NUCLEAR LAW Bulletin

number 31

Contents

This Bulletin includes a supplement

June 1983

Nuclear Energy Agency
Organisation for Economic Co-operation and Development

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

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

The Signatories of the Convention on the OECD are Austria, Belgium, Canada, Denmark, France, the Federal Republic of Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States The following countries acceded subsequently to this Convention (the dates are those on which the instruments of accession were deposited) Japan (28th April, 1964), Finland (28th January, 1969), Australia (7th June, 1971) and New Zealand (29th May, 1973)

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

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

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

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

This is achieved by

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

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

LEGAL NOTICE

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LEGISLATIVE AND REGULATORY ACTIVITIES

• *Brazil*

REGIME OF NUCLEAR INSTALLATIONS

1983 Resolution of the Nuclear Energy Commission concerning safety and radiation protection reports for nuclear power plants

Resolution No 01/83 was issued by the Nuclear Energy Commission (CNEN) on 13th January 1983 and published in the Official Gazette of 17th February 1983

The purpose of the Resolution is to establish conditions with a view to standardising reports concerning nuclear power plants which are required by the CNEN for evaluating activities related to nuclear safety and radiation protection during plant operation

1983 Resolution of the Nuclear Energy Commission concerning safety analysis reports for uranium hexafluoride production plants

Resolution No. 02/83 was issued by the Nuclear Energy Commission, also on 13th January 1983 and published in the Official Gazette of 17th February 1983.

The purpose of this Resolution is to establish a model to be followed in the preparation of safety analysis reports for uranium hexafluoride production plants. The reports, which are required in accordance with the licensing procedure, must contain information on the design and construction of the plant concerned as well as the site characteristics.

• *Canada*

REGIME OF RADIOACTIVE MATERIALS

Physical Security Regulations of 1983

The Physical Security Regulations (SOR/83-77) of 14th January 1983 were published in the Canada Gazette of 26th January 1983 (Part II, Vol. 117, No. 2). The Regulations establish and require the maintenance of security systems, equipment and procedures to implement Canada's international obligations regarding security at those nuclear facilities.

The Regulations, which determine the different areas in a nuclear facility, provide for the establishment of security barriers around the "protected areas" occupied by facilities and prescribe that the licensees (operators) are required to keep the facilities for which they hold a licence under constant surveillance. They must also make arrangements for a response force - a local, provincial or federal police force detachment or similar force - to provide assistance where necessary.

No person may enter a protected area without written authorisation from the licensee concerned. Inspectors appointed under the Atomic Energy Control Regulations or designated under an agreement between Canada and the International Atomic Energy Agency may be granted an authorisation to enter such areas to discharge their duties

The Regulations will enter into force as from 1st December 1983 for certain facilities and at a later date for the others

The text of the Regulations is reproduced in the Supplement to this issue of the Bulletin.

• *Chile*

NUCLEAR LEGISLATION

Bill on nuclear safety and radiation protection (1982)

As a result of the advisory services in nuclear legislation provided by the International Atomic Energy Agency (IAEA) to the Chilean Nuclear Energy Commission in 1981, a bill on nuclear safety and radiation protection was sent on 4th October 1982 by the President of the Republic to the Government's Council - which is vested with legislative powers - for approval prior to enactment into law. The purpose of this law is to regulate, control and supervise all activities involving the development, production, possession and use of radioactive materials and nuclear energy in order·

- to protect the health and safety of persons, properties and the environment from the risks associated with such activities,

- to prevent the unlawful taking and use of radioactive material that could endanger public security,

- to ensure financial compensation for nuclear damage which could arise from certain peaceful uses of nuclear energy, and

- to ensure compliance with the international obligations deriving from agreements and international conventions to which Chile is a Party.

The bill provides for a comprehensive licensing and regulatory control system covering radiation and nuclear installations as well as other uses of radioactive materials. It establishes the Chilean Nuclear Energy Commission as the nuclear regulatory authority.

Provisions on nuclear liability are based on the Vienna Convention on Civil Liability for Nuclear Damage The operator's maximum liability is fixed at the equivalent in national currency to 25 million US dollars, which will be automatically indexed in percentage to the variations of the Special Drawing Rights established by the International Monetary Fund and as obtaining between the date of promulgation of the law and that of a nuclear accident resulting in the payment of compensation for nuclear damage.

Pending the enactment of the law that may be expected for 1983, implementing regulations are under preparation by the Chilean Nuclear Energy Commission with the advice and assistance of the IAEA under its Technical Co-operation Programme. Such regulations cover the licensing of radioactive materials, radiation installations and nuclear installations, physical protection and a national system of materials accounting and control

• *Finland*

ORGANISATION AND STRUCTURE

1983 Provisional Act concerning taxation of nuclear electricity-generating companies

In February 1983, the Finnish Parliament adopted a Provisional Act (No. 222/83) valid for the period 1982-83, which applies with respect to taxation of nuclear electricity-generating companies

The purpose of the Act is to ensure that funds to meet nuclear waste management costs are available; the Minister of Trade and Industry required that such reserves be constituted as from 1979. To this effect, the Act provides that the companies concerned may deduct from their taxes the reserves they have made for nuclear waste management purposes

• *France*

ORGANISATION AND STRUCTURE

1982 Decree creating a Central Office for repression of illicit trading in explosives, nuclear materials etc.

Decree No 82-1050 of 13th December 1982 (published in the Official Gazette of 15th December 1982) creates a Central Office for repression of illicit trading in weapons, ammunition, explosives and biological and chemical nuclear materials

The Central Office has been set up within the Ministry of the Interior (Police Department, Criminal Branch) It is responsible for protecting the State and the national territory against criminal acts, conspiracies and terrorism and is vested with the necessary powers to perform its duties It co-operates with the other ministries and services concerned in the study of measures to prevent unlawful use of weapons and nuclear materials

• *Italy*

RADIATION PROTECTION

1983 Act to amend regulations governing the activities of technicians in medical radiology

Act No 25 of 31st January 1983 (published in the Official Gazette of 9th February 1983) amends Act No. 1103 of 4th August 1965 and Decree No 680 of 6th March 1968 of the President of the Republic regulating the activities of auxiliary personnel engaged in medical radiology.

The Act establishes new conditions for training and qualifications of such technicians in respect of radiodiagnosis, radiotherapy and nuclear medicine. They have been given greater and more detailed duties with a view to closer co-operation with radiologists and physicians. In addition, they are called upon to co-operate with experts responsible for supervising radiation protection in accordance with the laws in force, notably Decree No. 185 of 13th February 1964 of the President of the Republic concerning radiation protection.

REGIME OF NUCLEAR INSTALLATIONS

1983 Act to amend the 1975 Act on requirements for the siting of nuclear electricity-generating plants

Act No 8 of 10th January 1983 (published in the Official Gazette of 14th January 1983) provides for the allocation of contributions to Communes and Regions where electricity-generating plants (with the exception of those fuelled by hydrocarbons) are located

The licensing procedure for siting of nuclear power plants under Act No 393 of 2nd August 1975 (see Nuclear Law Bulletin No 16) has now been amended by the 1983 Act. This new Act provides for intervention by the Interministerial Committee for Economic Planning (CIPE) in the determination of sites for nuclear power plants in Regions in cases where the latter have not determined a location within the time-limit prescribed by the 1975 Act. It is also provided that the National Electricity Board (ENEL) shall organise, in the Communes concerned, public information hearings as well as publish the documents required regarding the safety and environmental protection aspects of the site in question

REGIME OF RADIOACTIVE MATERIALS

1982 Decree on conditions for possession of special fissile materials and source materials

This Decree of 4th November 1982 (published in Official Gazette No 325 of 25th November 1982) was issued by the Minister of Industry, Commerce and Crafts The Decree lays down a detailed procedure for notification of the possession of special fissile materials and source materials. It also provides for the bringing up to date of such notifications and for the keeping of records of the materials The Annexes to the Decree contain models of the special forms to be completed for this purpose and sent to the appropriate authorities.

The Decree was made in pursuance of Decree No 185 of 13th February 1964 of the President of the Republic concerning radiation protection and Euratom Regulation No 3227/76 of 19th October 1976 on implementation of safeguards.

• *New Zealand*

RADIATION PROTECTION

The Radiation Protection Regulations 1982

The Radiation Protection Regulations 1982 came into force on 1st April 1982 and were notified in the Official Gazette on the same day. They were made pursuant to the Radiation Protection Act 1965 and consolidate and revise the Radiation Protection Regulations 1973 as well as the Transport of Radioactive Materials Regulations 1973, as a consequence, both sets of Regulations were revoked

The main features of the new Regulations are as follows

- The SI (International System) units of measurement of radiation and radioactivity, namely the sievert and the becquerel, have been adopted and replace the rem and the curie units of measurement respectively,

- the new recommendations of the International Commission on Radiological Protection (ICRP) have been adopted; and

- the requirement for compliance with the Regulations for the Safe Transport of Radioactive Materials issued by the International Atomic Energy Agency in 1973 has resulted in the replacement of the Transport of Radioactive Materials Regulations 1973.

It should be noted that the Radiation Protection Act 1965 was amended by the Radiation Protection Amendment Act 1981 No. 90 which came into force on 1st April 1982 The Act was amended, in particular, to change the units of measurement of radiation and to make minor modifications to the licensing procedure regarding the duration of licences.

• *Sweden*

NUCLEAR LEGISLATION

Proposed new legislation on nuclear activities (1983)

In March 1979, the Swedish government appointed a special Committee to make a general revision of Swedish nuclear legislation. In March 1983 this Committee presented a proposal, entitled "Legislation in the nuclear energy field", printed in the official Swedish publication series "The State's Official Reports", (SOU 1983 9) The proposal will be referred to several official boards and agencies as well as private organisations for consideration before the Government tables a bill to

Parliament on the subject. New legislation is planned to come into force by 1984

The Committee proposes that the 1956 Atomic Energy Act be replaced by an "Act on Nuclear Technical Activities". The most important proposed changes in relation to the present rules are the following

- Reactor owners will not have to prove that there already exists *a "completely safe" method to store spent fuel or waste from* reprocessing. They will instead be required to demonstrate that they have comprehensive research and development programmes aimed at finding methods for handling and final storage of waste in a safe way.

- Radioactive waste generated by the use of nuclear energy will be governed by the new Act, as well as nuclear material

- Export of nuclear technology and equipment will be subject to *special approval by the Swedish government*

THIRD PARTY LIABILITY

Amendment of the 1968 Nuclear Liability Act (1982)

Information was given in Nuclear Law Bulletin No 27 (June 1981) on a Memorandum published by the Ministry of Justice containing proposals for amendments to the Nuclear Liability Act (1968:45) The Memorandum was submitted to interested authorities and organisations for comments The Swedish Government then submitted a Bill to Parliament which was based on the proposals in the Memorandum (Bill 1981/82.163). This Bill was adopted by Parliament in December 1982.

The amendments thus adopted can be grouped in two different categories. The amendments in the first category are those required to enable Sweden to ratify the 1982 Protocols to the Paris Convention and the Brussels Supplementary Convention.

The second category of amendments have no relationship with the Protocols but are nevertheless of great importance. Previously, the liability of a Swedish nuclear operator was limited to 50 million Swedish Crowns (approximately 50 million French Francs) per incident This liability has now been raised to 500 million Swedish Crowns per incident This amount shall be covered by insurance. As regards installations that are only producing, treating or storing unirradiated uranium, or incidents occurring in the course of transport of such uranium, the maximum liability is 100 million Swedish Crowns per incident.

A State liability has also been introduced over and above the compensation available under the Paris Convention and the Brussels *Supplementary Convention. If, in case of a nuclear incident for which the* operator of a nuclear installation located in Sweden is liable, the amounts available under the Paris Convention and the Brussels Supplementary Convention (according to their present wording or as amended by the 1982 Protocols) are insufficient to give full compensation to victims, the State will indemnify the victims. The aggregate amount available under the two Conventions and this State liability is limited to 3,000 million Swedish Crowns in respect of a single incident The State indemnification will apply to nuclear damage sustained in Sweden, Denmark, Finland or

Norway. It will also apply to damage in another State party to the Brussels Supplementary Convention to the extent such State provides extra compensation out of public funds for damage caused in Sweden.

The increased limits of the operator's liability and the State indemnification entered into force on 1st April 1983 The amendments that are dependent upon the 1982 Protocols will come into force when the Protocols are in operation

• *Switzerland*

NUCLEAR LEGISLATION

Public Initiative for a future without new atomic power plants

On 11th December 1981, the representatives of more than fifty organisations and groups concerned with environmental protection and with combatting nuclear power plants deposited with the Federal Chancellery signatures for two public initiatives "for a future without new atomic power plants" and "for an energy supply which is safe, economic and respectful of the environment" (see Nuclear Law Bulletin No. 29) In a Message dated 26th January 1983, the Federal Council submitted to Parliament a draft Federal Order concerning the public initiative "for a future without new atomic power plants" The Government considered that the initiative, if accepted, would restrict considerably the latitude and flexibility of the energy policy and also jeapordise the Swiss electricity supply The loss of such an important energy source would require that the public authorities make radical and lasting changes, which may be impossible to achieve in time, so as to moderate the increase in electricity demand and to develop other electricity-generating alternatives Therefore, the Federal Council proposed to Parliament that the initiative be submitted, without a counter-proposal, to a vote by the population and the Cantons with a recommendation that it be rejected

In parallel, the Federal Department of Transport, Communications and Energy prepared a draft Message concerning the public initiative "for an energy supply which is safe, economic and respectful of the environment" Following the vote of 27th February 1983 by the Swiss Cantons rejecting the Government's energy policy, this draft Message should be amended. The Federal Council nevertheless intends to decide and publish the Message as soon as possible

Revision of the Atomic Energy Act

In July 1981, the Federal Department of Transport, Communications and Energy submitted for consultation to the Cantons and interested circles a Bill on protection against radiation and the use of nuclear energy (see Nuclear Law Bulletin No 29) This draft was prepared by a Federal Commission of Experts The Department considered the 108 different positions in the first six months of 1982 and noted that this Bill should be substantially amended On 25th August 1982, the Government took note of the results of the consultation and entrusted the Department with preparation of a new Bill by 31st December 1984

ORGANISATION AND STRUCTURE

Ordinance of 14th March 1983 concerning the Federal Commission for the Safety of Nuclear Installations

On 14th March 1983, the Federal Council issued a new Ordinance concerning the Federal Commission for the Safety of Nuclear Installations This Ordinance replaces an Ordinance of 13th June 1960 and takes into account the distribution of tasks decided several years ago between the Commission, which operates on a part-time basis, and the principal Division for the Safety of Nuclear Installations attached to the Federal Office of Energy. This Division bears greater responsibility in the procedure for filing of applications for licences, and prior notifications are submitted to it by the Commission.

REGIME OF NUCLEAR INSTALLATIONS

Federal Order of 1978 concerning the Atomic Energy Act

On 25th August 1982, the Federal Council submitted to Parliament its Message on the extension of the Federal Order concerning the Atomic Energy Act (see Nuclear Law Bulletin No. 29). This Federal Order of 6th October 1978 only provides for a transitional solution, as its validity is limited until the entry into force of a new Atomic Energy Act, and at the very latest, until 31st December 1983. As it is not possible to frame the new Atomic Energy Act within this time-limit, the Message of the Federal Council proposes to Parliament that the Federal Order should be extended for seven years. On 18th March 1983, Parliament accepted this proposal by the Government and extended the validity of the Federal Order until 31st December 1990

THIRD PARTY LIABILITY

Act of 18th March 1983 on Nuclear Third Party Liability (LRCN)

On 18th March 1983, Parliament approved the new Act on Nuclear Third Party Liability (see Nuclear Law Bulletin Nos 25 and 29) This new Act maintains the two essential principles established by the law in force, namely those of causation and the channelling of liability on to the operator of a nuclear installation On the other hand, the LRCN waives the principle of third party liability limited in amount and provides that the person liable must commit himself for an unlimited amount Such liability is covered as follows:

1) by private insurance up to 300 million francs;

2) by the Confederation up to one thousand million francs over and above the amount covered by private insurance,

3) by all the assets of the person liable,

4) according to the present Atomic Energy Act concerning catastrophes.

The Federal Office of Energy has been entrusted with preparing a Government Ordinance to detail certain provisions of the new Act The LRCN will enter into force when the Federal Council takes a decision on this Ordinance, namely during the course of 1984

It is recalled that the text of the Bill on Nuclear Third Party Liability was published in the Supplement to Nuclear Law Bulletin No. 25.

• *Tunisia*

RADIATION PROTECTION

1981 Act on protection against sources of ionizing radiation

Act No 81-51 of 18th June 1981 on protection against hazards from sources of ionizing radiation was published in the Official Gazette of 19th June 1981

The Act applies to all activities implying exposure to sources of ionizing radiation, excluding those sources coming under the military authorities, mines containing radioactive substances, and nuclear installations which will be governed by special regulations.

The Minister of Public Health is the competent licensing authority, the possession of sources of ionizing radiation, in any form, is subject to prior licensing by the latter Minister in consultation with the Minister responsible for the activity concerned.

The list of such sources and conditions for their licensing will be fixed by decree. In addition, the safety and control measures for activities involving sources of ionizing radiation will be determined by decree, issued jointly by the Minister of Public Health and the Minister responsible for the activity in question

• *United Kingdom*

THIRD PARTY LIABILITY

The Energy Act 1983

The Energy Act 1983 (Part II) amends certain provisions of the Nuclear Installations Act 1965 dealing with the liability of nuclear operators

The Energy Act 1983, which received the Royal assent on 9th May 1983, will enable the United Kingdom to ratify the 1982 Protocols to amend the Paris Convention on Third Party Liability in the Field of Nuclear Energy and the Brussels Convention Supplementary to the Paris Convention. Fuller details on this new Act will be given in the next issue of the Nuclear Law Bulletin.

