements nucléaires ou des endroits où des substances visées sont stockées ou utilisées et l'attribution de certificats à ces personnes;

t) pour l'inspection des composants d'établissements nucléaires durant leur fabrication ou leur installation;

u) pour la conduite d'enquêtes sur l'utilisation de substances visées, la mise en service d'établissements nucléaires et la décontamination des endroits, véhicules et des lieux contaminés par la radio-activité;

v) concernant la formation, la vérification des compétences et la nomination des inspecteurs ainsi que l'attribution de certificats à ces inspecteurs;

w) pour l'exécution des mesures internationales de contrôle auxquelles le Canada est partie en matière de contrôle des substances, des établissements, de l'équipement, de la technologie et de l'information qui concernent l'énergie nucléaire;

x) concernant l'entretien à perpétuité des substances et du matériel visés;

y) prescrivant ou désignant tout ce qui doit être prescrit ou désigné par les règlements en vertu d'une autre disposition de la présente Partie ou de l'article 2; et

z) d'une façon générale pour l'application de la présente Partie.

Publication of proposed regulation

(2) Subject to subsection (3), the Board shall publish in the *Canada Gazette* at least sixty days before the proposed effective date thereof a copy of every regulation that it proposes to make and a reasonable opportunity shall be afforded to interested persons to make representations to the Board with respect thereto.

Publication des projets de règlements

(2) Sous réserve du paragraphe (3), la Commission doit publier dans la *Gazette du Canada*, au moins soixante jours avant leur date prévue d'entrée en vigueur, une copie des règlements qu'elle se propose d'établir et elle doit offrir aux personnes intéressées une occasion raisonnable de lui présenter leurs observations.

Exception

(3) The Board is not required to publish a proposed regulation if the proposed regulation has been published pursuant to subsection (2) whether or not it has been amended as a result of representations made by interested persons as provided in that subsection.

Exception

(3) La Commission n'est pas obligée de publier un projet de règlement qui a déjà été publié conformément au paragraphe (2) qu'il ait ou non été modifié suite aux observations faites par des personnes intéressées conformément à ce paragraphe.

Review and Appeal

Revision et appel

Governor in Council may vary or review

57. (1) On the petition of any person who is directly affected by an order or decision of the Board received by the Clerk of the Privy Council within one month of the making of the order or decision, the Governor in Council may confirm, vary or rescind in whole or in part the order or decision.

57. (1) Le gouverneur en conseil peut confirmer, modifier ou annuler, en tout ou en partie, tout ordre ou toute décision de la Commission sur demande à cet effet de toute personne directement touchée par cet ordre ou cette décision présentée au greffier du Conseil privé dans le délai d'un mois après l'établissement de l'ordre ou de la décision.

Le gouverneur en conseil peut reviser

Appeal to the Federal Court

(2) An appeal lies from an order or decision of the Board to the Federal Court of Appeal on a question of law or a question of jurisdiction on leave therefor being obtained from that Court on application made within one month after the making of the order or decision sought to be appealed from or within such further time as a judge of that Court may allow.

(2) Il peut être interjeté appel devant la Cour d'appel fédérale contre un ordre ou une décision de la Commission, sur une question de droit ou de compétence, dès que l'autorisation en a été obtenue de la Cour, sur une requête présentée dans le délai d'un mois après l'établissement de l'ordre ou de la décision dont on veut appeler ou dans tel délai supplémentaire qu'un juge de cette Cour accorde.

Appel à la Cour fédérale

Idem

(3) No appeal lies after leave therefor has been obtained under subsection (2) unless it is entered in the Federal Court of Appeal within sixty days from the making of the order granting leave to appeal.

(3) Un appel autorisé conformément au paragraphe (2) doit être inscrit devant la Cour fédérale dans les soixante jours qui suivent l'autorisation.

Délai

Canada Labour Code

58. The provisions of Part IV of the *Canada Labour Code* and of the regulations made pursuant thereto apply to the operation of any nuclear facility, except as the Board may otherwise order.

58. Les dispositions de la Partie IV du *Code canadien du travail* et des règlements établis sous son régime s'appliquent aux établissements nucléaires, sauf directive contraire de la Commission.

Code canadien du travail

Annual Report

Rapport annuel

Annual report

59. (1) The Board shall, within three months after the 31st day of March in each year, submit to the Minister a report on the activities of the Board under this Part for that year.

59. (1) La Commission doit, dans les trois mois qui suivent le 31 mars de chaque année, présenter au Ministre le rapport annuel de ses activités sous le régime de la présente Partie.

Rapport annuel

Report laid before Parliament

(2) The Minister shall, on any of the first fifteen days that either House of Parliament is sitting after he receives it, lay before Parliament any report submitted to him by the Board pursuant to subsection (1).