• *United States*

REGIME OF NUCLEAR INSTALLATIONS

NRC Policy Statement on safety goals for the operation of nuclear power plants (1983)

The Nuclear Regulatory Commission (NRC) issued a policy statement on safety goals for the operation of nuclear power plants on 8th March 1983 The objective of the policy statement is to establish goals which limit to an acceptable level the radiological risk which might be imposed on the public as a result of nuclear power plant operation. Although current regulations are considered adequate to assure protection of the public, these goals, accompanied by specific design objectives, offer the potential to bring about a more effective, efficient, and predictable regulatory process. The Commission considers the safety goals to be preliminary in that a two-year evaluation period is necessary in order to judge the effectiveness of the goals and design objectives. Accordingly, the safety goals and quantitative design objectives may not be used or litigated in the licensing process or be interpreted as requiring licensees or applicants to perform probabilistic risk assessments during the evaluation period The NRC staff will continue to use conformance to regulatory requirements as the exclusive licensing basis for plants. At the conclusion of the evaluation period, the Commission will consider whether any revisions are necessary before it issues a final policy statement and a plan for its implementation.

The policy statement establishes two qualitative safety goals which are supported by four quantitative design objectives. The two qualitative safety goals are as follows

- Individual members of the public should be provided a level of protection from the consequences of nuclear power plant operation such that individuals bear no significant additional risk to life and health.

- Societal risks to life and health from nuclear power plant operation should be comparable to or less than the risks of generating electricity by viable competing technologies and should not be a significant addition to other societal risks

The numerical design objectives are aiming points which plant designers and operators should meet where feasible. Given the uncertainties present in the state of the art of quantitatively estimating risks, and the gaps in the data base, the design objectives are not substitutes for existing regulations

The design objectives are divided into three categories 1) individual and societal mortality risks, 2) benefit-cost guidelines, and 3) plant performance design objectives. The Commission's principal design objectives are those which relate to individual and societal mortality risks from operation of nuclear power plants. They cover the following

- The risk to an average individual in the vicinity of a nuclear power plant of prompt fatalities that might result from reactor accidents should not exceed one-tenth of one percent (0.1%) of the sum of prompt fatality risks resulting from other accidents to which members of the United States population are generally exposed.

- The risk to the population in the area near a nuclear power plant of cancer fatalities that might result from nuclear power plant operation should not exceed one-tenth of one percent (0.1%) of the sum of cancer fatality risks resulting from all other causes.

The second design objective, the benefit-cost guideline is to be used as one consideration in decisions of safety improvements. It covers the following The benefit of an incremental reduction of societal mortality risks should be compared with the associated costs on the basis of $1,000 per person-rem averted (1983).

This guideline is intended to encourage the efficient allocation of resources in safety-related activities by providing that the expected reduction in public risk that would be achieved should be commensurate with the costs of the proposed safety improvements. Application of the benefit-cost guideline should be focused principally on situations where one of the qualified safety goals is not met; if all of the design objectives have been met no further benefit-cost analysis should be made.

The final quantitative design objective relates to plant performance. To assure emphasis on accident prevention, the objective reads as follows The likelihood of a nuclear reactor accident that results in a large-scale core melt should normally be less than one in 10,000 per year of reactor operation

This design objective is subordinate to the principal design objectives limiting individual and societal risks and may need to be revised as new knowledge and understanding of core performance under degraded cooling conditions is obtained

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NRC sends legislative proposal for licensing reform to Congress (1983)

The Nuclear Regulatory Commission submitted to Congress on 21st February 1983, a legislative proposal in the form of a draft bill to amend the Atomic Energy Act of 1954 The draft bill, entitled the "Nuclear Power Plant Licensing Reform Act of 1983" is intended to provide an accurate, efficient, and more effective licensing process for the design, siting, construction and operation of nuclear power plants and other nuclear facilities consistent with public health and safety The principal provisions of the draft bill are summarised below

- The Commission would be authorised to issue a combined construction permit and operating licence to facilitate NRC review of essentially complete designs prior to construction At present, the construction permit and operating licence are issued sequentially.

- The Commission would be authorised to rely on certification of need for a facility and on findings regarding alternative sources of generating capacity that are made by competent Federal, regional or state organisations

- The present requirement that the Commission hold a hearing in every construction permit hearing even when no hearing has been requested by any person would be deleted.

- The Commission would be authorised to use hybrid-type hearing procedures on a case-by-case basis instead of the formal adjudicatory hearings which are presently used

- Hearings would be limited to matters that were not or could not have been considered and decided in prior proceedings involving that facility.

- The Commission would be authorised to issue a site permit or facility design approval even though no application for a construction permit or combined construction permit/operating licence has been filed. These provisions would facilitate early identification and resolution of site and design issues after providing an opportunity for public participation. Subsequent facility applications could reference an approved site permit or design and have those final determinations made binding unless there is a substantial reason not to do so

REGIME OF RADIOACTIVE MATERIALS

NRC proposes changes to its export/import regulations

The Nuclear Regulatory Commission is recommending the adoption of amendments to its export/import regulations (10 CFR Part 110) which would significantly expand NRC's general licences for exports and imports of nuclear material and equipment. The changes would also clarify and simplify the regulations in various respects

The changes, if adopted, would incorporate for the first time in NRC's regulations a policy of facilitating nuclear co-operation with those countries sharing U S. non-proliferation goals The most significant proposed new general licence in this regard would permit the unrestricted export of components to designated reactors in certain countries (e g. EURATOM countries, Japan, Sweden, Canada, and Australia)

It is anticipated that adoption of the proposed new or revised general licences will reduce the minor export/import licensing workload at NRC by approximately 75%. Along with improvements in other areas of Part 110, the proposed changes would result in a significant reduction in the regulatory burden on the public without increasing risks to the public health and safety or to the common defense and security of the United States.

RADIOACTIVE WASTE MANAGEMENT

Nuclear Waste Policy Act of 1982

On 7th January 1983, the United States Congress enacted the Nuclear Waste Policy Act of 1982 (Pub L. No. 97-425). The Act establishes the Federal Government responsibility for the permanent disposal of high-level radioactive waste and spent nuclear fuel and authorises the Secretary of the Department of Energy (DOE) to construct a repository for their disposal. The Act requires that the repository be ready to receive high-level radioactive waste and spent nuclear fuel for disposal by 1998.

The Act also provides for a last-resort Federal Government interim storage programme for up to 1,900 metric tons of spent nuclear fuel. In addition, the Act requires DOE to submit a proposal for a Monitored Retrievable Storage Facility, authorises a Test and Evaluation Facility, and provides for a DOE utility demonstration programme for the dry storage of spent nuclear fuel

The costs associated with the waste programme outlined above will be borne by the owners and generators of high-level radioactive waste and spent nuclear fuel. DOE will pay part of the costs of the demonstration programme

States and affected Indian Tribes are given rights of participation in the repository site selection process and the right to disapprove of siting decisions. This disapproval may be overridden by a joint resolution of both houses of Congress

The Act also authorises the United States of offer co-operation and assistance to non-nuclear weapon states in the area of spent nuclear fuel management In April 1983, DOE and the Nuclear Regulatory Commission published a notice in the Federal Register that formally makes the offer of U S co-operation and assistance The notice describes the scope of the offer, the criteria for assistance, the modes of co-operation, and the resources available to implement the offer The offer will involve co-operation and assistance in the fields of at-reactor storage, monitored, retrievable storage, geologic disposal of spent fuel; and the health, safety, and environmental regulation of such activities. The offer will not include the transfer of spent nuclear fuel to the United States for storage

• *Uruguay*

NUCLEAR LEGISLATION

Draft nuclear legislation and reorganisation of national nuclear policy (1980)

The guiding principles concerning the national nuclear policy have been established by the Government in Decree 212/980 of 11th April 1980. In the regulatory area in particular, this Decree calls for "the

establishment of a legal system to regulate nuclear activities in various areas of application" and "the adoption of technical standards and consistent regulations" to ensure compliance with the requisites for radiation protection and nuclear safety.

There is, however, no control established by law over the import, acquisition and uses of radioisotopes and other radiation sources The legislation adopted since 1937 and subsequently expanded in 1942 and 1953 contains general provisions concerning radiation protection (including the use of X-ray machines), but it is obsolete and does not provide for any licensing requirement nor does it establish a regulatory control system to ensure adequate protection of persons involved in radiation work, the public, properties and the environment. Therefore, there is an urgent need to provide for such protection through the adoption of up-dated legislation

By a further Decree (213/980) of 11th April 1980, the Government has entrusted the Minister of Industry and Energy with the responsibility of exercising control over the implementation of the national nuclear policy, through the National Atomic Energy Commission This Decree empowers the Commission, under the authority of the Minister, inter alia to make proposals for organisational changes which are considered necessary to carry out the national nuclear policy. Thus, the responsibility originally assigned to the Commission in radiation protection and nuclear safety matters by Decree 101/966 of 3rd March 1966 creating it has been strengthened by the two recent Decrees mentioned above - which further give the Commission the right of proposing new legislation in accordance with the national nuclear policy and consequential changes in the nuclear organisational structure that may be required for the purpose of effectively implementing the new legislation. To this end, a Legislation Committee has been established by the National Atomic Energy Commission and advisory services were provided by the IAEA in October 1982 under its Technical Co-operation Programme. A work plan has been agreed upon that would consist of three stages.

1 The elaboration of new legislation would take into account the urgency of first establishing by law a comprehensive regulatory system for the authorisation and control of the uses of radioactive materials and other ionizing radiation sources as well as radiation and nuclear installations

2. This first step would be followed by the preparation of regulations for implementing the requirements of the law in radiological and environmental protection, nuclear materials and installations, transport of radioactive materials, etc

3. At a third stage, consideration would be given to the establishment by law of a system of civil liability for nuclear damage that may arise from the operation of nuclear installations involving research or power reactors, taking into account the principles and rules laid down in the Vienna Convention

In carrying out the work required for each of these stages, the national authorities are planning to make the fullest use of the IAEA's advice and assistance.

• *Italy*

DECISION CONCERNING THE NUCLEAR POWER PLANT AT MONTALTO DI CASTRO (1982)

In September 1982, further to an appeal lodged by the Citizens' Committee of Montalto (where the fifth Italian nuclear power plant is being built) with a view to stopping the construction of the power plant, the Lazio Regional Administrative Tribunal delivered an important judgment. This judgment, refusing the appeal, should bring to an end the long legal battle, carried on since the beginning of 1980, over the construction of the power plant concerned

The first phase of this battle ended with a judgment by the *Consiglio di Stato* (Supreme Court) relating to the construction of the power plant which had, under an Order of the Mayor of Montalto (February 1980), been suspended The National Electricity Board (ENEL) lodged an appeal with the Regional Tribunal, and later with the *Consiglio di Stato* against this Order The *Consiglio di Stato* (in July 1980, see Nuclear Law Bulletin No 27) held that the construction could continue. The Montalto Citizens' Committee then lodged a new appeal with the Regional Tribunal, raising certain legal points about the construction permit and questioning whether the safety of the population and the environment concerned was guaranteed

In refusing the appeal, the Tribunal confirmed the legality of the said permit and the exhaustive nature of the approval procedure concerning the installation's safety and of the supplementary checks carried out after the suspension of work ordered by the Mayor (which, in any case, could not revoke procedures already carried out or require them to be repeated)

The Tribunal moreover held that if a citizens' committee (such as the committee in question), set up to oppose the construction of a nuclear power plant, did not represent the local community but appeared rather to be a group expressing its own ideas, then it did not have sufficient interest in law to pursue such an action

Finally, in dealing with more specific legal aspects, the Regional Tribunal's judgment can be considered as having settled certain questions of constitutional legality raised by the appeal concerning Act 393/75 on the siting of nuclear power plants

• *United States*

GENERAL PUBLIC UTILITIES CORPORATION AND BABCOCK & WILCOX SETTLE TMI LAWSUIT (1983)

The Babcock & Wilcox Company (B&W) and General Public Utilities Corporation (GPU) announced an out-of-court settlement in a $4 billion lawsuit that GPU, owner of the damaged Three Mile Island Nuclear Plant, filed against the reactor vendor in the aftermath of the TMI accident Under the terms of the settlement, GPU will receive up to $37 million in rebates from B&W for goods and services over the next ten years In a joint statement, the companies said they agreed that neither party had established that the other was at fault in the March 1979 accident

GPU had claimed in its suit that B&W had not properly trained its technicians to operate the plant and B&W had contended that GPU was grossly negligent in operating the plant. The trial on the merits had been going on for nearly three months in U.S. District Court in New York when the settlement was announced.

THREE MILE ISLAND TORT CLAIM UPDATE

As reported in previous editions of the Nuclear Law Bulletin, the owners of the damaged Three Mile Island Nuclear Plant (GPU) are suing the Nuclear Regulatory Commission for property damage arising from the TMI accident, and the Government had filed a motion to dismiss the suit (see Nuclear Law Bulletin No. 29).

On 24th November 1982 the Federal District Court for the eastern district of Pennsylvania denied the Government's motion to dismiss the lawsuit. The Court ruled that the plaintiff's suit could proceed under the federal Tort Claims Act, not falling within either of two statutory exceptions cited by the Government. However, the Court recognised that its decision admits to substantial grounds for difference of opinion, that existing case law is not fully reconcilable on the issues and that denial of the motion to dismiss subjects the Government to large trial costs with a huge potential liability. Accordingly, the Court certified its decision to the Third Circuit Court of Appeals for an immediate, interlocutory appeal and stayed all further proceedings until the higher court rules.

CLINCH RIVER BREEDER REACTOR (1983)

In a Partial Initial Decision dated 28th February 1983, in the licensing proceeding for the Clinch River Breeder Reactor Project (see Nuclear Law Bulletin No. 30 for previous developments), the Atomic Safety and Licensing Board of the United States Nuclear Regulatory Commission (NRC) granted the Limited Work Authorisation sought by the project applicants, the United States Department of Energy (DOE), Project Management Corporation, and the Tennessee Valley Authority. In reaching this conclusion, the Board

(1) found that the Clinch River site is suitable for a reactor of the general size and type proposed from the standpoint of radiological health and safety considerations, (2) determined that National Environmental Policy Act requirements have been complied with; and (3) affirmed the contents of the Final Environmental Statement and the Final Supplement thereto.

On 18th March 1983, the Natural Resources Defence Council (NRDC) and the Sierra Club, intervenors in the licensing proceedings, filed with the NRC's Atomic Safety and Licensing Appeal Board exceptions to the Partial Initial Decision and a request for a stay of its effectiveness.

Another related suit, filed by NRDC in the United States District Court for the District of Columbia in September 1982, challenges the Clinch River Breeder Reactor Project and DOE's entire Liquid Metal Fast Breeder Reactor programme, based upon alleged deficiencies in DOE's programmatic environmental impact statement That case is still pending. On 11th March 1983 DOE filed a motion for summary judgment.

INTERNATIONAL ORGANISATIONS AND AGREEMENTS

INTERNATIONAL ORGANISATIONS

• *The OECD Nuclear Energy Agency*

AGREEMENT ON PHASE II OF THE INTERNATIONAL STRIPA PROJECT (1983)

Phase I of the NEA-sponsored International Stripa Project covering a programme of scientific investigations relevant to geological waste disposal was set up in 1980 (see Nuclear Law Bulletin No 27) The Project, which is conducted under the management of the AB Svensk Karnbransleforsorjning (SKBF), is located in the former Stripa iron ore mine in Sweden.

Phase II of the Project was launched under an Agreement which came into force on 1st January 1983 for a period of four years The parties to the Agreement are Canada, Finland, France, Japan, Sweden, Switzerland, the United Kingdom and the United States The Project will continue to be managed by SKBF.

This second phase covers a research programme to investigate the suitability of granite as a medium for isolating radioactive waste for long periods of time and involves research into several areas of crucial importance to the safety of waste repositories in granite

AGREEMENT ON THE OECD INTERNATIONAL LOFT PROJECT (1983)

In October 1982, the OECD Steering Committee for Nuclear Energy declared itself in favour of the launching of a programme of safety-related studies at the Loss of Fluid Test (LOFT) Facility located in Idaho Falls, United States. LOFT is a 50MW (th) nuclear reactor which simulates a commercial pressurised water reactor and is the only large-scale thermal hydraulic nuclear test facility in the world.

The Agreement setting up the Project was opened for signature on 13th January 1983 and covers a period of three years which is renewable. The United States Department of Energy and the Nuclear Regulatory Commission together with agencies from the following eight countries are parties to the Agreement Austria, Finland, the Federal Republic of Germany, Italy, Japan, Sweden, Switzerland and the United Kingdom

This NEA-sponsored International Project covers an experimental programme providing thermal-hydraulic, fuel and fission product information used to assess computer codes, define safety margins, identify previously unanticipated phenomena and develop techniques for accident recovery.

OECD COUNCIL RECOMMENDATION ON THE OPERATION OF A NUCLEAR POWER PLANT INCIDENT REPORTING SYSTEM (1983)

In 1980, the NEA Committee on the Safety of Nuclear Installations (CSNI) started operating on a trial basis an Incident Reporting System (IRS) to exchange information among NEA countries on safety-related incidents in nuclear power plants The System functioned according to Guidelines agreed by the regulatory authorities represented in CSNI

Following two years of operation, the OECD Steering Committee for Nuclear Energy agreed in October 1982 that the System would benefit from being formalised through an OECD Council Recommendation.

Accordingly, on 23rd February 1983 the OECD Council adopted a Recommendation providing that Member countries should require that their competent authorities exchange information on safety-related incidents occurring in nuclear power plants through the Incident Reporting System operated by NEA, in compliance with the Guidelines annexed to the Recommendation

The countries presently participating in the System are Belgium, Canada, Finland, France, the Federal Republic of Germany, Italy, Japan, the Netherlands, Spain, Sweden, Switzerland, the United Kingdom and the United States.

• *Euratom*

PROPOSED NEW PROVISIONS RELATING TO SUPPLIES UNDER THE EURATOM TREATY (1982)

On 8th December 1982, the Commission of the European Communities submitted to the Council a "proposal for a Council Decision adopting new provisions relating to Chapter VI (Supplies) of the Treaty establishing the European Atomic Energy Community" (published in the Official Journal of the European Communities, No C 330 of 16th December 1982)

This proposal is based on five essential points

1 Unity of the "nuclear common market"

This principle rests on a general prohibition of all restrictions on the transfer of nuclear materials within the Community and on imports from outside, together with any conditions governing use and storage within the Community. Exceptions may be made provided they are settled in a Community framework. This should avoid a variety of initiatives by Member States and operators which may affect the unity of the market.

2. International competence of the Community

(a) Nuclear supplies to the Community may be also affected by the positions of third countries in view of the Community's dependence on certain nuclear imports and the tendency of such countries to impose restrictions on nuclear transfers which may affect the unity of the market

This is why a joint position towards the exterior is necessary and should materialise preferentially in the form of agreements concluded by the Community.

(b) Nevertheless, there may be cases where the Community cannot or does not wish to conclude such agreements. In such cases, the Commission must authorise the Member State(s) to conclude bilateral agreements if it so requires.

These agreements must conform to the Treaty and, in particular, the principle of the unity of the market, they should also provide for the possibility of being incorporated in an overall agreement at Community level, this latter measure should be facilitated by the Member State concerned

(c) As regards exports of nuclear materials, the principle of prior authorisation by the Commission is maintained and its application has been extended to all exports to ensure that, in every circumstance, they are compatible with the general interests of the Community

3. Solidarity measures in case of any perturbation in supply

They include the following

- establishment of a consultative mechanism to facilitate co-operation between Community investors,

- continuation of Community financial support for uranium prospecting, while extending it to the territories of third States,

- providing for the possibility of building up decentralised stocks and for adoption of appropriate measures in the event of an imbalance between supply and demand in the area of prices and import controls.

4 New role of the Supply Agency

It is proposed that the Agency be kept, with a change in its role, as a privileged instrument to carry through successfully joint action in the supply field.

To this effect the Agency will

- consider supply contracts which should be submitted to it following their conclusion to verify their conformity with the new provisions of Chapter VI,

- continue to inform the Commission, Member States and operators on the situation and evolution of the nuclear materials market, on the basis of contracts and data available and on enquiries it may carry out,

- contribute decisively to the implementation of solidarity measures.

5. Controls and sanctions

In order to ensure compliance with the new provisions it proposes, the Commission provides for a specific system of sanctions and controls.

The system of sanctions is based

- on the possibility for the Commission to impose fines and penalties in the event of infringement of these provisions.

The system of controls includes

- communication to the Agency of all supply contracts within a mandatory time-limit, following their conclusion, the Commission must speedily decide upon their conformity with the new system proposed,

- the possibility of verifying on the spot whether the obligation to communicate the above has been complied with.

AGREEMENTS

• *Argentina-Brazil*

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

The Agreement signed on 17th May 1980 by the Governments of Argentina and Brazil for co-operation in the development and application of nuclear energy for peaceful purposes (see Nuclear Law Bulletin No 27), was approved by Argentina by Act No 22.494 of 10th September 1981

• *Argentina-India*

AGREEMENT ON CO-OPERATION IN THE PEACEFUL USES OF NUCLEAR ENERGY (1974)

The Agreement signed by the Governments of Argentina and India on 28th May 1974 on co-operation in the peaceful uses of nuclear energy was approved by Argentina by Act No. 22 343 of 1st December 1980

• *F.R. of Germany-Belgium*

AGREEMENT ON MUTUAL EMERGENCY ASSISTANCE (1980)

The Agreement of 6th November 1980, on mutual assistance in the event of catastrophes or serious accidents concluded between the Federal Republic of Germany and Belgium was ratified in the Federal Republic of Germany by Act of Parliament of 30th November 1982 (Bundesgesetzblatt 1982, II p. 1006). According to Article 2(1) of the Agreement its scope of application includes "combatting against atomic and chemical dangers". A comprehensive legal framework has been set up in the fifteen articles of the Agreement to provide for the necessary instruments for mutual assistance and to define the rights and duties of the national

rescue teams The Agreement is a further ring in the chain of mutual assistance agreements which the Federal Republic of Germany has concluded with its neighbouring countries in the past few years

• *F.R. of Germany-Egypt*

AGREEMENT ON CO-OPERATION IN THE PEACEFUL USES OF NUCLEAR ENERGY (1981)

An Agreement on co-operation in the field of the peaceful uses of nuclear energy was concluded between the Federal Republic of Germany and Egypt on 26th October 1981 The Agreement was published in Bundesgesetzblatt 1982, II p. 567 and entered into force on 15th March 1982.

Under Article 1 of the Agreement co-operation covers the following fields

- planning, construction and operation of nuclear power plants, other nuclear installations, and research facilities in Egypt,
- safety of nuclear installations and radiation protection;
- prospecting and mining of uranium,
- scientific and technological research and development,
- training of scientific and technical personnel,
- use of nuclear energy for other purposes than electricity generation, in particular, in the fields of medicine, biology and agriculture

The Agreement provides for instruments to ensure the application of the provisions of the Non-Proliferation Treaty and to meet the necessary requirements for physical protection in accordance with the measures recommended by the IAEA (INFCIRC/225 Rev 2)

• *F.R. of Germany-Switzerland*

AGREEMENT ON MUTUAL INFORMATION ON CONSTRUCTION AND OPERATION OF NUCLEAR INSTALLATIONS IN BORDER AREAS (1982)

By a message to Parliament of 27th October 1982, the Federal Council submitted a draft Federal Order on the Agreement of 10th August 1982 between the Government of the Swiss Confederation and the Government of the Federal Republic of Germany concerning mutual information on construction and operation of nuclear installations in border areas, and proposed its approval.

The Agreement prescribes the formalising of contacts which have existed for years between the services of both states responsible for the safety of nuclear installations in border areas, describes the material and geographic scope of the mutual information commitment and sets up a joint commission for dealing with the matters involved

MULTILATERAL AGREEMENTS

• *Sweden*

RATIFICATION OF 1982 PROTOCOLS TO AMEND THE PARIS CONVENTION AND THE BRUSSELS SUPPLEMENTARY CONVENTION

The Protocols to amend the Paris Convention and the Brussels Supplementary Convention were adopted on 16th November 1982 (see Nuclear Law Bulletin Nos. 24 and 30).

Sweden was the first Contracting Party to ratify the instruments on 8th March 1983, it ratified the Protocol to amend the Paris Convention and then ratified the Protocol to amend the Brussels Supplementary Convention on 22nd March 1983.

Under the Paris Convention, its amending Protocol will enter into force following ratification by two-thirds of the Contracting Parties The Brussels Convention, on the other hand, requires that all the Contracting Parties ratify the Protocol to amend it before the latter can come into force.

• *United Kingdom*

CONVENTION ON THE PHYSICAL PROTECTION OF NUCLEAR MATERIAL

The Nuclear Material (Offences) Act 1983 enables the United Kingdom to ratify the Convention of 3rd March 1980 on the Physical Protection of Nuclear Material (see Nuclear Law Bulletin Nos. 24, 26 and 30)

The Act received the Royal assent on 9th May 1983

• *European Communities*

PROTOCOL FOR THE PROTECTION OF THE MEDITERRANEAN SEA AGAINST POLLUTION FROM LAND-BASED SOURCES (1983)

By a Decision of 28th February 1983 (Official Journal No.L67 of the European Communities of 12th March 1983), the Council of the European Communities approved, on behalf of the Communities, the Protocol for the protection of the Mediterranean Sea against pollution from land-based sources This Protocol supplements the Barcelona Convention of 16th February 1976 for the protection of the Mediterranean Sea against pollution. The Convention, which also applies to radioactive substances and waste, provides that appropriate measures should be taken to prevent and limit pollution from dumping by ships and aircraft, exploration and exploitation of the Continental Shelf, the seabed and the sub-seabed, as well as from land-based sources

The Barcelona Convention and the Protocol on pollution from dumping by ships and aircraft were approved by a Council Decision of 19th September 1977

STUDIES AND ARTICLES

ARTICLES

DECENTRALISATION AND NUCLEAR ACTIVITIES*

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The purpose of this article is to make a survey of the effects that the decentralisation measures introduced in France a few months ago may have on nuclear activities. To a large extent, these measures represent a break from the centralist traditions of French law, within the nuclear field, however, their scope is limited.

To give an idea of the developments that have taken place, the following two points are dealt with

- the effect on nuclear law of changes made in a wider context, and
- changes specific to nuclear law.

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In administrative law, decentralisation may be defined as a transfer of powers from an authority with a wider geographical jurisdiction to an authority with a more restricted one. Only a centralised situation can give rise to it. It is a dividing up of administrative authority, a movement, and not something that is divided into bits or fragmented from the start. It might come about as a result of smaller communities, on their own initiative, taking over prerogatives which are then sanctioned by a rule of law. But today in France, where the powers of decentralised authorities are *determined in rules laid down by the central Government, the initiative* has come from the latter which decided to give up some of its jurisdiction The Decentralisation Act of 2nd March 1982, relating to the rights and liberties of the communes, *Départements* and Regions is a piece of Government legislation. It is therefore the national authority which has redefined the jurisdiction of local authorities and their degree of autonomy

*The ideas expressed and the facts given are on the sole responsibility of the author.

from the central Government The main provisions of this Act may be summarised as follows

The administrative and financial control exercised by the Government over the Communes has been abolished; in respect of matters within its competence, the Commune is now sovereign, the central Government can no longer, for reasons of expediency, block certain decisions legally taken by the municipal council or the mayor, the Government representative in the *Département* has now only the right to be kept informed - this allows him to exercise control, but a control limited to verifying the legality of the discussions and acts of the Commune.

The Act of 2nd March 1982, defined the jurisdiction of the Communes in very general terms only. It would seem that Communes may become involved in nuclear activities to the extent that, under Section 5 of the Act, they are competent to take action of an economic or social nature to promote economic development by giving direct or indirect assistance on conditions laid down in the Act approving the plan, and also to protect the economic and social interests of the local population by helping firms in difficulty implement recovery measures laid down in an agreement with the Commune. There is no reason to doubt that the benefit of such provisions might be accorded, where relevant, to nuclear activities and particularly to small and medium-sized firms such as can be found among the users of radioelements, for example Communes may draw up and approve charters for inter-communal development and improvement, setting out prospects in the medium term and programmes of action They jointly decide on how to organise their dealings with the Government, the Regions, the *Départements* and the main economic and social occupational bodies (Section 29 of the Act of 7th January 1983, on the division of jurisdiction among the Communes, Départements and Regions and the central Government)

The *Départements* have been reorganised and from now on the executive officer is the Chairman of the General Council *(Conseil général)*. The central Government representative has no right of direct action with respect to the affairs of the *Départements*, he is entitled only to give his opinion to the General Council and to see that the law is being observed The Chairman of the General Council has therefore become the person with whom operators of nuclear installations deal at the level of the *Département*. Such is the case, for example, for agreements relating to information in the event of an incident Naturally, however, the *Préfet*, now called the *Commissaire de la République* remains the central Government representative Given the impact of nuclear activities, it is likely that he, too, will receive most relevant information and will be involved, in a form to be decided, in procedures relating to large nuclear installations He will certainly continue to organise the inter-departmental meetings which precede local and public enquiry proceedings since that is a function of the central Government representative

Similarly, the decision to hold an enquiry will remain within the jurisdiction of the *Commissaire de la République* since otherwise, the Chairman of the General Council would be able to block the nuclear programme The Minister responsible for energy has indeed reiterated that it is for the central Government to take the main decisions on energy policy As for installations classified for environmental protection purposes, they are apparently to remain under Government supervision The Government representative in the *Département* will continue to receive any statements and to sign the orders containing the instructions with which operators must comply

It is the Regions which constitute the largest unit in the decentralisation process. Given the powerful impact of the nuclear industry, it is perhaps with regional authorities that nuclear industrialists will have the closest relations. Their political weight will no doubt make them difficult partners Regions have become fully-fledged local authorities, each of which has a directly elected Regional Council, the chairman of which is the Region's executive officer

Regions will be called upon to play an important economic role They will help prepare and implement at their level the national plan and will draw up regional development plans and make annual records of activities. The Regional Economic and Social Committee (*Comité economique et social régional*), which comes under the Regional Council and its chairman, includes representatives of business interests and various occupations and of bodies taking part in regional life, as well as persons who contribute to the Region's development (see Decree of 11th October 1982) Naturally, firms from the nuclear sector will have the opportunity to be present. Moreover, on 8th October 1983, the National Assembly decided that Regional Energy Agencies (*Agences regionales de l'énergie*) should be created so as to extend the energy debate to regional level and so that regional energy plans going beyond 1990 could be drawn up

The Minister responsible for energy has stated that regional plans should consist of three parts·

a) a survey of the Region's energy resources,

b) a study of the conditions that would lead to·

- better control of consumption taking into account perspectives for economic and demographic development,

- the development of local energy potential, and

- an improvement in the supply of energy and the Region's contribution to the national programme for energy independence,

c) an outline of regional action in the energy field

It is extremely doubtful whether such regional energy plans will have any immediate consequences for nuclear energy, which is clearly a matter for national decision

However, nuclear energy will be taken into account in the initial assessment and will therefore help determine regional requirements

Conversely, any plant and equipment installed in implementation of regional plans will help define requirements for electronuclear plant

The Planning Reform Act of 29th July 1982, indicates how the national plan should be co-ordinated with the regional plans For purposes of preparing the first Planning Act, each Region will list the priorities for the development of its productive capacity. Then, after adoption of the national plan, the Government will enter into a planning contract with each Region setting out activities that they undertake to carry out jointly as well as the conditions under which the contract will later be terminated The method of implementing the activities defined in the planning contract will be established by separate agreement. If the Government should enter into contracts with local authorities, firms or other legal persons, such contracts should be notified to the Regions.

Regional plans will fix medium-term goals and programmes of work to be implemented either by the Regions themselves, or indirectly by means of a contract with the Government, other Regions, *Départements*, Communes, public or private undertakings or any other legal entity The nuclear industry will no doubt play an important part in this procedure. Public undertakings will be consulted on the choices made by the Regions. Each Region will sign a planning contract with the Government and may, in addition, enter into regional planning contracts (some of which may be common to several Regions) with other legal persons from either the public or private sector

In the energy field, regional energy programmes will be drawn up with the assistance of the French Agency for Energy Control (*Agence française pour la maîtrise de l'énergie*) which is empowered, under Decree No 82-404 of 13th May 1982, to set up regional offices (*délégations*) after consulting the Government representative in the Region. A regional officer (*délégué*) is proposed and appointed by the Agency's managing board. The Agency's area of interest covers all research, development, demonstration and dissemination activities in the field of rational use of energy and in particular of waste heat. The Agency may thus come to take an interest in the waste heat produced by nuclear power plants and carry out in their regard, and in liaison with the Communes, *Départements* and Regions, scientific and technical evaluations as well as promotional, information and advisory activities. Agreements may be made with local authorities, and the results of activities carried out at local level will be collected, analysed, compared and sent to the Communes, *Départements*, and Regions.

An Act of 7th January 1983 has just added a provision to Section 29 of the Act of 2nd March 1982, in terms of which co-ordination meetings must take place at least twice a year to enable the chairman of the General Council and the Government representative in the *Département* to exchange information on Government and *Département* investment programmes

Research also has been affected by regionalisation Of course industrial co-operation networks existed in the Regions already, for example in the Grenoble region However, with the Act of 15th July 1982 on the Direction and Programming of French Technological Research and Development, this regional dimension of research has become enshrined in law. The term "regional dimension" can be found in the report attached to the Act Section 11 of the Act reads "The national research and technology policy shall be worked out and implementated in collaboration with the Regions They shall deal in particular with the dissemination and development of new technologies for scientific and technical training and information, with the improvement of existing technologies and with decompartmentalising research and integrating it in the Region's economic, social and cultural development " The Region's research and development policy will thus be included in regional planning Provision is made for programmes covering several years and the Region may, in order to carry them out, make fixed-term agreements with the Government, public or private research institutes, further education establishments, public institutions, technical centres and business Inter-regional research programmes may be undertaken.

A regional advisory committee on research and technological development (*comité consultatif régional de recherche et de développement technologique*), on which institutions and socio-occupational groups will be represented, will be created in each Region and attached to the Regional Council The several-year regional programmes and the allocation of public research funds will be submitted to this committee, which shall then be kept informed of the use that is made of them However, research in the nuclear sector at regional level will doubtless play a secondary role only, since nuclear research is a national issue. Research programmes

at regional level, unlike those of bodies such as the Atomic Energy Commission (CEA), will probably not deal much with materials physics or nuclear power but will rather involve studies on the periphery of nuclear research, new energy forms and diversification. The CEA and Electricite de France have already given the example of dividing up research

Details of the allocation of powers among the local authorities have just been given in Act No 83-8 of 7th January 1983. A degree of flexibility has been introduced by the opportunity offered to these authorities to join together for the exercise of their powers by creating public co-operation agencies in the form and under the conditions provided for in current legislation They may also conclude agreements amongst themselves for the sharing of services and resources

Under the new Section L 421-2-1 of the Urban Planning Code, made pursuant to the Act of 7th January 1983 on the division of jurisdiction among the Communes, *Départements* and Regions and the central Government, construction permits are normally delivered by the mayor of the Commune in Communes where a land-use plan has been approved and entered in force When a Commune forms part of an inter-communal co-operation agency (*établissement de coopération intercommunale*), it may delegate this power to the agency. However, exceptions are made for constructions which have an important impact; in these cases, construction permits are granted by the Government after consultation with the mayor or the chairman of the competent agency.

One of these exceptions is of particular interest here since it covers facilities for the production, transport, distribution and storage of energy as well as those using nuclear materials, a decree to be issued by the *Conseil d'Etat* will define the nature and importance of such facilities

Subject always to the terms of this future Decree, nuclear energy will not therefore, as far as this very important aspect is concerned, be decentralised. The Government, responsible for ensuring the country's energy supply, has retained the means of implementing its nuclear policy However, concern that due consideration should be given to the local environment has given rise to the creation, under the Act of 7th January 1983, in each Region and under the *Commissaire de la République*, of a "College for the Protection of the National Heritage and Sites of Historical Interest" (*collège du patrimoine et des sites*) This college has the power to establish zones of protection in which any construction work will require the approval of the *architecte des bâtiments de France*

Such approval may be dispensed with but only if this is agreed to by the Government representative in the Region after consultation with the college. The Minister may, however, intervene in the case at any time

When considering decentralisation measures specifically affecting nuclear activities, reference may first of all be made to the relatively modest amendment of procedures for informing and consulting the public Under a Prime Ministerial circular of 31st July 1982, the public enquiry procedure and the publicity given to impact studies have been improved Without awaiting the entry into force of two amendments currently being drafted which will increase the information given to the public and lay down new rules for all kinds of public enquiry procedure, the Prime Ministerial circular incorporates some measures which take effect immediately The circular is binding on *Commissaires de la République* responsible for directing enquiry proceedings and, through them, on persons under their jurisdiction.