(2) Le Ministre dépose devant le Parlement le rapport que lui présente la Commission conformément au paragraphe (1) l'un des quinze premiers jours de séance de l'une ou l'autre Chambre qui suivent sa réception.

Rapport déposé devant le Parlement

PART II

CONTROL OF COMMERCIAL AND PROMOTIONAL ACTIVITIES RELATED TO NUCLEAR ENERGY

PARTIE II

CONTRÔLE DES ACTIVITÉS COMMERCIALES ET PROMOTIONNELLES RELIÉES À L'ÉNERGIE NUCLÉAIRE

Interpretation

Interprétation

Definitions

60. In this Part,

60. Dans la présente Partie,

Définitions

"corporation"

"corporation" means a corporation incorporated pursuant to paragraph 65(1)(*a*) or (*c*) or the control of which is assumed by the Minister pursuant to paragraph 65(1)(*b*);

«corporation» désigne une corporation constituée en vertu des alinéas 65(1)*a*) ou *c*) ou dont le contrôle et la direction sont assumés par le Ministre en vertu de l'alinéa 65(1)*b*);

«corporation»

"licence" "licence" means a licence issued pursuant to subsection 66(2);

"Minister" "Minister" means such member of the Queen's Privy Council for Canada as is designated by the Governor in Council to act as the Minister for the purposes of this Part;

"regulation" "regulation" means any regulation made by the Governor in Council under section 67.

«Ministre» désigne le membre du Conseil privé de la Reine pour le Canada que le gouverneur en conseil désigne pour agir à titre de ministre aux fins de la présente Partie; «Ministre»

«permis» désigne un permis délivré en vertu du paragraphe 66(2); «permis»

«règlements» désigne les règlements établis par le gouverneur en conseil en vertu de l'article 67. «règlements»

Responsibility and Powers of the Minister

Responsabilité et pouvoirs du Ministre

Responsibility

61. The Minister is responsible for regulating and shall engage in commercial and promotional activities in relation to nuclear energy and prescribed substances.

61. Le Ministre est chargé de réglementer les activités commerciales et promotionnelles reliées à l'énergie nucléaire et aux substances visées; il doit participer auxdites activités. Responsabilité

Powers of the Minister

62. For the purposes of this Part, the Minister may, subject to the regulations,

(*a*) undertake or cause to be undertaken research with respect to nuclear energy and prescribed substances and the development of technology related thereto;

(*b*) utilize, cause to be utilized or assist others to utilize and prepare for the utilization of nuclear energy and prescribed substances;

(*c*) undertake or cause to be undertaken activities relating to

(i) production and marketing of prescribed substances,

(ii) the design, manufacture and marketing of equipment for the utilization of radioactive nuclides and radiation for medical, industrial and agricultural purposes,

(iii) the design, engineering, construction, operation and marketing of nuclear facilities, and

(iv) the design, engineering, construction, operation and marketing of facilities for the production, refining, processing, application and use of prescribed substances; and

(*d*) cooperate and maintain contact with agencies in other countries, international agencies or with any department or agency of the Government of Canada or of any province on matters related to the production, use, application and control of, and the conduct of research with respect to, nuclear energy and prescribed substances.

62. Aux fins de la présente Partie et sous réserve des règlements, le Ministre peut Pouvoirs du Ministre

a) entreprendre ou faire entreprendre des recherches sur l'énergie nucléaire, sur les substances visées et sur le développement de la technologie nucléaire;

b) utiliser ou faire utiliser l'énergie nucléaire et les substances visées ou se préparer à leur utilisation;

c) entreprendre ou faire entreprendre des activités en matière

(i) de production et de mise en marché des substances visées,

(ii) de conception, de fabrication et de mise en marché d'équipement pour l'utilisation des radionucléides et des rayonnements à des fins médicales, industrielles et agricoles,

(iii) de conception, d'ingénierie, de construction, de mise en service et de mise en marché des établissements nucléaires, et

(iv) de conception, d'ingénierie, de construction, de mise en service et de *mise en marché des établissements* de production, d'affinage, de traitement, *des applications* et des utilisations des substances visées; et

d) coopérer et maintenir des relations avec les agences des autres pays, les agences internationales ou avec les ministères ou organismes du gouvernement du Canada ou d'une province sur tout sujet qui concerne la production, l'utilisation, les applications et le contrôle de l'énergie nucléaire *et des substances visées ou la recherche* dans ces domaines.