The changes made concern both the general concept of consultation procedures and the ways and means of organising them

a) In future, before impact studies are carried out, the name and address of the main contractor, the site of operations, the nature of the project and the estimated date of completion of the study, will be entered on record, sent to the *Préfecture* and made available to the public

b) The public enquiry procedure is no longer to be considered as the last phase in the constitution of the dossier. If it is to fulfil properly its function of informing the public and giving expression to public opinion and criticism, it must indeed be carried out before the administration is consulted so that it may result in improvements being made to the project In general, *Commissaires de la République* are encouraged to start the procedure as soon as possible Furthermore, it is provided that modern means of communication such as radio and television must be used

c) The enquiry procedure must fit in with most people's way of life as regards the times and days of the week when it is possible to consult the dossier Furthermore, the dossier must be available to anyone who asks to see it before even the opening of the enquiry procedure, from the very moment of the official announcement of the enquiry Comments by the public are to be put into a newly-established register which will be open to everyone Similarly, the reply of the main contractor and the report, in its entirety, of the Commissaire in charge of the enquiry (*Commissaire enquêteur*) will be freely available These documents will also be sent to the mayors of the communes concerned

Full public hearings are not really encouraged but they are mentioned as a possibility, to be held at the discretion of the *Commissaire* in charge of the enquiry of the Commission of Enquiry (*Commission d'enquête*) subject to the approval of the *Commissaire de la République*. The criterion for deciding whether such a hearing should take place is its usefulness, a concept which obviously is very much open to varying interpretation and it is not yet possible to say whether such hearings will be frequent. In the past, the nuclear industry has often been the subject of impassioned debate but this has not been within the framework of any official procedure This difference may have a considerable effect and mean that those promoting nuclear activities will no longer be put in the position of the accused

The documentary information required before impact studies are carried out have therefore become, in practice, a requirement in respect of projects to construct nuclear installations Similarly, the new organisation of the public enquiry procedure will apply to such projects, both when the public usefulness declarations (DUP) are being prepared and also in respect of the local enquiries which take place before authorisation is granted for waste disposal. As to the local enquiries which precede the granting of licences for basic nuclear installations in respect of which no DUP has been made, it is likely that they, too, will be conducted in accordance with the new provisions.

These changes do not, strictly speaking, constitute decentralisation measures They have been made in relation to procedures for which the Government remains responsible but at the same time, it is clear that they go towards a more active involvement of local people with their immediate environment. This is true also for the Information Commissions (*Commissions d'information*) set up on the initiative of the General Councils, i e at *Département* level, and attached to major energy facilities Composed of elected members together with representatives of employers' organisations, trade unions and nature conservancy societies,

they have an advisory and consultative role but no power of decision They examine projects and see that sites are appropriate for their area

Mention should be made of a letter written on 8th May 1982 by the Minister for Industry to the inter-département Directors for Industry* (*Directeurs interdépartementaux de l'industrie*). Strictly speaking, this letter does not deal with decentralisation in the sense of transferring powers to an autonomous local authority, but rather with delegation, to an office which remains under the direct authority of the Minister, by means of entrusting an important role in the supervision of basic nuclear installations to the Regional Director for Industry. This is particularly clear in the case of Regional Directors who have at their disposal a nuclear division, whether it be within their own Directorate or attached to a neighbouring one It is, in this instance, the Regional Director for Indistry who informs operators of visits by the inspectors of basic nuclear installations It is he who, following such visits, records any discrepancies between the measures àpplied in the installation and those described in the safety report or prescribed by the Central Service for the Safety of Nuclear Installations (*Service Central de Sûreté des Installations Nucléaires*) and any comments the operator might make in this respect are addressed to him The Central Service is kept informed and receives from the Regional Director for Industry the inspector's report together with the Director's comments. In cases where a Regional Directorate has no nuclear division available to it, supervisory activities are carried out in liaison with the Directorate

In all cases, the monitoring of prestressed nuclear reactor vessels (Title III of the Order of 15th June 1970) and in-service supervision of the main primary circuit in nuclear plants involving the use of water (Title III of the Order of 26th February 1974) fall within the jurisdiction of the Regional Director for Industry. The Central Service remains competent with respect to procedures for licensing and supplementary specifications but it is the Office for Nuclear Construction Control (*Bureau de contrôle de la construction nucléaire*) of the Bourgogne-Franche-Comté Regional Directorate for Industry which is responsible, under Titles I and II of the Order of 26th February 1974, for supervising, throughout the country, the construction of the main primary circuit in nuclear plants involving the use of water

Regional Directors for Industry have therefore become the persons with whom local authorities, and in particular *Préfets* and elected representatives, will normally deal in respect of all questions of safety affecting the construction and operation of basic nuclear installations, thereby replacing the Central Service for the Safety of Nuclear Installations whose dealings with such authorities should be limited to cases involving serious or significant events. They will also lend assistance to the Information Commissions attached to major energy facilities

There are in fact very few rules and regulations dealing with the decentralisation of nuclear activities. The only other text found concerns the CEA, in respect of which a Decree of 24th August 1982 specifies "In addition, by virtue of its various activities, the CEA shall, in liaison with the regional authorities, contribute to technological development in the Regions".

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*Now the Regional Directors for Industry (*Directeurs régionaux de l'industrie*).

In conclusion, one cannot fail to be struck by the fact that Governmental responsibility for major energy policy decisions has in no way been diminished although it is now exercised within a system that allows greater participation by the public, through decentralised authorities.

INTERNATIONAL LEGAL AND POLITICAL CONSIDERATIONS CONCERNING THE SEABED DISPOSAL OF NUCLEAR WASTE*

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I. INTRODUCTION

From its *beginnings* in 1973, to the present time, the concept of disposing of high-level nuclear wastes within the seabed has attracted serious investigation by numerous scientists (1). The governments of the United States, the United Kingdom, Japan and France have each established sub-seabed disposal programmes involving the scientific, technical and environmental evaluations of this nuclear waste disposal option (2) These nations, along with others, also participate in the Seabed Working Group of the OECD Nuclear Energy Agency, established for the purpose of internationally co-ordinating research and development efforts and sharing of findings (3) The scientific work to date has led to the general conclusion that the burial of high-level nuclear waste within the deep-sea clays of the oceanic basins, in conjunction with a perfected *multi-barrier* containment concept, could prove technically and environmentally feasible (4) In fact, some scientists believe that *the answers to the scientific questions regarding the environmental feasibility of the sub-seabed emplacement concept will probably be resolved before the end of the decade, and perhaps as early as 1985* (5)

This anticipated resolution of the scientific questions highlights the need for further consideration of the international legal and political implications arising from any proposed seabed disposal of high-level nuclear waste. Such further consideration of the international legal issues, as follows herein, will necessarily involve the analysis of three general areas of international law, namely

1) the question of coverage under the 1972 London Ocean Dumping Convention,

2) the application and effect of the provisions of the new United Nations Convention on the Law of the Sea, and

3) the consideration of general principles of international law

The consideration of a sub-seabed disposal option and international politics will be limited to a review of the principal actors and their probable roles.

Finally, the necessity for the eventual establishment of a regional/international regime to regulate and oversee any actual seabed disposal programme will be discussed. This discussion will include suggestions concerning the framework of action to be followed in further realisation of such a regional/international regime.

*The ideas expressed and the facts given are on the responsibility of the author

II INTERNATIONAL LAW CONSIDERATIONS

A The 1972 London Ocean Dumping Convention

The sub-seabed disposal (SSD) option, as considered herein, would involve the burial of high-level nuclear wastes in the sediments contained in deep ocean basins, outside any limit of national jurisdiction or interest and well within what is referred to as the *Area*, or the *res communis* (6). Accordingly, the applicability of the prohibitions against the *dumping* of high-level radioactive waste *at sea*, as contained in the 1972 London Convention, must be determined prior to the implementation of any such programme

The 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (1972 London Convention) resulted from the work of the Inter-Governmental Conference on the Dumping of Wastes at Sea, held in London from October 30th to November 10th 1972 (7). This Convention, which represents the most comprehensive regulation of ocean pollution undertaken to date, currently claims some fifty Contracting Parties, including the majority of major maritime nations The International Maritime Organisation (IMO), which was formerly the Inter-Governmental Maritime Consultative Organisation (IMCO), serves as the Secretariat in relation to the Convention (8)

Recognising (as stated in the Preamble) *that States have, in accordance with the principles of international law, the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or or areas beyond the limits of national jurisdiction*, the Contracting Parties then prohibit the dumping of certain wastes (Annex I), and establish a general and special permit system (Annexes II and III) for the dumping of other wastes (9) Among those wastes prohibited for dumping, Paragraph 6 of Annex I lists

> High-level radioactive wastes or other high-level radioactive matter, defined on public health, biological or other grounds, by the competent international body in this field, at present the International Atomic Energy Agency, as unsuitable for dumping at sea (10)

Working to improve upon the 1973 *Provisional Definition and Recommendations* (11), the International Atomic Energy Agency (IAEA) published, in 1978, its *Revised Definition and Recommendations*, wherein high-level radioactive wastes are defined in terms of *matter with an activity per unit gross mass* exceeding certain curie limits (12). There being no question that the nuclear wastes being considered for disposal within the seabed constitute such *high-level* radioactive wastes, the question then raised becomes whether or not this SSD option would, in fact, constitute *dumping* under the terms of the Convention.

In general, there appears to be agreement among those who have considered the question, that such activity would not, under certain stated conditions, constitute *dumping*. On the other hand, there is at least one legal opinion expressing the view that SSD would qualify as *dumping*, and thus be prohibited under the 1972 London Convention.

By way of reference, Article III of the Convention specifically defines dumping as

> i) any deliberate disposal at sea of wastes or other matter from vessels, aircraft, platforms, or other man-made structures at sea,

ii) any deliberate disposal at sea of vessels, aircraft, platforms or any other man-made structures at sea (13) (emphasis added)

As might be expected, the majority of analyses of this definition of *dumping* have focused upon the term *disposal at sea* (meaning the first *at sea*), which is clearly at the heart of the issue vis-a-vis SSD

In his book published in 1978 concerning the sub-seabed option, David Deese set forth two interpretations for this term, namely

1 It refers to the location of the disposing party, i e any disposal from vessels that are at sea constitutes dumping, regardless of whether there is any possibility of the wastes eventually reaching the waters (thus SSD would be dumping)

2. It refers to the final location of the wastes themselves, i e. any disposal from vessels resulting in the discharge of wastes, whether containerized or not, into the water and/or onto the seabed constitutes dumping (SSD would not be dumping) (14).

Deese concludes that, until further clarification of the technical and scientific feasibility is given, the application of these interpretations *is not yet clear* (15)

Taking a somewhat different approach, Professor Jean-Pierre Quéneudec has examined the authentic texts of the Convention in English, French and Spanish, and he concludes that the first *at sea* must refer to the receiving medium, i.e., *dans la mer* or *en el mar* (16) Thus, he is of the opinion that the disposal of nuclear waste by burial in the seabed *cannot be described as dumping* in light of these terms, and the general meaning to be ascribed to them (17).

And, as concerns the term *at sea*, a Final Report outlining the political and institutional implications of an SSD option prepared for the U.S. assessment programme, takes what appears to be a clear, commonsense approach:

> Since the second *at sea* applies to the location of the vessel or facility from which disposal is undertaken . the first *at sea* may be read to apply to the position of the materials disposed of If the final position of the wastes were such that they would be completely isolated from the marine environment, then emplacement ... may not be *dumping* since it would not result in final disposal *at sea* (18) (emphasis added).

To these analyses one must add the definition of the word *sea* itself, as stated in Paragraph 3 of Article III, meaning *all marine waters other than internal waters of States* (19) (emphasis added) When applied to the term *disposal at sea*, it seems quite clear that the dumping concerned with in the London Convention is limited to the disposal of wastes into *marine waters*, in line with the view that the first *at sea* applies to the *final position* of the wastes disposed of, and not to the position from which disposal is made. This approach also accords most closely with the ordinary meaning of the word *disposal*; being, i e *the method of . placing (things) in position* (20).

Additionally, it seems doubtful that the drafters of the Convention would twice use the term *at sea* to indicate the position of the vessels from which the disposal is made, since it is beyond question that

the second at *sea* already specifies the location of the disposing vessels themselves Such a strained interpretation would, clearly, make the definition of *dumping* devoid of any meaning whatsoever.

Article 31 of the 1969 Vienna Convention on the Law of Treaties sets forth the general rule of the treaty interpretation, instructing that *a treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms . . in their context and in the light of its object and purpose* (21). The object and purpose, or intent, of the London Convention (as to possible intended coverage of SSD) can most generally be derived from a short review of the preparatory work leading up to the drafting of the Convention, and the consideration of statements or opinions expressed concerning intent at the time of drafting the Convention, and afterwards

First of all, a reading of the major reports which preceded the London Convention, produced by the Brynielsson Group (1960) and the Rousseau Panel (1963), scientific (22) and legal (23), respectively, reveals no stated or implied intent to regulate the disposal of nuclear wastes within the seabed (24) Additionally, the report of the U.S. Delegation to the London Convention negotiations contains no discussion of any possible SSD (25) This is of course true in consideration of the fact that this disposal option was not widely discussed by the scientific community until around 1973 (26).

However, specific mention of the possibility of sub-seabed emplacement was made in the first draft of the IAEA's Provisional Definition and Recommendations, to the effect that

> Certain methods of radioactive waste disposal, although not feasible at this time, may eventually be developed technically to the point of proposing the long-term isolation of wastes by emplacement beneath the seabed. Such methods should be evaluated as variations of deep geological burial on land and are excluded from the scope of this document because they will not contribute to the radioactivity of the sea (27) (emphasis added).

While this statement of *non-inclusion* was superseded (28) by the definition later adopted by the IAEA, and thus not part of the present Convention mechanism, it continues to stand as strong evidence of the true *intent* of the London Convention when considering possible coverage of the burial of high-level nuclear wastes in the seabed.

Although the U.S government has not expressed an official viewpoint on the issue of whether the London Convention would effectively prohibit the SSD option, several major U.S. agencies which would be directly involved in deciding such an issue have circulated opinions on the subject. Both the Department of Energy (29) and the National Oceanic and Atmospheric Administration (NOAA) (30) of the Department of Commerce have opined that the better reading of the Convention is that it does not prohibit SSD, if performed in an environmentally safe manner. The Department of State, which, by its very nature carries great weight in the matter of treaty interpretation, has taken a *wait-and-see* attitude, in light of continuing technical development (31).

However, the Environmental Protection Agency (EPA) has issued a legal opinion concluding that, although the terms of the Convention are *ambiguous*, the *better view would seem to be that the Convention prohibits the deep seabed emplacement of high-level radioactive wastes* (32). This EPA legal opinion strongly relies upon the author's stated assumption that

Article I establishes the *implicit purpose or aim of the London Convention .. to control all sources of pollution of the marine environment* (33)

In fact, Article I does not read quite so broadly While agreeing to *promote the effective control of all sources of pollution of the marine environment*, the Contracting Parties merely *pledge themselves especially to take all practicable measures to prevent the pollution of the seas by the dumping of waste* (34). Thus, the stated aim of the London Convention was not to control all possible sources of marine pollution, but to move forward with regulation, as soon as possible, of the ocean dumping source. A statement in the Preamble to the Convention summarises this intent by stating that the Contracting Parties were *convinced that international action to control . dumping . be taken without delay but that this action should not preclude discussion of measures to control other sources of marine pollution as soon as possible* (35).

The preliminary legal position taken by the EPA is best understood when considering its important role in the U S government as protector of the environment (and not necessarily as promoter of nuclear energy), and its stated desire to provide *maximum protection of the marine environment* pending further clarification of the perceived ambiguities in the London Convention (36). Furthermore, it should be noted that U S domestic ocean dumping legislation and regulations would, as currently drafted, prohibit <u>any</u> *disposal* of high-level nuclear wastes, and that these domestic laws appear to become intertwined with the London Convention issue since they are, to a degree, parallel regulatory schemes (37)

In a recent assessment of the policy issues facing the U S SSD programme (prepared for the U.S. State Department), investigators at the Institute for Marine Studies at the University of Washington concluded, after considering the views expressed by Former U.S. Ambassador to the Law of the Sea Conference Elliot Richardson (38), Professor Jean-Pierre Quéneudec (39) and Professor John Norton Moore (40), that the *best available answer* to the question of SSD coverage under the London Convention was *probably not, though a certain amount of ambiguity remains* (41)

Then, in qualifying their position, the authors of the University of Washington report attach a standard of environmental feasibility to be met before SSD could be said to be taken outside of the prohibitions of the London Convention, such as follows.

> This implies that the act of emplacement itself cannot be construed as pollution or dumping and that the test to be applied after emplacement of the canisters is that there be a) no release of radioactivity greater than background levels, and b) that no adverse impacts to the marine environment be the result of such release (42).

Thus, the final determination of whether an actual SSD programme would be prohibited by the terms of the London Convention will rest, in the main, upon the environmental and technical assessment of the scientific community, and the weight to be accorded that assessment Assuming for the purposes of this paper (as further discussed in Part IV hereof), that such a feasibility standard will be established and met, then it appears quite clear in light of its actual terms and intended purpose, that the London Convention would not prohibit such emplacement of high-level nuclear wastes within the seabed.

B The 1982 Convention on the Law of the Sea

Following almost a decade of intensive negotiations, the comprehensive Convention on the Law of the Sea (Treaty) was formally adopted on April 30th 1982, during the Eleventh Session of the Third United Nations Conference on the Law of the Sea, or UNCLOS III (43). A total of 130 states voted for final approval of the Treaty, including such maritime nations as France and Japan. Four countries voted against the Treaty; namely the United States, Venezuela, Israel and Turkey. Among the 17 nations abstaining were, notably, the USSR and various countries of the *Eastern-Bloc*, the United Kingdom and the Federal Republic of Germany. In general, most contravention and abstention stemmed from concern over that portion (Part XI) of the Treaty dealing with the deep-sea mining of seabed minerals - primarily, the issues of *preparatory investment*, and makeup of the controlling seabed Council (44).

This important Treaty will be open for signature for two years (45), and is subject to ratification and formal confirmation by States Parties (46) Pursuant to Article 308, the Treaty will *enter into force 12 months after the date of deposit of the sixtieth instrument of ratification or accession* (47) Therefore, in consideration of the view that any SSD option would not be determined as even environmentally feasible until at least 1985 (48), the review of the new Treaty that follows herein assumes its coming into force prior to any actual SSD undertaking

A reading of this lengthy Treaty - covering over 220 pages, with 17 separate parts and 9 annexes - reveals three general subject areas the provisions of which may play an important role in any future SSD programme. Requiring special review are the articles concerning marine environmental protection, marine scientific research, and those regulating the international seabed area It should be noted at the outset, however, that there are no specific provisions contained in the Law of the Sea Treaty which directly mention or confront the issue of SSD. In fact, former U.S. Ambassador Elliot Richardson has commented that, to the best of his knowledge, the subject was not discussed during the negotiations (49). This of course does not mean that provisions of the Treaty do not, or could not, have a profound effect upon any future SSD programme.

Protection and Preservation of the Marine Environment - Part XII

The Treaty articles concerning the protection and preservation of the marine environment stem from the agreed obligation of the States Parties *to protect and preserve the marine environment* (50). In furtherance of this general obligation, Part XII then requires states to take measures to prevent, reduce and control all sources of pollution of the marine environment, including those areas beyond their jurisdiction or control (51) Concerning such measures to be taken, Article 194 specifies, *inter alia, those designed to minimize to the fullest extent possible*

a) the release of toxic, harmful or noxious substances, especially those which are persistent, from land-based sources, from or through the atmosphere or by dumping,

c) pollution from installations and devices used in exploration of the natural resources of the seabed and subsoil . ,

d) pollution from other installations and devices operating in the marine environment .. (52) (emphasis added).

The phrase *pollution of the marine environment* is broadly defined in Article 1 of the Treaty as

> *The introduction by man, directly or indirectly, of substances* or energy into the marine environment ... which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities, ... (53).

And, for purposes of the Convention on the Law of the Sea, the term *dumping* means *any deliberate disposal of wastes or other matter from vessels, aircraft, platforms or other man-made structures at sea* (54)

Thus, even if SSD could be considered as a form of dumping under this broad definition - which, as compared to that of the London Convention does not suffer from the disposal at *sea* problem - it is apparent that dumping itself is not totally prohibited under this Treaty. In fact, *pollution of the marine environment* is not totally prohibited, but merely sought to be controlled and minimized *to the fullest extent possible*, including the release of dangerous substances through dumping

In order to accomplish this stated goal of marine pollution control, Part XII calls upon states to join together on a global and, as appropriate, on a regional basis in formulating such measures (55) Importantly, Article 237 provides that the provisions of Part XII are *without prejudice* to the specific obligations assumed by states under previous international agreements on marine pollution control, where such obligations are carried out in *a manner consistent with* the general objectives of the Treaty (56). The provisions of Part XII on state enforcement (57) and liability (58) then tie-in individual state responsibility for the fulfilment of their international obligations pertaining to the protection of the marine environment.

Therefore, it must be concluded that these marine protection articles do not prohibit the burial of nuclear wastes within the seabed This conclusion is in line with the view expressed by David Deese (59), Professor Quéneudec (60) and the Urban Systems research group (61) who at *the time had themselves reviewed and discussed the marine protection* provisions of the Informal Composite Negotiating Text (ICNT), in consideration of any proposed SSD. In effect, the Treaty's marine protection articles merely refer the States Parties back to existing international marine pollution control treaties, such as the London Convention, and require measures to be taken, both individually and jointly, to control all sources of marine pollution.

Marine Scientific Research - Part XIII

Like the provisions on marine environmental protection, the marine scientific research (MSR) articles contained in Part XIII of the Treaty do not present any direct obstacles to any proposed SSD of high-level nuclear wastes. Beginning with the general premise that all states, and competent international organisations, have the right to conduct marine scientific research (62), and that such entities shall promote the development of such research (63), this section then sets forth, in Article 240, *the general principles for the conduct of MSR*

a) marine scientific research shall be conducted exclusively for peaceful purposes,

b) marine scientific research shall be conducted with appropriate scientific methods and means compatible with this Convention;

c) marine scientific research shall not unjustifiably interfere with other legitimate uses of the sea compatible with this Convention and shall be duly respected in the course of such uses,

d) marine scientific research shall be conducted in compliance with all relevant regulations adopted in conformity with this Convention including those for the protection and preservation of the marine environment (64)

Of particular importance to any future SSD research to be conducted in the marine environment are the provisions of Section 2 of Part XIII calling upon states and competent international organisations to promote *international co-operation* in MSR (65), and to then publish and disseminate their findings (66). Additionally, states and competent international organisations are granted the right, under Article 256, to conduct MSR in the Area (67), subject to the provisions of Part XI which are, in the main, general in nature (like the principles in Article 240) and promotive of international co-operation (68).

Following his review of these provisions vis-à-vis any preparatory SSD activity, Professor Quéneudec concludes that such MSR freedoms necessarily include the *corresponding right to carry out experiments in the marine environment* (69). In addition to this sound reasoning, it may be appropriate to mention the issue of state and international organisation responsibility and liability *for damage caused by pollution of the marine environment arising out of marine scientific research* ., as set forth in Article 263 (70).

The Area - Part XI

Under Part XI of the Law of the Sea Treaty, the *seabed and ocean floor and subsoil thereof beyond the limits of national jurisdiction* (71) or Area, is the subject of a set of rules and principles unique in the history of codified international law. Proceeding from the principles laid down in a 1970 United Nations General Assembly Resolution (72), the States Parties have agreed that *the Area and its resources are the common heritage of mankind* (73). The International Seabed Authority (the *Authority*) is then designated as the organisation *through which States Parties shall .. organize and control activities in the Area, particularly with a view to administering the resources of the Area* (74) (emphasis added). Since the concept of SSD would involve the *use* of portions of this Area, it is vitally important to ascertain, to the best extent possible, the scope of powers granted the Authority, and the probable effect of the general principles established to govern this Area

First of all, Paragraph 3 of Article 1 of the Treaty *limits* the meaning of the phrase *activities in the Area* to *all activities of exploration for, and exploitation of, the resources of the Area* (75). For the purposes of Part XI of the Treaty governing the Area, the word *resources* is defined as *all solid, liquid or gaseous mineral resources in situ in the Area at or beneath the seabed, including polymetallic nodules* (76).

Applying this definition to the specific terms of the following articles, it is clear that the powers of the Authority, in formulating rules and regulations on the protection of the marine environment and the protection of human life, are strictly limited

Article 145

Protection of the marine environment

Necessary measures shall be taken in accordance with this Convention with respect to activities in the Area to ensure effective protection for the marine environment from harmful effects which may arise from such activities. To this end the Authority shall adopt appropriate rules, regulations and procedures for inter alia.

a) the prevention, reduction and control of pollution and other hazards to the marine environment, including the coastline, and of interference with the ecological balance of the marine environment, particular attention being paid to the need for protection from the harmful effects of such activities as drilling, dredging, excavation, disposal of waste, construction and operation or maintenance of installations, pipelines and other devices related to such activities,

b) the protection and conservation of the natural resources of the Area and the prevention of damage to the flora and fauna of the marine environment

Article 146

Protection of human life

With respect to activities in the Area, necessary measures shall be taken to ensure effective protection of human life To this end the Authority shall adopt appropriate rules, regulations and procedures to supplement existing international law as embodied in relevant treaties (77) (emphasis added)

And, as previously mentioned (78), the article dealing with marine scientific research (MSR) to be conducted in the Area merely reiterates the basic MSR *freedoms*, and requires the promotion of such research through the appropriate international organisations (79). Thus, several researchers have reached the same conclusion (after reviewing similar articles as contained in the ICNT) that the articles regarding the Area and marine protection, protection of human life and MSR limit the power of the Authority to its *mandated concern* of safeguarding against any harmful effects from mineral exploration and exploitation (80).

While this seems the reasonable interpretation to be given these provisions, one should - in light of the sensationalism and emotion often associated with the nuclear waste issue - consider the possibility that an intentionally ignored Authority may, in its desire to block any proposed SSD, broadly apply the meaning of the term *resources* so as to include the *exploitation* of minerals utilised in the burial and eventual dispersion of a nuclear waste canister (even as *de minimis* as that action may prove to be) Such supposed *activities in the Area* would then, under such a scenario as outlined above, come under the direct and total control of the Authority (81)

Although such an interpretation would be extreme especially when considering the purpose and intent of Part XI to provide for the internationally managed and shared deep-seabed mining of valuable mineral resources ... (82) it raises the important issue of the interpretation to be given certain provisions in attempting to foresee the limits of the

Authority's jurisdiction In particular, two separate sections of Part XI have been interpreted by various researchers to the effect that they might provide the Authority with some jurisdiction over any future SSD programme

- Reasonable regard

Under Paragraph 3 of Article 147, *other activities in the marine environment shall be conducted with reasonable regard for activities in the Area* (83) (emphasis added) David Deese has stated his opinion that under this provision the Authority *might acquire a role in a potential sub-seabed disposal program for high-level radioactive waste* .. (84) In the recent report prepared by the University of Washington, the authors construe this provision as requiring, at the least, *consultation* with the Authority *on risks posed to the marine environment* by any proposed emplacement of high-level nuclear waste in the seabed of the Area (85).

What would be actually required of a SSD programme by the phrase *reasonable regard* as used in this article is, of course, dependent upon subjective interpretation Would the mere unilateral application of the vague *reasonableness test* (86) (basically, use so as not to cause damage to the environment of others) be sufficient, or would actual notification and consultation with the Authority be required? Since the provision itself does not prohibit *other activities* in the marine environment, *and* since the determination of this *reasonable regard* is not allocated solely to the discretion of the Authority, it seems that the better interpretation would be that prior notification and consultation with the Authority would not be strictly required, based solely upon this single article.

- Appropriation of the Area

However, the other Treaty provision which has received extensive discussion in relation to the SSD option is Article 137, and it reads much more clearly and on point

Article 137

Legal status of the Area and its resources

1 No State shall claim or exercise sovereignty or sovereign rights over any part of the Area or its resources, nor shall any State or natural or juridical person appropriate any part thereof No such claim or exercise of sovereignty or sovereign rights, nor such appropriation shall be recognized

2 All rights in the resources of the Area are vested in mankind as a whole, on whose behalf the Authority shall act. These resources are not subject to alienation The minerals recovered from the Area, however, may only be alienated in accordance with this Part and the rules, regulations and procedures of the Authority

3 No State or natural or juridical person shall claim, acquire or exercise rights with respect to the minerals recovered from the Area except in accordance with this Part Otherwise, no such claim, acquisition or exercise of such rights shall be recognized (87) (emphasis added).

Although the areas utilised in any SSD would be miniscule and devoid of any valuable polymetallic nodules - with no interference with deep-seabed mining (88) - such activity would, in the view of several persons who have considered this provision, involve the *appropriation* of

portions of the Area The authors of the University of Washington report conclude that *the area in which canisters are emplaced will ipso facto constitute appropriation, excluding others from using the same area for other purposes* (89). Likewise, Robert E. Stein of the International Institute for Environment and Development has testified before a U S Congressional Committee that, in his opinion, a SSD programme would necessarily involve the *appropriation* of areas of the deep-seabed (90)

Accordingly, one must then question whether the sub-seabed disposal of high-level nuclear wastes would be totally prohibited by this article, as a form of *appropriation*? If *every* utilisation of the ocean floor or seabed were interpreted so as to constitute an *appropriation* of a portion of the Area, then the mere laying of submarine cables or deployment of MSR equipment in or upon the seafloor would be prohibited, under the terms of Article 137 Clearly, this is not the case when considering the provisions providing for *other activities in the marine environment* (91), and freedom for marine scientific research in the Area (92)

The term *appropriation* must, therefore, be considered in a stricter sense to mean, in effect, to claim an area as one's own Thus, the mere *use* of an area of the ocean floor, such as submarine cables, MSR, or, for that matter, SSD, can be accomplished without the *intention* to appropriate *and* in full recognition of the *common heritage of mankind* principle applicable to the Area

If SSD is to be considered as a use of the Area and not as a strictly forbidden *appropriation*, then just what role, if any, would the Authority be entitled to play in any actual SSD programme? Professor Quéneudec has considered that question and he concludes that

> By reason of the special nature of the radioactive waste thus disposed of, such disposal might produce, if not the actual *appropriation* of the burial site, at least a kind of *freezing* of the ... area affected, which would thereby be rendered as unavailable for any other use for an indefinite period This might be seen as prejudicial to the principle of the common heritage and contrary to the prohibition on States appropriating any part of the Area. The consent of the Authority would therefore seem to be essential ... (93) (emphasis added)

Therefore, it would appear that in order to avoid a possible clash with the Authority over the issue of appropriation under Article 137, it would be necessary to first consult with the Authority prior to any actual nuclear waste canister emplacement, and to clearly establish the intent of the actors *not* to appropriate, but to merely *use* the designated portion in full recognition of the common heritage principle In this manner, the Authority would at least be authorised to grant its consent, if it so chose

Professor Quéneudec raises another interesting point in his analysis of the powers granted the Authority under Part XI, with his reference to Paragraph 2 of Article 157, concerning the *nature and fundamental principles of the Authority*:

> The powers and functions of the Authority shall be those expressly conferred upon it by this Convention The Authority shall have such incidental powers ... as are implicit in and necessary for the exercise of those powers and functions with respect to activities in the Area (94) (emphasis added)

This *implied powers* provision may, as speculated on by Professor Quéneudec, provide the Authority with the necessary *internal momentum* to claim much broader powers of control over any and all activities taking place in the Area than are enumerated in the Treaty (95).

And, interestingly enough, the Seabed Disputes Chamber (set up under the Law of the Sea Tribunal) (96) is not granted any jurisdiction *with regard to the exercise by the Authority of its discretionary powers*.. (97). Thus, the Authority may be tempted to expand upon the application of the phrase *activities in the Area*, similar to that discussed previously, in order to enable the drafting of marine protection rules and regulations for the Area designed to encompass any proposed SSD programme.

In consideration of these provisions in Part XI specifically concerning the scope of authority to be granted the Authority, and in light of its lofty role as protector of the international domain, it can reasonably be expected that the Authority will attempt to exercise *extensive* management powers over this *common heritage of mankind*. And, as further opined by Professor Quéneudec, *it is therefore reasonable to think that any burial of nuclear waste in the international seabed would require the prior approval of the Authority or at least the prior notification of the Authority, which would then be entitled to state its objections or make recommendations* (98)

This requirement of prior approval (or at least notification) from the Authority is especially true for any actual operational phase of a SSD programme. As evidenced by the statement of broad marine scientific research freedoms contained in Part XIII (99), the *experimental rules* could be relatively relaxed (100), with no strict requirement for Authority notification The real challenge *regards the subsequent use of the technology thus developed* (101)

This would be especially true for those members of a regional/ international organisation that are also States Parties to the Law of the Sea Treaty, where such an organisation may desire to move forward with an SSD operational phase. Such nations would each individually need to evaluate their position regarding their perceived Treaty requirements, and any joint activity by such an organisation And, in addition, it must be considered that the failure of the U S and other NEA Member countries to sign the Treaty could, as pointed out in the University of Washington report, *tend automatically to complicate the SSD issue because a wider conflict will ensue, relating to the jurisdiction of the ISA* (102).

On the other hand, the failure of the U S., the USSR, the UK, the FRG and other major maritime nations to join in the Treaty may foreseeably have an even more dramatic effect upon the Treaty. The Treaty may not even come into force, or if it does come into force, it may not enjoy the type of customary use of the seabed such as to be considered as developing general principles of international law binding upon all nations (103). And, even more likely to a degree, is the possibility that financial and technical support for the internationalisation of deep-sea mining through the Authority will be lacking and, in effect, never implemented. In this regard it should be remembered that the United States remains the leader in both deep-sea mining technology and in the financial support for such

An *Authority* with insufficient funds and technology would be highly unlikely to carry through with the actual mining of deep-sea nodules, and, therefore, would not create any customary international practice sufficient to establish international law. In fact, actual deep-sea mining carried out by the U S. and other non-signatories, unilaterally or jointly,

would possibly be the only real customary international practice to point to (104). This scenario, however, presupposes either the *failure* of the Treaty itself, or the desire of the non-signatories to ignore the provisions and principles embodied in the Treaty. Neither event may occur

C. General International Law Principles Applied to SSD

While the participants in the Treaty negotiations have attempted to codify certain obligations of States Parties regarding their conduct in the marine environment, certain general principles (or peremptory norms) of international law remain applicable to both parties and non-parties alike (105) A review of the general principles of international law pertaining to activities in the international marine environment reveals two areas of *evolving international law* (106) which would, in all respects, directly apply to any actual SSD programme, namely

1. an environmental standard of care, or duty, to be imposed upon all nations when using the world's oceans, and

2. a measure of responsibility and liability for any damage that may result from such use.

Furthermore, there has been, in the recent past, some assertion that the *common heritage of mankind* concept has attained the status of a general principle of international law.

In general, a *peremptory norm of international law* binding upon all nations can be developed through *custom* which mainly entails a widely accepted *general practice* among nations over an acceptable period of time (107). Any such definition, of course, provides sufficient latitude for a myriad of subjective judgements as to what is or is not entitled to respect as a peremptory norm, especially in those areas of rapidly developing practices in new frontiers. However, certain subject areas in the law of the sea have enjoyed uniform practice by nations over a substantial period of time.

One area of quite uniform state practice has been the matter of the dumping of high-level radioactive wastes into international waters The First United Nations Conference on the Law of the Sea, held in Geneva in 1958, produced the following rule contained in the Convention on the High Seas concerning the dumping of radioactive wastes in general

> Every state shall take measures to prevent pollution of the seas from the dumping of radioactive waste, taking into account any standards and regulations which may be formulated by the competent international organisations (108).