Idem

63. For the purposes of this Part, the Minister may, subject to the regulations,

(*a*) explore for prescribed substances;

(*b*) acquire or cause to be acquired by purchase, lease or expropriation or by any other means, prescribed substances, nuclear facilities or any deposit or any right or interest in any such deposit of prescribed substances;

(*c*) lease, loan, sell or otherwise dispose of prescribed substances, nuclear facilities or any deposit or any right or interest in any such deposit of prescribed substances;

(*d*) acquire or cause to be acquired by purchase, lease or by any other means any patent rights relating to nuclear energy and prescribed substances; and

(*e*) permit the use of or sell or otherwise dispose of

(i) any discovery or invention,

(ii) any improvements in any process, apparatus or machine, or

(iii) any patent rights

relating to nuclear energy, nuclear facilities or prescribed substances and collect royalties and fees thereon and payments therefor.

Idem

63. Aux fins de la présente Partie et sous réserve des règlements, le Ministre peut

a) s'adonner à l'exploration relativement aux substances visées;

b) acheter, louer, exproprier ou autrement acquérir, ou faire acquérir, des substances visées, des établissements nucléaires, des gisements de substances visées ou des droits ou intérêts dans de tels gisements;

c) louer, prêter, vendre ou autrement aliéner des substances visées, des établissements nucléaires, des gisements de substances visées ou des droits ou intérêts dans de tels gisements;

d) acheter, louer ou autrement acquérir, ou faire acquérir, des droits de propriété industrielle reliés à l'énergie nucléaire ou aux substances visées; et

e) vendre ou autrement aliéner

(i) toute découverte ou invention,

(ii) toute amélioration apportée à quelque procédé, appareil ou machine que ce soit, ou

(iii) tout droit de propriété industrielle

reliés à l'énergie nucléaire, aux établissements nucléaires ou aux substances visées ou en autoriser l'utilisation et en percevoir des redevances, des droits ou des paiements.

Expropriation

64. (1) Where in the opinion of the Minister the taking or acquisition of any land, within the meaning assigned to that expression by the *Expropriation Act*, or interest therein by Her Majesty in right of Canada without the consent of the owner is required for the purposes of this Part, the Minister shall so advise the appropriate Minister in relation to Part I of the *Expropriation Act*.

Expropriation

64. (1) Lorsque le Ministre est d'avis que la prise de possession ou l'acquisition, par Sa Majesté du chef du Canada, d'un immeuble au sens que donne à cette expression la *Loi sur l'expropriation* ou d'un droit y afférent, sans le consentement de son propriétaire ou titulaire, est nécessaire aux fins de la présente Partie, il doit en aviser le Ministre compétent aux fins de la Partie I de la *Loi sur l'expropriation.*

Idem

(2) For the purposes of the *Expropriation Act*, any land or interest therein that, in the opinion of the Minister in relation to Part I of the *Expropriation Act* is required for the purposes of this Part shall be deemed to be land or an interest therein that, in his opinion, is required for a public work or other public purpose, and, in relation thereto, a reference to the Crown in that Act shall be construed as a reference to the Minister.

Idem

(2) Aux fins de la *Loi sur l'expropriation*, tout immeuble ou droit y afférent, qui, de l'avis du Ministre mentionné à la Partie I de la *Loi sur l'expropriation*, est nécessaire aux fins de la présente Partie, est censé être un immeuble ou un droit y afférent dont, à son avis, on a besoin pour un ouvrage public ou à une autre fin d'intérêt public, et, à cet égard une mention de la Couronne dans cette loi doit s'interpréter comme une mention du Ministre.

Corporations

Corporations

65. (1) The Minister may, with the approval of the Governor in Council,

(*a*) procure the incorporation of corporations under the *Canada Business Corporations Act* to exercise and perform on behalf of the Minister such of the powers conferred on him by sections 61, 62 and 63 as he may direct;

(*b*) assume the direction and control of bodies corporate whose shares are owned by Her Majesty in right of Canada and delegate to such bodies corporate such of the powers conferred on him by sections 61, 62 and 63 as he may direct;

(*c*) procure the incorporation in Canada of holding corporations; and

(*d*) authorize a corporation to incorporate or otherwise establish subsidiary corporations.

Shares to be held in trust for Her Majesty

(2) The shares of a corporation shall be owned or held by the Minister, or by another corporation, in trust for Her Majesty in right of Canada.

Agent of Her Majesty

(3) A corporation is for all purposes an agent of Her Majesty and its powers may be exercised only as an agent of Her Majesty.

Contracts

(4) A corporation may, on behalf of Her Majesty, contract in its corporate name without specific reference to Her Majesty.

Proceedings by and against a corporation

(5) Actions, suits or other legal proceedings in respect of any right or obligation acquired or incurred by a corporation on behalf of Her Majesty, whether in its name or in the name of Her Majesty, may be brought or taken by or against the corporation in the name of the corporation in any court that would have jurisdiction if the corporation were not an agent of Her Majesty.