Heeding this call for controlling measures, the signatories of the 1972 London Convention then established the prohibition against the *dumping* of high-level radioactive wastes and set up the regulatory framework regarding the dumping of other wastes (109). These international rules have enjoyed wide international practice and observance over such a period of time to the point that it is *probably safe to conclude that it is now recognized that high-level wastes cannot be dumped into the ocean* (110) Even though the new Convention on the Law of the Sea supersedes the 1958 Conventions for its States Parties (111), the general principle established pursuant to the 1958 Convention, and the 1972 London Convention itself, still remain

In much broader terms than the stated rule against the dumping of high-level radioactive wastes, are the principles for the protection of the marine environment. Although not encompassed in a general treaty, the

following principles adopted during the 1972 United Nations Conference on the Human Environment held at Stockholm well evidence generally accepted concepts of international environmental law

> Principle 21
>
> States have, in accordance with the Charter of the United Nations and the principles of international law, . . the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment . . of areas beyond the limits of national jurisdiction.
>
> Principle 22
>
> States shall co-operate to develop further the international law regarding liability and compensation for the victims of pollution and other environmental damage caused by activities within the jurisdiction or control of such States to areas beyond their jurisdiction (112)

Such a standard of care, as expressed in Principle 21 of the Stockholm Conference Report, goes beyond the duty unilaterally imposed by nations upon themselves under the vague *reasonableness test* (113) - a standard which was used to justify several claimed abuses of the marine environment (114). The duty described in Principle 21 is more closely in line with the *abuse-of-rights* principle enunciated in the often cited and discussed dissent filed in the International Court of Justice case of *Australia v France*, the so-called *Nuclear-Tests Case* (115). The *abuse-of-rights* principle would, in effect, admonish states against interference or abuse of other states' fundamental rights, such as the high seas freedoms or marine scientific research rights. Applying this body of law, it might be safely said that the right to use of the deep-seabed would be automatically subject to the corresponding duty not to abuse that right by inflicting damage upon the international marine environment - an area in which all nations equally enjoy certain rights.

Any damage actually inflicted upon the international environment would be likely to subject the offender to liability under the developing principles of international law. The best evidence of this body of international law would be the far-ranging treaties on liability for damage to the marine environment (116)

A further measure of the extent of these developing liability principles can be obtained from a reading of Article 19 of the draft *Articles on State Responsibility* drawn by the International Law Commission, which would define an *international crime* so as to include *the massive pollution of the seas* (117) And, although the new Law of the Sea Treaty is yet to come into force, it must be believed that those portions setting forth environmental protection duties and liabilities (118) will, in the not too distant future, themselves be cited as peremptory norms of international law - especially when considering their general acceptance by so many nations during the negotiations (119).

Accordingly, it can be reasonably assumed that any actual SSD programme conducted in the international marine environment would, regardless of any Law of the Sea Treaty provisions, be subject to developing principles of international environmental law imposing a standard of duty of care not to cause damage, and a factor of responsibility and liability for any actual damage inflicted (120).

Further relevant to any future SSD operation is the question of whether or not the principle of considering the deep-seabed as the *common heritage of manking* has, at present, attained the status and force of a

peremptory norm of international law This is an important question not only for those non-signatories of the Treaty, but also for all nations possibly interested in SSD should the Treaty itself fail to come into force or gain significant participation. In this regard, Professor Quéneudec has pointed out that the Member States of the Group of 77 have claimed that the substantive principles in the Law of the Sea Treaty, including the *common heritage* principle, have gained sufficient support and spring from such custom as to have acquired the force of peremptory norms of international law (121).

In commenting upon the legitimacy of this approach taken by the Group of 77, Professor Quéneudec alludes to the implications apparent in it for any future SSD programme:

> *This approach suggests not only that the exploitation of the* common heritage cannot be undertaken until an international mechanism is in place, but also that the common heritage must be *preserved from any interference pending agreement among the* parties concerned. It therefore leads to the *freezing* of the entire international seabed.
>
> However, this view lacks any legal basis insofar as it is difficult to claim that custom-based rules exist in relation to *the international Area of the seabed* For a *general* custom to come into being there must be a *general practice* within the meaning of Article 38 of the Statute of the International Court of Justice, the psychological factor of the *opinio juris* is not sufficient In relation to the seabed no practice at present exists, precedents still remain to be created (122) (emphasis added).

Now that the principle of the common heritage of mankind has been finally approved by 130 nations, it is even more likely that this concept and *freezing* of the seabed area will be presented as a concrete rule by any *aroused Authority, even without the necessary state practice*

Although the only present practice may be the deep-seabed *mining programmes and activities of a few industrialised nations, it would* be very difficult to qualify those actions as any general practice or customary use either, especially in light of the number of nations approving the Law of the Sea Treaty. Realistically speaking, there has not been sufficient usage of the ocean floor to date, nor sufficient time for application of the Law of the Sea Treaty, to create any specific precedent in either direction.

Therefore, it would be safe to conclude that, at this point in time, no specific principle of general international law exists which would prohibit the emplacement of high-level nuclear wastes within the seabed *Such activity would - for those non-parties and disregarding any future* precedent that may be created as a result of the provisions of the Treaty - merely be subject to the developing general international law principles *concerning marine pollution protection and state liability*

III. INTERNATIONAL POLITICAL CONSIDERATIONS

Even in the event that the legalities should prove capable of being resolved, the future of any SSD undertaking rests squarely upon the degree of international political support and acceptance it receives and upon the type of regional/international framework to be established as a result of that political support. This is particularly true since it is

the majority opinion, as previously discussed in Part II hereof, that the consent of the Authority will be essential to the effective implementation of any SSD programme in the Area But the Authority cannot be considered as the only actor playing a key role in this political process. Other political forces and groupings will, inevitably, decide the future of SSD.

A. The Scientific Community

First of all, the scientific community will, of course, continue to play the major role. Their ultimate scientific finding as to the technical and environmental feasibility of SSD will be decisive. And, the weight of support for, and respectability attached to, that scientific opinion will be critical. Those same standards will, of course, be applied to any dissent coming from the scientific community A reading of the current technical and scientific writings on SSD does not disclose any apparent strong dissent at this point (123) An early deep division within the scientific community could, very likely, prove fatal to any future SSD activity. And, it seems apparent that the best way to create such a situation would be for those scientists now working on SSD to keep their work and results strictly to themselves. Fortunately, this does not seem to be a problem at present, as evidenced by the publication in widely circulated scientific journals of numerous articles by leading scientists (124)

However, as previously stated and as developed further herein, it is very apparent that the SSD option is not going to be successfully implemented through the unilateral acts of a few industrialised countries, and that some form of a regional/international control regime will be required. Thus, the strong support of the international scientific community is going to prove a prerequisite which must be satisfied at some step in the political process In consideration of the level to which the scientific work to date has attained, those scientists seriously interested in further pursuing the SSD option in the future should begin (if practically possible) to bring within their group an expanded list of scientists from many nations and international organisations, especially those international organisations involved in the nuclear energy field. Through this arrangement of international scientific participation, future disputes caused by a lack of proper information could, hopefully, be avoided.

B. Public Opinion

In most democracies, public opinion can, ultimately, play the deciding role in the political process. Although this public opinion may have been shaped or determined by the views of the scientific community, press or government itself, the final effect of the majority of public opinion will be, in most instances, to create the national position. And, in recent years, the highly organised nature of democratic societies has tended to create powerful public-interest groups, which can be relied upon to forcefully play their assigned role of fighting for or against a specific proposal. The issue of nuclear waste disposal (and nuclear power in general) is one such issue which has generated some of the most vocal and active of all public-interest groups (125).

The well-publicised *anti-nuclear* movement is present to some degree in all nuclear-developed countries. While the general concern of the movement seems to be on the issue of nuclear power itself, the waste disposal problems have, in particular, attracted serious public attention For example, the recent United States announcement of its intent to resume the ocean dumping of low-level nuclear wastes has renewed public debate and outcry in the U S. (126), resulting in the adoption of a resolution by the

California State Senate requesting a complete ban on all radioactive waste dumping into the Pacific Ocean (127). And, interestingly enough, this resolution even went so far as to directly mention the SSD option

In Europe, environmental groups have engaged in more direct action, one such group going to the extreme of physically attempting to harass and block actual dumping operations conducted in international waters off Spain by countries belonging to the NEA (128) Such drastic protest, accompanied by world-wide media coverage, has tended to re-heat the issue concerning the propriety of the dumping of low-level nuclear wastes, as permitted under the London Convention (129)

It is clear that there has developed a sharp polarisation of public opinion, and national policy (130), over the dumping issue Merely transferring that disagreement over into some future SSD programme debate would, as pointed out by David Deese, have a disastrous effect

> The most important factor in gaining international political acceptability may be the extent to which national governments comprehend the difference between the long-term isolation of sub-seabed disposal and past, present and proposed disposal by dilution in the ocean. If the sub-seabed program is seen as just another category of geologic disposal options, it could eventually prove more acceptable than any land-based alternative If, on the other hand, it is categorized as just another form of ocean dumping, it will encounter strong opposition It could be .. extremely difficult for many .. environmental groups to accept (SSD) after a long and continuing battle to end radioactive waste dumping (131).

Thus, it will prove vitally important to the international public acceptability of any SSD proposal that care be taken in avoiding any linkage with the dumping debate, and that any presentation of the feasibility of SSD come not solely from a dumping operations connected group, but from a wide spectrum of international groups Therefore, it would seem important that representatives of various environmental and other public-interest groups (those indicating a willingness to seriously participate) be brought into the programme evaluation mechanism as soon as some formal scientific position has been formulated. Like most other instances in political life, the membership and overall influence of the more radical anti-nuclear groups is small compared to that of the more middle-of-the-road environmental groups. The majority of environmental groups well understand the problems posed by the continued stockpiling of high-level nuclear wastes, and should be interested in the full airing of all possible disposal options.

As regards the public generally, some method of public communication and explanation must be established in the future, in order to provide information regarding the feasibility of such a nuclear waste disposal option to interested groups (132).

C. Worldwide International Organisations and Agencies

Since any actual SSD would take place in the international domain, various international organisations and agencies will, by necessity, play important roles. Among those organisations, the International Seabed Authority (ISA), as previously discussed, is likely to require, or demand, a participatory role in such a matter involving the burial of high-level nuclear wastes within the Area. Then, the United Nations Environmental Programme (UNEP) serves as the overall international agency for environmental evaluations of programmes and activities having

global effects. Its United Nations' sponsorship ties its interests and activities directly with those of the ISA, and its position on any SSD proposal is bound to be decisive for both the Authority and the U N. General Assembly

The International Maritime Organisation (IMO), with its Secretariat duties and role under the London Convention, is sure to play an important role in reaching a final decision on the application of that Convention to SSD, and in deciding any possible future amendment. And, finally, although the list is not necessarily all-inclusive, considerable attention must be paid to the opinion and political workings of the International Atomic Energy Agency (IAEA).

The IAEA, being an international organisation with worldwide membership and global influence, serves as a good example of the problems to be encountered in the process of dealing with any international organisation or agency As expressed by David Deese, *the process is often halted by problems in reaching a consensus . , low interest of .. governments, or inability to reach agreement because of political differences* (133).

The nature of the SSD issue - involving the proposed use of an international area by a limited group of nuclear developed nations - could, if not properly structured and managed, become a classic political battle between those countries with the nuclear waste disposal problems, and those lesser developed countries or LDC's without anything tangible to gain or benefit by the acceptance of such an option The eventual acceptance of, and possible support for, the SSD concept by international organisations like the IAEA will, therefore, greatly hinge upon the receptivity of the group of LDC's in such an organisation. The problem then becomes just how to avoid that initial reflex of opposition by the LDC's David Deese considered this problem and came up with the following suggestions·

> In general, the reaction of the LDC's will probably be hostile, although this opposition will be tempered by the procedural aspects of how SSD is explained internationally. There will be much less opposition if the concept is introduced in its early stages by organizations such as the IAEA, IMCO, and UNEP, rather than later in its development by a few industrialized countries. For LDC acceptance, it is crucial that such organizations clearly demonstrate that SSD will be a legitimate, non-exploitive, and strictly peaceful use of the seabed available to many or all countries, rather than merely another very high technology use of the area by a few industrialized nations (134).

If this line of reasoning were to be followed, then two steps should be taken. First of all, representatives of international groups such as the IAEA, UNEP, IMO and, if established, the ISA, either as consultants or as observers, would be included as participants in the early stages of any regional/international regime for SSD. In this manner, the membership of such organisations, including the LDC's, could be initially introduced to the concept through their own organisations, and then kept abreast of later developments and plans.

Secondly, David Deese's analysis of the problem demonstrates the need to affirm the *benefits* of an SSD option for the LDC's, in order that the LDC's do not regard such an option as producing only negatives. One such direct benefit from an internationally-administered SSD regime would be the establishment of an international high-level nuclear waste disposal system that could, as proposed by the authors of the Urban Systems Report, *also be viewed as a service provided by the advanced industrial states to LDC customers* . (135).

Any success in gaining the eventual support of an international organisation like the IAEA is, of course, impossible to predict. However, it has been noted by persons reviewing the IAEA in light of a possible SSD proposal, that the organisation has recently made two important moves which may, in some manner, show its receptivity to the SSD option (136) First, the IAEA has, in its 1978 Revised Definition and Recommendations on ocean dumping, adopted an *isolation and containment* of radioactive wastes policy, as compared to the former policy of *dispersal and dilution* of nuclear wastes (137). The SSD option, with its *multi-barrier containment system*, directly practices such an *isolation and containment* policy And, secondly, consultants have recommended to the IAEA that the current distinction between high-level nuclear waste and non-high-level waste be abolished and replaced by a consideration of *radioactivity release rates*, in deciding what can and cannot be dumped under the London Convention (138)

These developments within the IAEA do not in any way mean that that particular agency, or any other international organisation, is going to prove receptive to the idea of an SSD option, or that such agencies would even choose to participate in the consideration of SSD. Gaining their actual participation in the future of SSD remains a question of international politics, in providing an appropriate regional/international administrative framework and in providing benefits for all nations through a nuclear waste disposal programme open to each.

IV. FINAL CONCLUSIONS AND SUGGESTIONS FOR A REGIONAL/INTERNATIONAL SUB-SEABED DISPOSAL REGIME

It appears quite apparent from the legalities involved, from the international political situation, and from the nature of the activity itself that the ultimate future of an SSD programme rests squarely within an acceptable and workable regional/international administrative and regulatory framework. The possible worldwide environmental consequences of any totally unregulated, unilateral (*free-for-all*) SSD activity are easily understood, and therefore dictate international regulation The fact that the activity will take place in the international seabed area will, as previously discussed, automatically bring the authority of the ISA into question, with the probable assertion of final approval or veto power Even a multilateral, co-operative SSD programme conducted and supervised solely by an international organisation of a regional nature, such as the NEA, could run into severe obstacles, as discussed by the authors of the University of Washington report

> Presumably, .. the OECD group could proceed, or attempt to *proceed, with developing the SSD option for the North Atlantic* alone, but they would be subject to enormous pressure diplomatically, domestically and possibly even challenged in the courts. The consequences of an accident occurring in such an *atmosphere* of conflict would be magnified (139)

In addition to these factors arguing against any unilateral or strictly limited regional SSD programme, the actual benefits of an internationally regulated and administered SSD option should be considered Besides providing a system of internationally supervised nuclear waste management, with uniform procedures and safeguards, an internationalised waste disposal system could also assist in the non-proliferation and control of nuclear weapons (140).

Thus, as expressed by scientists participating in the American assessment programme in discussing their reasons *for* the establishment of an internationally regulated SSD repository, *for the immediate future, the*

most useful progress would be for the clarification of an eventual regulatory regime (141). Considerable thought and attention has been given to the question concerning the general institutional framework that any future SSD programme should take. David Deese has suggested a *model approach* regarding what can be seen as the available options for an SSD regime (142). Options range from Model 1, being a corporate approach with significant government regulation, to Model 4, involving an internationally regulated and controlled SSD programme. Model 2 proposes a national government controlled programme, and Model 3 would provide for a regional (international) organisation approach

While pointing out that any actual SSD programme could consist of a combination of these approaches, David Deese's review of the legal and political circumstances of the SSD option led him to the conclusion that an *incremental approach* is *perhaps preferable* (143). In other words, it appears necessary to consider the *evolution* of any future SSD programme, from a beginning or first phase of experimentation and evaluation, to the second or actual operational phase. Differing levels of international participation and/or control would, therefore, be appropriate during each phase.

Besides developing the proper regional/international framework within which to operate, any future SSD regime must of course perform certain tasks and reach certain decisions throughout the two phases. This decision process, as developed in the University of Washington report, would take the following shape

> It seems to us that at the global level the most appropriate arrangement is a common framework in which the defined decision process does the following things·
>
> 1. reviews assessments about the technical feasibility of the SSD option;
>
> 2. decides whether on the basis of performance characteristics SSD is not dumping or decides to change the definition of dumping,
>
> 3. sets standards governing the design and operation of system components to meet the tests of safe disposal and protection of the marine environment,
>
> 4. maintains a system of inspection and routine checks,
>
> 5 settles the issue of liability *(144)*.

That *common framework*, as advocated by the University of Washington researchers, would take the form of a *linked regional/global regime* (145).

A. Experimental Phase Organisation and Regulation

At present, scientists are using mathematical computer models to predict the behaviour of high-level nuclear waste materials in the surrounding geological media (146) Eventually, field verification of the models will involve experiments in and on the seafloor. Although these experiments will not involve the emplacement of nuclear wastes themselves, they will of course include work in the international Area (147) As opined by Professor Quéneudec, such experiments would not constitute *activities in the Area*, as previously discussed, but would more closely resemble marine scientific research and thus be subject to the rules of the Law of the Sea concerning MSR (148). Regardless of the fact that such

experimentation would not, in and of itself, be subject to the direct control of the ISA (or, for that matter, any other worldwide international organisation), this experimental phase *could* provide the opportunity to lay the foundation for the ultimate regional/international regime that will be re-required for a later, actual operational phase. It could also help to pave the way for eventual international political acceptance as well

The primary task of any experimental phase will, of course, be to ultimately establish an agreed to *feasibility standard*, and to then provide the necessary experimentation and testing to see if the proposed SSD activity can meet that standard, much in line with procedures 1 and 2 outlined in the University of Washington report. But, the question then becomes just what organisation or group would be the most appropriate to move forward to establish the feasibility standard, and co-ordinate the experimental phase. To answer that question it is necessary to look to the NEA, with its Seabed Working Group (SWG), the only major international co-operative effort to consider an SSD option. The nine nations represented in the SWG account for more than three-quarters of the world's currently installed nuclear energy capacity (149) and, as such, the SWG represents those nations with the nuclear waste disposal problems and the technology to some day solve those problems.