No limitation

(6) Nothing in this section limits the right of a corporation to exercise any power it possesses under the statute or instrument by or pursuant to which it was incorporated.

Prohibitions

Prohibitions

66. (1) No person shall, unless he is a member of a class of persons who are exempted from the application of this subsection by the regulations, explore for, extract, mine, mill, produce, import, export, refine, process, possess, own, use, sell or otherwise dispose of prescribed substances unless he holds a licence issued pursuant to subsection (2).

Corporations

65. (1) Le Ministre peut, avec l'approbation du gouverneur en conseil, Corporations

a) voir à la constitution de corporations en vertu de la *Loi sur les corporations commerciales canadiennes* afin qu'elles exercent en son nom ceux des pouvoirs que les articles 61, 62 et 63 lui confèrent qu'il peut déterminer;

b) assumer la direction et le contrôle de personnes morales dont les actions appartiennent à Sa Majesté du chef du Canada et leur déléguer ceux des pouvoirs que les articles 61, 62 et 63 lui confèrent qu'il peut déterminer;

c) voir à la constitution en corporation au Canada de sociétés de gestion; et

d) autoriser une corporation à constituer d'une façon ou d'une autre des filiales.

Les actions doivent être détenues en fiducie pour Sa Majesté

(2) Les actions d'une corporation doivent appartenir au Ministre ou être détenues par lui ou par une autre compagnie en fidéicommis pour Sa Majesté du chef du Canada.

Mandataire de Sa Majesté

(3) Les corporations sont, à toutes fins, mandataires de Sa Majesté et elles ne peuvent exercer qu'à ce titre les pouvoirs dont elles sont investies.

Contrats

(4) Les corporations peuvent, pour le compte de Sa Majesté, conclure des contrats en leur nom propre sans mention spécifique de Sa Majesté.

Procédures par ou contre une corporation

(5) Les actions, poursuites ou autres procédures judiciaires concernant un droit acquis ou une obligation contractée par une corporation pour le compte de Sa Majesté, soit en son propre nom, soit au nom de Sa Majesté, peuvent être intentées ou engagées par ou contre la corporation, au nom de Sa Majesté, devant tout tribunal qui serait compétent si la corporation n'était pas mandataire de Sa Majesté.

Pas de restriction

(6) Le droit d'une corporation d'exercer les pouvoirs qu'elle détient conformément à la loi ou à l'instrument d'incorporation qui l'a créée n'est pas limité par le présent article.

Interdictions

Interdictions

66. (1) A moins d'exemption prévue par les règlements ou à moins d'être détenteur d'un permis à cet effet délivré par le Ministre en vertu du paragraphe (2), il est interdit d'extraire, de produire, d'importer, d'exporter, d'affiner, de traiter, de posséder, d'être propriétaire, d'utiliser, de vendre ou autrement de se débarrasser des substances visées ou de se livrer à des activités d'exploration, d'exploitation minière ou de traitement de minerai, relatives à ces substances.

Licences

(2) The Minister may issue a licence to any applicant therefor in accordance with such procedures and subject to such terms and conditions as may be prescribed by the regulations.

Idem

(3) The Minister may amend, renew, suspend or revoke a licence, subject to such procedures as may be prescribed by the regulations.

Regulations

Regulations

67. The Governor in Council may make regulations

(*a*) to encourage and facilitate research and investigations with respect to nuclear energy and prescribed substances;

(*b*) respecting the development, production, use and application of nuclear energy and the exploration for, extraction, mining, milling, production, importation, exportation, refining, processing, possession, ownership, use, sale, lease, loan or other disposition of prescribed substances;

(*c*) prescribing classes of contracts entered into by corporations for which approval by the Governor in Council is required;

(*d*) respecting information relating to nuclear energy and prescribed substances;

(*e*) prescribing classes of persons who are exempt from the application of subsection 66(1);

(*f*) prescribing the procedure to be followed for the issuance, amendment, renewal, suspension or revocation of a licence and the terms and conditions that may be attached to such a licence; and

(*g*) generally for carrying out the purposes and provisions of this Part.

Permis

(2) Le Ministre peut délivrer des permis à qui le demande conformément à la procédure et sous réserve des modalités que peuvent prévoir les règlements.

Idem

(3) Sous réserve des règles de procédure qui peuvent être prescrites par les règlements, le Ministre peut modifier, renouveler, suspendre ou annuler un permis.