Furthermore, the majority of the members of the IAEA, IMO and other worldwide international organisations - being LDC's without a current nuclear waste problem - have no *personal stake* in this problem confronting many industrialised countries and are therefore unlikely to compel their organisations to move forward with a consideration of any SSD option Even though these worldwide international organisations would not be considered as appropriate candidates for the controlling position in any experimental phase, this does not rule out the need to include these groups in the feasibility standard-setting process. The setting of a feasibility standard for SSD solely by the SWG would raise a question of international political acceptance for that standard, as recently posed by the authors of the University of Washington report

> Would the answer given solely by the Seabed Working Group (SWG) of the NEA be sufficient, along with individual assessments by countries possessing the capability, or will the scope of joint action required be much greater? We argue the latter, given the other components of the SSD issue at the international level ... (150).

Accordingly, at some point in the experimental phase, representatives of worlwide international organisations such as the IAEA, UNEP, IMO and the ISA (if established), will need to be included in the workings of the SWG, either as observers or for consultancy purposes In this manner, an international consensus can, hopefully, be developed on the establishment of, and at some later date, the application of, a feasibility standard.

Under this incremental, regional/international approach, the actual experimental activities could take place under the direct auspices of the NEA through its expanded SWG. While the experiments would be carried out by the concerned nations themselves, the overall direction and monitoring of such activities would remain the responsibility of the SWG This shared regional/international framework would facilitate the international dissemination of findings to the public and other interested parties while providing, at the same time, a centralised research effort

Beside the problems to be overcome in establishing the appropriate administrative framework for the experimental phase, the problem of the

setting of an acceptable scientific and environmental feasibility standard must be conquered Two American scientists have recently suggested a tentative definition for a feasibility standard as follows

> Scientific and environmental feasibility means that, for a given emplacement scenario, it can be shown with a probability better than Z that the maximum individual dose will be less than X and the population dose will be less than Y The standards are represented by X, Y and Z, with *dose* meaning exposure to radioactivity released from a subseabed repository (151)

Although this *definition* for establishing a feasibility standard is not presented herein for its possible scientific worth, it still serves a useful purpose in considering further activities to be undertaken in the experimental phase Once such a feasibility standard is established, it will then be necessary for the SWG to demonstrate through the appropriate scientific experiments, that such a standard can be met in the conduct of SSD activities. If the feasibility standard can be met, and if such a standard is found to be internationally acceptable, then it would be possible for an SSD programme to move towards an operational phase.

B. Operational Phase Organisation and Regulation

The actual implanting of high-level nuclear wastes within the seabed will require a higher degree of international regulation and control than is necessary or practicable for the experimental phase Moving beyond the broad marine scientific research freedoms and into the disposal operation itself will, by necessity, engage the legal question concerning the powers of the ISA pertaining to such activities in the Area. And, even though it may be reasonable to believe that the terms of the 1972 London Convention do not prohibit this activity, some financial resolution of that question is going to result by the action of the Convention Parties themselves at this point, *if* the issue is not first brought to them And, furthermore, even though the London Convention may not, legally speaking, cover the issue, it still remains with its marine protection concerns and nuclear waste disposal regulations, the most appropriate international framework for regulating any future SSD programme (152)

If the operational phase of any future SSD programme is going to operate within the general framework of the London Convention, then some amendment to that Convention and Annexes (153) will be necessary prior to the commencement of any operations. Such an amendment could take the form of a change in the definition of the term *dumping*, so as to remove any possible question of coverage and so as to specifically allow for SSD under the terms of the Convention, and subject to certain stated conditions The stated conditions could relate to a requirement for consultation with specified international organisations (such as the ISA, if established), the meeting of safety standards, operational standards, and performance review and monitoring requirements

Additionally, an amendment to the London Convention would need to appoint the IAEA as the competent international organisation for the setting up of technical rules and standards applicable to the permitted SSD activities, such rules and standards being based upon the feasibility standard and performance characteristics as developed through the experimental phase and the SWG The amendment could, in some respects, follow the form of the 1978 amendments to the Annexes to include special regulations for the incineration of hazardous chemicals at sea, and the subsequent adoption of technical guidelines (154).

Actual technical and administrative support for the operational phase could continue to come from the NEA, with a virtual carry-over of its role under the experimental phase While the *final* decision as to safety standards and the meeting of those standards would rest with the IAEA and parties to the London Convention, the actual operations, monitoring and review could be pursued through the NEA and other competent and approved regionally-involved organisations.

By way of example, the NEA has had in use, since 1977, a Multilateral Consultation and Surveillance Mechanism which has been used to oversee and monitor the dumping of low-level nuclear wastes into the North Atlantic (155) This Mechanism, which requires individual Member countries proposing to dump nuclear wastes to first meet and comply with stringent safety controls and monitoring efforts, has been referred to by both David Deese (156) and the authors of the Urban Systems report (157) as a good model for use in providing technical and administrative support for any future SSD programme Such a monitoring and consultation mechanism could provide that actual SSD operations could be carried out by a NEA consortium of countries, or by the individual Member States themselves, if able to meet the IAEA technical standards and rules

In addition to an amendment to the London Convention, some review of the existing, and previously mentioned, liability agreements pertaining to nuclear waste hazards must be made, in order to ascertain their sufficiency as regards any SSD operations Also, revision may become necessary, after a good evaluation of the SSD process, to both IAEA's Regulations for the Safe Transport of Radioactive Materials (158) and IMO's International Maritime Dangerous Goods Code (159).

The nature and scope of the SSD option, with its technical, scientific, environmental and legal requirements, may prove to be such that the London Convention framework would tend to be insufficient or inappropriate for proper regulation. Thus, at some point in the process following the further development of an experimental phase, it may be determined as more appropriate to move forward with an entirely new treaty intended to comprehensively and singularly regulate the SSD subject, from feasibility and safety standards, to liability and transportation matters

Regardless of what formal treaty mechanism is used, however, it will still remain necessary to the eventual *successful* implementation of the sub-seabed disposal option that public communication be maintained during all phases of its development, and that a regional/international regime be established to administer the programme operation In that manner, both the international legal and political obstacles may be overcome.

F O O T N O T E S

(1) For an historical insight into the creation of the scientific concept of SSD, see generally C. Hollister, "The Seabed Option", 20 Oceanus 19 (1977).

(2) A review of the nuclear waste disposal programs of various nations as of 1978 is provided in D. Deese, Nuclear Power and Radioactive Waste . A Sub-Seabed Disposal Option? 21-33 (1978)

(3) The Seabed Working Group currently consists of representatives of Canada, France, Federal Republic of Germany, Japan, the Netherlands, the United Kingdom, the United States, and the Commission of the European Communities.

(4) For a general review of the scientific work from 1977 to date, see W. MacLeish, ed., "High-Level Nuclear Wastes in the Seabed?", 20 Oceanus 1-68 (1977), C Hollister, D Anderson, G Heath, "Sub-Seabed Disposal of Nuclear Wastes", 213 Science 1321-1326 (1981), and K Hinga, G Heath, D Anderson, C Hollister, "Disposal of High-Level Radioactive Wastes by Burial in the Seafloor - This Method May be Technically and Environmentally Feasible", 16 Environmental Science and Technology 28A-37A (1982)

(5) K Hinga, "Reasons for an Internationally Regulated Sub-Seabed Repository", a draft report contained in a Memorandum of the Sandia National Laboratories, New Mexico, Feb 4, 1982, p 1

(6) For the delineation between marine areas of national jurisdiction or interest and the res communis and international area, see generally those provisions of the new Convention on the Law of the Sea concerning the limits of the territorial sea, Part II, Sec 2 breadth of the exclusive economic zone, Part V, Art 57, definition of the continental shelf, Part VI, Art. 76, and, the limits of the "Area", Part I Art 1

(7) Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, Dec 29, 1972 (London IMO, 1972).

(8) Id at Art XIV

(9) Id at Art. IV and Annexes I, II and III

(10) Id at p 13

(11) The IAEA Provisional Definition and Recommendations Concerning Radioactive Wastes and Other Radioactive Matter Referred to in Annexes I and II to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, IAEA Doc INFCIRC/205/Add 1 (Vienna IAEA, 1974)

(12) The IAEA Revised Definition and Recommendations of 1978 Concerning Radioactive Wastes and Other Radioactive Matter Referred to in Annexes I and II to the (London Convention), IAEA Doc INFCIRC/205/Add 1/Rev 1 (Vienna IAEA, 1978), p 3

(13) London Convention, supra note 7 at Art III, 1(a)

(14) Deese, supra note 2 at p 83

(15) Id at p 84

(16) Jean-Pierre Quéneudec, "The Effects of Changes in the Law of the Sea on Legal Regimes Relating to the Disposal of Radioactive Waste in the Sea", Jan 28, 1982, an unpublished paper prepared for the OECD Nuclear Energy Agency, Paris, p 4

(17) Id at p 2

(18) Urban Systems Research and Engineering, Inc , "Political and Institutional Implications of the Seabed Assessment Program For Radioactive Waste Disposal", Feb 24, 1981, a Final Report prepared for the Sandia National Laboratories, New Mexico, p 30.

(19) London Convention, supra note 7 at Art III, 3

(20) *The Advanced Learner's Dictionary of Current English, Second Ed , (Oxford University Press 1970), p 285*

(21) *The 1969 Vienna Convention on the Law of Treaties, Art 31*

(22) *"Radioactive Waste Disposal into the Sea", Report of the Ad Hoc Panel under the Chairmanship of Mr H. Brynielsson, Feb , 1960 (Vienna IAEA, 1960)*

(23) *"Legal Implications of the Disposal of Radioactive Waste into the Sea", Rousseau Panel, June, 1963 (Vienna IAEA, 1963)*

(24) *In fact, Deese, supra note 2 at p 91, cites the conclusion of an unnamed international lawyer to the effect that "it should be made clear that the subject of those discussions (IAEA Panels) was pollution of the sea water and not the seabed," as originally cited in Sztucki, ed , "Symposium on the International Regime of the Sea-Bed" (Rome FAO, 1970), p.230*

(25) *See "Report of the U S Delegation to the Inter-Governmental Conference on the Convention on the Dumping of Wastes at Sea," at London, Oct 30 - Nov 13, 1972, in 93rd Cong , 1st Sess , House Comm on Merchant Marine and Fisheries, Subcomm on Fisheries and Wildlife Conservation and the Environment, p 16 (1973)*

(26) *Hollister, supra note 1.*

(27) *IAEA, GOV/1622, Appendix p 7, Sept 3, 1973, in IAEA Doc P1-540 (1976), p 81*

(28) *It should be pointed out that the removal of this "Statement" in the IAEA documents was caused by the objection of the U S State Department as to location within the Annex, and did not concern the substance of the Statement itself In that regard, see Legal Opinion of Staff Attorney D Finn, issued Nov , 1978 (Wash , D C NOAA, 1978), p 6*

(29) *See generally Testimony of Dr. Sheldon Myers (Dept of Energy) Before the House Comm on Merchant Marine and Fisheries (Nov 20, 1980), pp 68, 70*

(30) *Finn, supra note 28 at p.1*

(31) *It should also be pointed out that the State Department stated that SSD would be prohibited, in their view, by the London Convention "if it poses a threat of pollution to the marine environment " See e g Statement of U.S Department of State issued at Hearings before the House Comm on Energy and the Environment, 94th Cong , 2nd Sess. "Radiological Contamination of the Oceans", July 26-27, 1976, pp 798, 799*

(32) *Legal Opinion of General Counsel M Corash, issued Feb 25, 1980, Wash , D C E P A , 1980, p 1.*

(33) *Id. at p 5*

(34) *London Convention, supra note 7 at Art I*

(35) *Id at p.1*

(36) *Corash, supra note 32 at p 5.*

(37) For a recent review of the SSD issue and the prohibitions under domestic ocean dumping legislation and regulations, see generally Urban Systems, supra note 18 at pp 61-76

(38) Statement by then Ambassador Elliot Richardson, "Sub-Seabed Disposal in the Context of the Law of the Sea", in T Jackson, ed , Nuclear Waste Management The Ocean Alternative (1981), pp. 85-86

(39) Quéneudec, supra note 16 at p.2.

(40) J Moore, "Some Preliminary Considerations Concerning the Legal and Foreign Policy Aspects of a Regime for Sub-Seabed Disposal of Nuclear Wastes", a Memorandum prepared for the Sandia National Laboratories, New Mexico, Jan 22, 1982

(41) E Miles, K Lee, E. Carlin, "Sub-Seabed Disposal of High-Level Nuclear Wastes An Assessment of Policy Issues for the U S ", Institute for Marine Studies, University of Washington (Seattle July 21, 1982), p 90

(42) Id at p 90

(43) Convention on the Law of the Sea, Eleventh Sess , Third United Nations Conference on the Law of the Sea, U.N DOC/82-16124 (New York April 30, 1982)

(44) Id. at Part XI.

(45) Id at Art 305

(46) Id at Art 306.

(47) Id at Art. 308

(48) Hinga, supra note 5.

(49) Richardson, supra note 38

(50) Treaty, supra note 43 at Art 192.

(51) Id at Art 194

(52) Id

(53) Id at Art. 1

(54) Id

(55) Id at Sec 2

(56) Id at Art 237

(57) Id at Sec 6

(58) Id at Art 235

(59) Deese, supra note 2 at p.96

(60) Quéneudec, supra note 16 at p.11.

(61) Urban Systems, supra note 18 at p 45

(62) Treaty, supra note 43 at Art. 238

(63) Id at Art 239

(64) Id. at Art. 240

(65) Id at Art 242

(66) Id. at Art. 244.

(67) Id. at Art. 256

(68) Id at Art 143.

(69) Quéneudec, supra note 16 at p.16 In relation to these MSR provisions, Quéneudec terms the stated rules "relatively relaxed"

(70) Treaty, supra note 43 at Art. 263

(71) Id. at Art 1.

(72) United Nations Gen Assembly Res. 2749 (XXV), Dec 17, 1970

(73) Treaty, supra note 43 at Art. 136

(74) Id at Art 157.

(75) Id at Art 1

(76) Id. at Art 133.

(77) Id at Art 145 and 146.

(78) See the text accompanying supra note 67

(79) Treaty, supra note 43 at Art. 143.

(80) See e g J. Lomio, "International Law and Disposal of Radioactive Wastes at Sea", 15 New England L R 284 (1980) and, Miles, et al , supra note 41 at p 91.

(81) See e.g Treaty supra note 43 at Art. 153, wherein all "activities in the Area" are to be carried out through the Authority and "Enterprise".

(82) Springing from the idea of a "New International Economic Order", the heart of these provisions provide for the "equitable sharing of financial and other economic benefits derived from activities in the Area." See e.g. id. at Art 140.

(83) Id. at Art. 147.

(84) Deese, supra note 2 at p 93.

(85) Miles, et al , supra note 41 at p.92

(86) For a discussion of the reasonableness test as applied to the exercise of high seas freedoms, see M McDougal and W Burke, The Public Order of the Oceans 757-863 (1962) see also the text accompanying infra note 113.

(87) Treaty, supra note 43 at Art. 137

(88) K Hinga, "The Conflicts Between Deep Ocean Mining and Sub-Seabed Disposal of Radioactive Waste", unpublished report of Sandia National Laboratories No. SAND81-1486J (1981), and, W Bishop, ed , "Sub-Seabed Disposal Program A First Year Report" (New Mexico Sandia Labs, 1975), p 235

(89) Miles, et al., supra note 41 at p.93.

(90) Statement of Robert E Stein, contained in Hearings, supra note 31 at p.23

(91) Treaty, supra note 43 at Art 147

(92) Id at Art 143

(93) Quéneudec, supra note 16 at p 18

(94) Treaty, supra note 43 at Art 157

(95) Quéneudec, supra note 16 at p 19.

(96) The nature and jurisdiction of the Law of the Sea Tribunal is set forth in Annex VI, Treaty, supra note 43

(97) Id. at Art. 189.

(98) Quéneudec, supra note 16 at p 18

(99) Treaty, supra note 43 at Part XIII

(100) Quéneudec, supra note 16 at p 15.

(101) Id

(102) Miles, et al , supra note 41 at p.88.

(103) For a discussion of the creation of general principles of international law through custom, see text accompanying infra note 107

(104) The United States, the United Kingdom, France and the Federal Republic of Germany have each recently passed deep-seabed mining legislation providing for unilateral action, and where possible, reciprocating-states agreements

(105) Article 138 reminds States Parties of their continuing obligations under international law regarding their conduct in the international marine environment Treaty, supra note 43 at Art. 138.

(106) See generally Deese, supra note 2 at p 94, wherein he discusses what he terms "evolving international law" pertaining to use of the deep-seabed

(107) See generally the 1969 Vienna Convention on the Law of Treaties, Art. 53, and Art 38, Statute of the International Court of Justice.

(108) Article 25 (1), Convention on the High Seas (1958)

(109) London Convention, supra note 7, and, the IAEA Rev Def , supra note 12

(110) See e g Lomio, supra note 80 at p 282.

(111) Treaty, supra note 43 at Art 311

(112) United Nations Gen Assembly, Report of the U N Conference on the Human Environment, Principles 21 and 22 (Stockholm, 1972)

(113) For a general definition and discussion of the reasonableness test see McDougal and Burke, supra note 86.

(114) See e.g. the use of the reasonableness test as a defense by U S Army lawyers to justify the questionable ocean dumping of nerve gas, in Deese, supra, note 2 at p.46.

(115) International Court of Justice Reports, Dec 20, 1974, p 63, joint dissent of Onyeama, Dillard, Arechaga, and Waldock

(116) IAEA, International Conventions on Civil Liability for Nuclear Damage, Legal Series No 4 (Vienna IAEA, 1976) and U N , IMO, International Legal Conference on Maritime Carriage of Nuclear Substances, 1971 (London IMO, 1972). Several of these specifically deal with the issue of radiological contamination, namely the 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy (with its 1963 Supplement and 1964 Additional Protocol) and the 1963 Vienna Convention on Civil Liability for Nuclear Damage and the 1971 Brussels Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material

(117) International Law Commission, Art. 19, Yearbook of the International Law Commission, 1979

(118) Treaty, supra note 43 at Art 192 and 235

(119) It is reported that the marine protection articles were widely accepted at a fairly early point in the negotiations, and that they were finally adopted by the approval of 130 nations See generally Laylin, "Emerging Customary Law of the Sea", 10 Int Law 669 (1976)

(120) For a further discussion of the developing body of international environmental law and State responsibility and liability, see generally Urban Systems, supra note 18 at pp 44, 45

(121) Quéneudec, supra note 16 at p.21.