Règlements

Règlements

67. Le gouverneur en conseil peut établir des règlements,

a) pour faciliter et encourager la recherche en matière d'énergie nucléaire et de substances visées;

b) sur la mise en valeur, la production, les applications et l'utilisation de l'énergie nucléaire, sur l'extraction, la production, l'importation, l'exportation, l'affinage, le traitement, la possession, la propriété, l'utilisation, la vente, le prêt, le louage et les autres formes d'aliénation des substances visées et sur les activités d'exploration, d'exploitation minière ou de traitement de minerai, relatives à ces substances;

c) sur les catégories de contrats que les corporations ne peuvent conclure sans l'approbation du gouverneur en conseil;

d) sur la diffusion d'information concernant l'énergie nucléaire et les substances visées;

e) prescrivant les catégories de personnes qui sont exemptes de l'application du paragraphe 66(1);

f) prescrivant la procédure à suivre pour la délivrance, la modification, le renouvellement, la suspension ou l'annulation des permis et les modalités dont ils peuvent être assortis; et

g) d'une façon générale pour l'application de la présente Partie.

PART III

GENERAL

Offences and Punishment

Offences and punishment

68. (1) Any person who contravenes a provision of this Act or the regulations is guilty of an offence and is liable

(*a*) on summary conviction, to a fine of not less than one thousand dollars and not more than one hundred thousand dollars or to imprisonment for a term of two years or to both fine and imprisonment; or

PARTIE III

DISPOSITIONS GÉNÉRALES

Infractions et peines

Infractions et peines

68. (1) Quiconque contrevient à une disposition de la présente loi ou des règlements est coupable d'une infraction et passible

a) sur déclaration sommaire de culpabilité, d'une amende minimale de mille dollars mais d'au plus cent mille dollars et d'une peine d'emprisonnement de deux ans ou de l'une de ces peines; ou

(*b*) on conviction on indictment, to a fine of not less than one thousand dollars and not more than two hundred and fifty thousand dollars or to imprisonment for five years or to both fine and imprisonment.

b) sur déclaration de culpabilité par voie de mise en accusation, d'une amende minimale de mille dollars mais d'au plus deux cent cinquante mille dollars et d'une peine d'emprisonnement de cinq ans ou de l'une de ces peines.

Idem

(2) Any person who contravenes a provision of section 10, 43 or 44 is guilty of an offence and is liable on summary conviction to a fine of not more than five thousand dollars or to imprisonment for six months or to both.

(2) Quiconque contrevient à une disposition des articles 10, 43 ou 44 est coupable d'une infraction et passible sur déclaration sommaire de culpabilité d'une amende maximale de cinq mille dollars et d'un emprisonnement de six mois ou de l'une de ces peines.

Idem

Illegal possession

(3) Any person who has in his possession any fissionable substance without being the holder of a licence issued under Part I authorizing him to have such substance in his possession is guilty of an indictable offence and liable to imprisonment for ten years.

(3) Est coupable d'un acte criminel et passible d'un emprisonnement de dix ans, quiconque a en sa possession des matières fissiles sans être détenteur d'un permis délivré en vertu de la Partie I l'autorisant à avoir ces substances en sa possession.

Possession illégale

Trial of offences

69. A complaint or information in respect of an offence under this Act may be heard, tried and determined by a court if the accused is resident or carrying on business within the territorial jurisdiction of that court although the subject-matter of the complaint or information did not arise in that territorial jurisdiction.

69. Est compétent pour connaître de toute plainte ou dénonciation en matière d'infraction à la présente loi, indépendamment du lieu de sa perpétration, le tribunal dans le ressort duquel le prévenu réside ou exerce une activité commerciale.

Tribunal compétent

Offence by employee or agent

70. In any prosecution for an offence under this Act, it is sufficient proof of the offence to establish that it was committed by an employee or agent of the accused whether or not the employee or agent is identified or has been prosecuted for the offence, unless the accused establishes that the offence was committed without his knowledge or consent and that he exercised all due diligence to prevent its commission.

70. Dans toute poursuite consécutive à une infraction à la présente loi, il suffit, pour établir l'infraction, de prouver qu'elle a été commise par un employé ou un mandataire du prévenu, que l'employé ou le mandataire ait ou non été identifié ou poursuivi pour l'infraction, à moins que le prévenu ne prouve que l'infraction a été commise à son insu ou sans son consentement et qu'il avait pris toutes les mesures nécessaires pour en empêcher la perpétration.

Infractions commises par les employés ou mandataires

Copies and extracts as evidence

71. (1) Subject to subsections (2) and (3), a copy or extract made by an inspector pursuant to section 42 and purporting to be certified under his signature as a true copy or extract is admissible in evidence in any prosecution for an offence under this Act and, in the absence of any evidence to the contrary, is proof of the statements contained therein without proof of the signature or the official character of the person appearing to have signed the copy or extract.

71. (1) Sous réserve des paragraphes (2) et (3), les copies ou extraits exigés par un inspecteur en vertu de l'article 42 et certifiés conformes apparemment par sa signature sont recevables en preuve dans toute procédure consécutive à une infraction à la présente loi et, en l'absence de preuve contraire, font preuve de leur contenu sans qu'il soit nécessaire d'authentifier la signature ni d'établir la qualité officielle du signataire.

Preuve

Attendance of inspector

(2) The party against whom any copy or extract is produced pursuant to subsection (1) may, with leave of the court, require the attendance of the inspector for the purposes of cross-examination.

(2) Toute partie contre laquelle des copies ou extraits sont produits conformément au paragraphe (1) peut, avec l'autorisation du tribunal, demander la comparution de l'inspecteur afin de le contre-interroger.

Comparution

Notice

(3) No copy or extract referred to in subsection (1) shall be received in evidence unless the party intending to produce it has given to the party against whom it is intended to be produced reasonable notice of such intention together with a duplicate of the copy or extract.

(3) Les copies ou extraits visés au paragraphe (1) ne sont recevables en preuve que si la partie ayant l'intention de les produire a donné à l'autre partie un avis de son intention dans un délai raisonnable, assorti d'un exemplaire des copies ou extraits.

Avis

Transitional and Repeal

Repeal of R.S., c. A-19

72. The *Atomic Energy Control Act* is repealed.

References to Atomic Energy Control Board and *Atomic Energy Control Act*

73. Wherever in any contract, instrument, licence or other document the Atomic Energy Control Board or the *Atomic Energy Control Act* is mentioned or referred to, there shall in every case, unless the context otherwise requires, be substituted the Nuclear Control Board or the *Nuclear Control and Administration Act*, as the case may be.

Members of the Atomic Energy Control Board

74. (1) On the coming into force of this Act, a person who, immediately before the coming into force of this Act, was a member of the Atomic Energy Control Board becomes a member of the Nuclear Control Board with like effect as though he had been appointed thereto under this Act on the day that he was last appointed to the Atomic Energy Control Board for a term equal to the term for which he was then appointed.

Employees of the Atomic Energy Control Board

(2) On the coming into force of this Act, the officers and employees of the Atomic Energy Control Board are transferred to the Nuclear Control Board.

Corporation controlled by the Minister

75. Every corporation incorporated, or the direction and control of which was assumed, pursuant to subsection 10(2) of the *Atomic Energy Control Act* by the Minister designated by the Governor in Council pursuant to section 2 of that Act is deemed to be a corporation incorporated or the direction and control of which is assumed pursuant to subsection 65(1) by the Minister designated by the Governor in Council pursuant to section 60.

Consequential Amendments

1953-54, c. 47

76. *An Act to amend the Atomic Energy Control Act* is repealed.

1974-75-76, c. 33

77. Section 263 of the *Canada Business Corporations Act* is repealed.

R.S., c. F-10

78. Schedule B to be *Financial Administration Act* is amended by deleting therefrom the "Atomic Energy Control Board".

R.S., c. H-3

79. Paragraph 15(*d*) of the *Hazardous Products Act* is repealed and the following substituted therefor:

Dispositions transitoires et abrogation

Abrogation S.R., c. A-19

72. La *Loi sur le contrôle de l'énergie atomique* est abrogée.

Références à la Commission de contrôle de l'énergie atomique et à la *Loi sur le contrôle de l'énergie atomique*

73. Toute référence, dans un contrat, un acte, un permis ou autre document à la Commission de contrôle de l'énergie atomique ou à la *Loi sur le contrôle de l'énergie atomique* doit, à moins que le contexte ne s'y oppose, être remplacée par une référence à la Commission de contrôle nucléaire ou à la *Loi sur le contrôle et l'administration nucléaires*.

Membres de la Commission de contrôle de l'énergie atomique

74. (1) Dès l'entrée en vigueur de la présente loi, quiconque était jusque-là membre de la Commission de contrôle de l'énergie atomique devient membre de la Commission de contrôle nucléaire, comme s'il y avait été nommé en vertu de la présente loi, pour une durée égale à celle pour laquelle il a été nommé, à la date de sa dernière nomination à la Commission de contrôle de l'énergie atomique.

Employés de la Commission de contrôle de l'énergie atomique

(2) Dès l'entrée en vigueur de la présente loi, les cadres et employés de la Commission de contrôle de l'énergie atomique sont mutés à la Commission de contrôle nucléaire.

Corporations contrôlées par le Ministre

75. Toute corporation incorporée ou dont la direction ou le contrôle a été assumé en vertu du paragraphe 10(2) de la *Loi sur le contrôle de l'énergie atomique* par le Ministre désigné par le gouverneur en conseil en vertu de l'article 2 de cette loi est présumée être une corporation incorporée ou dont la direction et le contrôle est assumé en vertu du paragraphe 65(1) par le Ministre désigné par le gouverneur en conseil en vertu de l'article 60.

Modifications consécutives

1953-54, c. 47

76. La *Loi modifiant la Loi sur le contrôle de l'énergie atomique* est abrogée.

1974-75-76, c. 33

77. L'article 263 de la *Loi sur les corporations commerciales canadiennes* est abrogé.

S.R., c. F-10

78. L'annexe B de la *Loi sur l'administration financière* est modifiée par la suppression de la «Commission de contrôle de l'énergie atomique».

S.R., c. H-3

79. L'alinéa 15*d*) de la *Loi sur les produits dangereux* est abrogé et remplacé par ce qui suit:

"(*d*) a prescribed substance within the meaning of the *Nuclear Control and Administration Act*."

«*d*) une substance visée au sens où l'entend la *Loi sur le contrôle et l'administration nucléaires*.»

R.S., c. P-4

80. The heading preceding section 22 and section 22 of the *Patent Act* are repealed and the following substituted therefor:

80. L'article 22 de la *Loi sur les brevets* ainsi que la rubrique qui le précède sont abrogés et remplacés par ce qui suit:

S.R., c. P-4

"PATENTS RELATING TO NUCLEAR ENERGY

«BREVETS RELATIFS À L'ÉNERGIE NUCLÉAIRE

Communication to Nuclear Control Board

22. Any patent application for an invention that, in the opinion of the Commissioner, relates to the production, application or use of nuclear energy shall, before it is dealt with by an examiner appointed pursuant to section 6, be communicated by the Commissioner to the Nuclear Control Board."

22. Toute demande de brevet pour une invention qui, de l'avis du commissaire, concerne la production, l'application ou l'emploi de l'énergie nucléaire, doit, avant qu'un examinateur nommé conformément à l'article 6 ne l'étudie, être communiquée par le commissaire à la Commission de contrôle nucléaire.»

Communication à la Commission de contrôle nucléaire

R.S., c. P-31

81. Subsection 8(2) of the *Public Servants Inventions Act* is repealed and the following substituted therefor:

81. Le paragraphe 8(2) de la *Loi sur les inventions des fonctionnaires* est abrogé et remplacé par ce qui suit:

S.R., c. P-31

Restrictions

"(2) No interest in an invention coming within section 20 or 21 of the *Patent Act* shall be waived, abandoned or transferred under this section without the approval of the Minister of National Defence, and no interest in an invention coming within section 22 of that Act shall be waived, abandoned or transferred under this section without the approval of the Nuclear Control Board."

«(2) Aucun intérêt dans une invention visée par l'article 20 ou 21 de la *Loi sur les brevets* ne doit faire l'objet d'une renonciation, d'un abandon ou d'un transfert sous le régime du présent article sans l'approbation du ministre de la Défense nationale, et aucun intérêt dans une invention ressortissant à l'article 22 de ladite loi ne doit faire l'objet d'une renonciation, d'un abandon ou d'un transfert aux termes du présent article, sans l'approbation de la Commission de contrôle nucléaire.»

Restrictions

R.S., c. 29 (1st Supp.)

82. (1) All that portion of the definition "nuclear installation" in section 2 of the *Nuclear Liability Act* preceding paragraph (*a*) thereof is repealed and the following substituted therefor:

82. (1) La partie de la définition d'«installation nucléaire» à l'article 2 de la *Loi sur la responsabilité nucléaire* qui précède l'alinéa *a*) est abrogée et remplacée par ce qui suit:

S.R., c. 29 (1st Supp.)

"nuclear installation" «installation nucléaire»

" "nuclear installation" means a structure, establishment or place, or two or more structures, establishments or places at a single location, coming within any following description and designated as a nuclear installation for the purposes of this Act by the Nuclear Control Board, namely:"

« «installation nucléaire» désigne un assemblage, un établissement ou un lieu ou deux ou plusieurs assemblages, établissements ou lieux en un même endroit tombant dans l'une des catégories suivantes et désignée comme installation nucléaire aux fins de la présente loi par la Commission de contrôle nucléaire,»

«installation nucléaire» "*nuclear...*"

R.S., c. 29 (1st Supp.)

(2) The definition "operator" in section 2 of the said Act is repealed and the following substituted therefor:

(2) La définition d'«exploitant» à l'article 2 de ladite loi est abrogée et remplacée par ce qui suit:

S.R., c. 29 (1st Supp.)

"operator" «exploitant»

" "operator" means the holder of a subsisting licence issued pursuant to the *Nuclear Control and Administration Act* for the operation of a nuclear installation, or, in relation to any nuclear installation for the operation of which there is no such subsisting licence, the recipient of the licence last issued pursuant to the *Nuclear Control and Administration Act* for the operation of the nuclear installation."

« «exploitant» désigne le titulaire d'un permis valide délivré en conformité de la *Loi sur le contrôle et l'administration nucléaires*, pour l'exploitation d'une installation nucléaire, ou pour toute installation nucléaire dont l'exploitation n'est pas régie par un permis valide semblable, le titulaire du dernier en date des permis délivrés en conformité de la *Loi sur le contrôle et l'administration nucléaires* pour l'exploitation de cette installation nucléaire;»

«exploitant» "*operator*"

R.S., c. 29 (1st Supp.)

(3) Paragraph 14(1)*b*) of the French version of the said Act is repealed and the following substituted therefor:

"*b*) lorsque l'accident nucléaire donnant lieu à l'action, a entraîné des blessures ou des dommages occasionnés dans des lieux où plus d'un tribunal aurait autrement été compétent en vertu du présent paragraphe, au lieu où était située l'installation nucléaire dans laquelle l'accident nucléaire est intervenu, ou accessoirement à laquelle il est intervenu ou, s'il s'agit d'une installation nucléaire qui faisait partie de l'équipement d'un navire, d'un aéronef ou autre moyen de transport, au lieu où elle a été déclarée être située aux fins du présent article par le permis visé à la définition d'«opérateur» à l'article 2 se rapportant à cette installation nucléaire,"

S.R., c. 29 (1st Supp.)

(3) L'alinéa 14(1)*b*) de la version française de ladite loi est abrogé et remplacé par ce qui suit:

«*b*) lorsque l'accident nucléaire donnant lieu à l'action, a entraîné des blessures ou des dommages occasionnés dans des lieux où plus d'un tribunal aurait autrement été compétent en vertu du présent paragraphe, au lieu où était située l'installation nucléaire dans laquelle l'accident nucléaire est intervenu, ou accessoirement à laquelle il est intervenu ou, s'il s'agit d'une installation nucléaire qui faisait partie de l'équipement d'un navire, d'un aéronef ou autre moyen de transport, au lieu où elle a été déclarée être située aux fins du présent article par le permis visé à la définition d'«opérateur» à l'article 2 se rapportant à cette installation nucléaire,»

R.S., c. 29 (1st Supp.)

(4) Paragraph 15(1)(*a*) of the said Act is repealed and the following substituted therefor:

"(*a*) basic insurance for such term and for such amount not exceeding seventy-five million dollars as may be prescribed with respect to that nuclear installation by the Nuclear Control Board, with the approval of the Treasury Board, and"

S.R., c. 29 (1st Supp.)

(4) L'alinéa 15(1)*a*) de ladite loi est abrogé et remplacé par ce qui suit:

«*a*) une assurance de base pour la période et un montant ne dépassant pas soixante-quinze millions de dollars que la Commission de contrôle nucléaire avec l'approbation du conseil du Trésor, peut lui prescrire pour cette installation nucléaire; et»

R.S., c. P-35

83. Part II of Schedule I to the *Public Service Staff Relations Act* is amended by deleting therefrom the "Atomic Energy Control Board" and by adding thereto the "Nuclear Control Board".

S.R., c. P-35

83. La Partie II de l'annexe I de la *Loi sur les relations de travail dans la Fonction publique* est modifiée en remplaçant l'expression «Commission de contrôle de l'énergie atomique» par l'expression «Commission de contrôle nucléaire».

R.S., c. P-36

84. Part I of Schedule A to the *Public Service Superannuation Act* is amended by deleting therefrom the "Atomic Energy Control Board" and by adding thereto the "Nuclear Control Board".

S.R., c. P-36

84. La Partie I de la *Loi sur la pension dans la Fonction publique* est modifiée en remplaçant l'expression «Commission de contrôle de l'énergie atomique» par l'expression «Commission de contrôle nucléaire».

R.S., c. 34 (1st Supp.)

85. Section 3 of the *Radiation Emitting Devices Act* is repealed and the following substituted therefor:

Application

"3. This Act does not apply to any radiation emitting device that is designed primarily for the production of nuclear energy within the meaning of the *Nuclear Control and Administration Act*."

S.R., c. 34 (1st Supp.)

85. L'article 3 de la *Loi sur les dispositifs émettant des radiations* est abrogé et remplacé par ce qui suit:

Application

«3. La présente loi ne s'applique pas à un dispositif émettant des radiations essentiellement destiné à la production de l'énergie nucléaire au sens où l'entend la *Loi sur le contrôle et l'administration nucléaires*».

COMING INTO FORCE

Coming into force

86. This Act shall come into force on a day to be fixed by proclamation.

ENTRÉE EN VIGUEUR

Entrée en vigueur

86. La présente loi entre en vigueur à une date fixée par proclamation.