(122) Id.

(123) See generally Scientific Work, supra note 4.

(124) Id.

(125) For a discussion of the role to be played by public interest groups in the future development of an SSD option, see Miles, et al , supra note 41 at pp 52-55.

(126) Concerning the recent U.S. announcement regarding nuclear waste dumping, and the public response thereto, see id. at p 63

(127) California State Senate Resolution No. 27.

(128) During the summer of 1982, the organization Greenpeace sent boatloads of persons alongside of ships disposing of nuclear wastes off the Iberian Peninsula and, in one case, actually boarded a disposal ship

(129) Following the 1982 dumpings both Spain and Portugal issued protests as to the proximity of the dumping sites to their coastlines

(130) Several nations, including the Soviet Union and Sweden, continue to oppose any dumping of nuclear wastes.

(131) Deese, supra note 2 at p 133

(132) See e g J Kelly and C Shea, "The Sub-Seabed Program for High-Level Radioactive Waste - Public Response," 25 Oceanus 43-53 (1982). In the U.S , various efforts have recently been made to inform, educate and gain the participation of the public in the process of the consideration of SSD as a viable option In particular, presentations concerning SSD have been made to public-interest and environmental groups, representatives of the nuclear power industry, and members of the U S Congress Although most of those contacted were initially sceptical of any such "tampering" with the oceans, the vast majority came away with a sense of interest in further scientific study and consideration. And, as in the case of the Congress itself, those participating in this "educational program" found a much more important and immediate benefit from their efforts, namely "Educating Congress about the program has proved invaluable to current legislation Though under pressure to cut budgets and pass a nuclear waste bill, Congress has spurned attempts to phase out the program. The Senate has amended its waste bill to provide for the continuation and acceleration of alternative technologies, such as seabed disposal Had information about seabed disposal not been provided, the program could have died in obscurity".

(133) Deese, supra note 2 at p.133

(134) Deese, supra note 2 at p 99

(135) Urban Systems, supra note 18 at p 26.

(136) See generally Finn, supra note 28 at p 7

(137) IAEA Rev Def , supra note 12

(138) "Report of the Consultants Meeting to Review the Radiological Basis of the Provisional Definition and Recommendations for the London Convention", Technical Doc IAEA-211 (Vienna IAEA, 1978).

(139) Miles, et al., supra note 41 at pp. 88-89

(140) For a discussion of the possibilities for non-proliferation and nuclear weapons controls through an internationally regulated and managed nuclear waste system, see generally Urban Systems, supra note 18 at pp 51-52

(141) Hinga, supra note 5 at p 8

(142) Deese, supra note 2 at pp. 155-167

(143) Id. at p 159

(144) Miles, et al , supra note 41 at p.105.

(145) Id at p 177

(146) K. Hinga, G Ross, D Anderson, C. Hollister, "Disposal of High-Level Radioactive Waste by Burial in the Seafloor - This Method May Be Technically and Environmentally Feasible", 16 Envir Science and Technology 35A (1982)

(147) Id. at p.36A, wherein the authors report that the first in situ experiments will involve the emplanting of a 400-Watt heat source into the seabed

(148) Quéneudec, supra note 16 at p.15.

(149) Miles, et al., supra note 41 at p 20.

(150) Id. at p.75.

(151) Kelly and Shea, supra note 132 at p.52

(152) This view that the London Convention would be the appropriate framework for regulating any future SSD programme is shared by a representative of the U.S. State Department as mentioned in the report by Urban Systems, supra note 18 at p.22

(153) Amendments to the London Convention are covered in Article XV London Convention, supra note 7 at Art. XV

(154) See e.g. "Resolution of the Parties to the London Dumping Convention at the Third Consultative Meeting", Oct. 12, 1978, and, Technical Guidelines on the Control of Incineration of Wastes and Other Matter at Sea", IMCO Doc IV/4, March 13, 1979, adopted at the Fourth Consultative Meeting (London IMO, 1979)

(155) "Decision of the Council Establishing a Multilateral Consultation and Surveillance Mechanism for Sea Dumping of Radioactive Waste" (Paris NEA, July 22, 1977), and, Pierre Strohl, "Establishment of a Multilateral Consultation and Surveillance Mechanism for Sea Dumping of Radioactive Waste", unpublished paper presented at Nuclear Inter Jura '77 (Florence, Italy - Oct., 1977)

(156) Deese, supra note 2 at p 163.

(157) Urban Systems, supra note 18 at p 53.

(158) Safety Series No 6 (Vienna IAEA, 1974).

(159) 1974 Revised Version

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Summary of the Law relating to Atomic Energy and Radioactive Substances, by D.F. Sim, revised by K J S. Ritchie as at 31st March 1983, 21 pages

This Summary brings up to date previous revisions of the Summary of the United Kingdom's nuclear legislation (see Nuclear Law Bulletin No. 29) It reviews the laws and regulations in force and highlights the main provisions of each text.

The Summary covers, inter alia, the Atomic Energy Act, the Radioactive Substances Act, the Nuclear Installations Act, the Energy Act (which was promulgated in 1983), the Atomic Energy Authority Act and subordinate legislation Radiation protection regulations as well as transport regulations and codes of practice are included in the review

The Summary also refers to international conventions and agreements in the nuclear field

• *NEA*

Disposal of Radioactive Waste - An Overview of the Principles involved, OECD/NEA, Paris, 1982, 20 pages

This report presents a balanced review of all the relevant principles underlying waste management policies It was prepared by a joint expert group at the request of the OECD Nuclear Energy Agency, as a contribution to a better understanding of the principles involved in the disposal of radioactive waste

Although relative newcomers to the scene, the wastes that probably receive most attention from the scientific community, from governments and from the general public are radioactive wastes Extensive guidelines for their management have been established at the local, regional and international level, and countries with commitments to nuclear power have programmes to demonstrate and implement technology for the safe management of the wastes that are produced.

Radioactive waste management strategies and practices have been reviewed in many publications. By and large these documents are technical in nature and they do not normally discuss the motives that determine which course of action should be taken. This report concentrates on these less well defined aspects and is intended to provide a review of the philosophy for the current technical approach to the disposal of radioactive waste Disposal is the final step in waste management and may be simply defined as a method of dealing with wastes for which there is no intention of retrieval

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NUCLEAR LAW
Bulletin

SUPPLEMENT TO N° 31

CANADA

PHYSICAL SECURITY REGULATIONS
SOR/83-77 of 14th January 1983

June 1983

Registration
SOR/83-77 14 January, 1983

ATOMIC ENERGY CONTROL ACT

Physical Security Regulations

P.C. 1983-12 13 January, 1983

His Excellency the Governor General in Council, on the recommendation of the Minister of Energy, Mines and Resources, pursuant to section 9 of the Atomic Energy Control Act, is pleased hereby to approve the annexed Regulations respecting physical security at certain nuclear facilities.

REGULATIONS RESPECTING PHYSICAL SECURITY AT CERTAIN NUCLEAR FACILITIES

Short Title

1. These Regulations may be cited as the *Physical Security Regulations*.

Interpretation

2. (1) In these Regulations,

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

"facility" means a place where

(*a*) any substance in a quantity set out in column II of an item of the schedule is used, processed, stored or otherwise possessed,

(*b*) a nuclear reactor, the thermal power of which may exceed 10 megawatts during normal operation, is located and includes all buildings and other structures containing, forming part of or connected to the nuclear reactor, or

(*c*) any substance in a quantity set out in column III of an item of the schedule is used, processed, stored or otherwise possessed;

(*établissement*)

"designated officer" means

(*a*) the President or Secretary of the Board, or

(*b*) any other officer or employee of the Board who is designated by the Board pursuant to subsection (2);

(*fonctionnaire désigné*)

"inner area" means an area enclosed by a structure or barrier described in subsection 9(1); (*aire intérieure*)

"licence" means a licence issued by the Board under any regulations made pursuant to the Act; (*permis*)

"licensee" means any person to whom a licence has been issued to operate a facility or to use, process, store or otherwise possess a substance in a quantity set out in the schedule; (*détenteur de permis*)

"protected area" means an area circumscribed by a barrier referred to in section 5; (*aire protégée*)

Enregistrement
DORS/83-77 14 janvier 1983

LOI SUR LE CONTRÔLE DE L'ÉNERGIE ATOMIQUE

Règlement sur la sécurité matérielle

C.P. 1983-12 13 janvier 1983

Sur avis conforme du ministre de l'Énergie, des Mines et des Ressources et en vertu de l'article 9 de la Loi sur le contrôle de l'énergie atomique, il plaît à Son Excellence le Gouverneur général en conseil d'approuver le Règlement concernant la sécurité matérielle dans certains établissements nucléaires, ci-après.

RÈGLEMENT CONCERNANT LA SÉCURITÉ MATÉRIELLE DANS CERTAINS ÉTABLISSEMENTS NUCLÉAIRES

Titre abrégé

1. Le présent règlement peut être cité sous le titre: *Règlement sur la sécurité matérielle*.

Définitions

2. (1) Dans le présent règlement,

«aire intérieure» désigne une aire entourée d'une structure ou d'une enceinte visée au paragraphe 9(1); (*inner area*)

«aire libre» désigne une aire visée à l'article 8; (*unobstructed area*)

«aire protégée» désigne une aire circonscrite par une enceinte visée à l'article 5; (*protected area*)

«détenteur de permis» désigne toute personne à qui un permis a été délivré, l'autorisant à exploiter un établissement ou à utiliser, à traiter, à stocker ou à conserver de toute autre manière une substance dont la quantité est indiquée à l'annexe; (*licensee*)

«équipe d'intervention» désigne un détachement de la police municipale, de la sûreté provinciale ou de la police fédérale, ou une unité des Forces armées canadiennes ou tout autre groupe semblable capable de venir en aide sur demande à un établissement; (*response force*)

«établissement» désigne

a) un lieu où est utilisée, traitée, stockée ou autrement conservée toute quantité de substance indiquée à la colonne II d'un article de l'annexe,

b) un lieu où est situé un réacteur nucléaire dont la puissance thermique en fonctionnement normal peut dépasser 10 mégawatts, et comprend tous les bâtiments et autres structures qui abritent le réacteur nucléaire, qui en font partie ou qui y sont reliés, ou

c) un lieu où est utilisée, traitée, stockée ou autrement conservée toute quantité de substance indiquée à la colonne III d'un article de l'annexe;

(*facility*)

"response force" means a local, provincial or federal police force detachment, Canadian Armed Forces unit or other similar force that is capable of responding to a request for assistance at a facility; (*équipe d'intervention*)

"security guard" means a person who is authorized by a licensee to act as a security guard at a facility; (*garde de sécurité*)

"security monitoring room" means a security monitoring room described in section 31; (*local de surveillance*)

"substance" means any prescribed substance set out in column I of an item of the schedule; (*substance*)

"unobstructed area" means an area described in section 8. (*aire libre*)

«fonctionnaire désigné» désigne

a) le président ou le secrétaire de la Commission, ou

b) tout autre fonctionnaire ou employé de la Commission qui est désigné par la Commission conformément au paragraphe (2);

(*designated officer*)

«garde de sécurité» désigne une personne autorisée par un détenteur de permis à occuper le poste de garde de sécurité dans un établissement; (*security guard*)

«local de surveillance» désigne un local de surveillance visé à l'article 31; (*security monitoring room*)

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

«permis» désigne un permis délivré par la Commission en vertu d'un règlement établi en vertu de la Loi; (*licence*)

«substance» désigne toute substance prescrite prévue à la colonne I d'un article de l'annexe. (*substance*)

(2) The Board may, with the approval of the Minister, designate an officer or employee of the Board to act on its behalf in the administration of these Regulations.

(2) La Commission peut, avec l'approbation du Ministre, désigné un fonctionnaire ou un employé de la Commission pour agir en son nom aux fins de l'application du présent règlement.

Application

3. (1) These Regulations apply

(*a*) on and after December 1, 1983, in respect of a place described in paragraph (*a*) of the definition "facility" in section 2; and

(*b*) on and after December 1, 1984, in respect of a place described in paragraph (*b*) or (*c*) of the definition "facility" in section 2.

(2) These Regulations do not apply to a nuclear-powered ship.

Application

3. (1) Le présent règlement s'applique

a) à compter du 1er décembre 1983, dans le cas des lieux visés à l'alinéa *a*) de la définition d'«établissement» à l'article 2; et

b) à compter du 1er décembre 1984, dans le cas des lieux visés aux alinéas *b*) ou *c*) de la définition d'«établissement» à l'article 2.

(2) Le présent règlement ne s'applique pas aux navires à propulsion nucléaire.

Responsibility

4. (1) Every licensee shall

(*a*) construct and maintain every room, structure or barrier,

(*b*) install, maintain and operate all devices and equipment, and

(*c*) prepare, provide and maintain every document

required by these Regulations in respect of each facility referred to in his licence.

(2) Every licensee shall maintain and operate every unobstructed area, protected area and inner area in respect of each facility referred to in his licence in accordance with these Regulations.

Responsabilités

4. (1) Un détenteur de permis doit

a) construire et entretenir les locaux, structures ou enceintes,

b) installer, entretenir et exploiter tous les dispositifs et le matériel, et

c) préparer, fournir et conserver les documents

exigés par le présent règlement au sujet de chaque établissement spécifié dans son permis.

(2) Le détenteur de permis doit entretenir et exploiter, conformément au présent règlement, toute aire libre, aire protégée et aire intérieure de chaque établissement spécifié dans son permis.

Protected Areas

5. Every facility shall be circumscribed at the perimeter of the area occupied by the facility, or at such distance outside the perimeter as may be determined by the licensee, by a barrier

Aires protégées

5. Un établissement doit être entouré, au périmètre de l'aire qu'il occupe ou à toute autre distance extérieure au périmètre, selon les indications du détenteur de permis, d'une enceinte

(*a*) that consists of

(i) a fence constructed of wire chain link with openings not larger than 6 cm square and with a wire gauge not smaller than gauge number 11, of a height not less than 2.4 m, and topped by not less than three strands of barbed wire or barbed tape,

(ii) a fence constructed of coiled barbed wire or barbed tape and of a height not less than 2.4 m,

(iii) a wall, including any wall that forms part of a building, constructed of steel, wood, concrete, masonry or other substantial material or composites of such materials, of a height not less than 2.4 m, and topped, where it does not form part of a building, by not less than three strands of barbed wire or barbed tape, or

(iv) a combination of any of the barriers described in subparagraphs (i), (ii) and (iii); or

(*b*) that can be demonstrated by the licensee to adequately inhibit and aid in the detection of any unauthorized entry into the area circumscribed by the barrier.

6. The barrier referred to in section 5 shall be

(*a*) equipped with a device that

(i) detects any intrusion into the protected area resulting from crossing, climbing or damaging the barrier,

(ii) detects any tampering with the device that may cause it to malfunction or to cease to function, and

(iii) when it detects an event referred to in subparagraph (i) or (ii), provides a continuous audible and visible alarm signal to a security monitoring room where the alarm signal can only be stopped by a security guard or other authorized person; or

(*b*) under the visual observation of a security guard who is equipped with a device that can activate the alarm signal referred to in subparagraph (*a*)(iii).

7. (1) The barrier referred to in section 5 shall be

(*a*) constructed in such a manner that each gate, door, window or other means of entry or exit in the barrier may be kept closed and locked; and

(*b*) continuously illuminated at an intensity sufficient to permit clear observation of the barrier.

(2) Each gate, door, window or other means of entry or exit in the barrier referred to in section 5 shall be kept closed and locked unless the gate, door, window or other means of entry or exit is under the visual observation of a security guard.

Unobstructed Areas

8. Every facility shall be circumscribed by an area adjacent to and outside the barrier referred to in section 5 that is, for a distance of at least 5 m from each point of the barrier, measured horizontally,

(*a*) free of any structure, equipment or other obstruction that may be used to penetrate or surmount the barrier or to unduly restrict the visual observation of persons within the area; and

a) constituée

(i) d'une clôture d'au moins 2,4 m de hauteur, faite de treillis métallique de fil d'au moins numéro 11, comportant des mailles carrées d'au plus 6 cm, et surmontée d'au moins trois rangs de fils barbelés,

(ii) d'une clôture de frises en fils barbelés d'au moins 2,4 m de hauteur,

(iii) d'un mur, y compris un mur faisant partie d'un bâtiment, d'au moins 2,4 m de hauteur, fait d'acier, de bois, de béton, de maçonnerie ou de tout autre matériau résistant ou de toute combinaison des matériaux précités et surmonté, lorsqu'il ne fait pas partie d'un bâtiment, d'au moins trois rangs de fils barbelés, ou

(iv) d'une combinaison des enceintes décrites aux sous-alinéas (i), (ii) et (iii); ou

b) conçue de façon que le détenteur de permis puisse démontrer qu'elle peut empêcher les entrées interdites dans l'aire qu'elle entoure ou aider à la détection de celles-ci.

6. L'enceinte visée à l'article 5 doit

a) être équipée d'un dispositif

(i) qui permet de détecter l'intrusion dans l'aire protégée de toute personne ayant traversé ou escaladé l'enceinte ou y ayant pratiqué une brèche,

(ii) qui permet de détecter toute tentative d'altération qui pourrait en causer le dérèglement ou l'arrêt, et

(iii) qui dans les situations décrites aux sous-alinéas (i) ou (ii), déclenche un signal d'alarme continu, sonore et visible, dans un local de surveillance où ce signal ne peut être arrêté que par un garde de sécurité ou toute autre personne autorisée; ou

b) être sous la surveillance visuelle d'un garde de sécurité muni d'un dispositif pouvant déclencher le signal d'alarme visé au sous-alinéa *a*)(iii).

7. (1) L'enceinte visée à l'article 5 doit

a) être construite de telle manière que chaque grille, porte, fenêtre ou autre entrée ou sortie pratiquée dans l'enceinte puisse être gardée fermée et verrouillée; et

b) être continuellement éclairée à une intensité suffisante pour en permettre d'observer clairement l'enceinte.

(2) Chaque grille, porte, fenêtre ou autre entrée ou sortie pratiquée dans l'enceinte visée à l'article 5 doit être gardée fermée et verrouillée, à moins qu'elle ne soit sous la surveillance visuelle d'un garde de sécurité.

Aires libres

8. Un établissement doit être circonscrit par une aire adjacente et extérieure à l'enceinte visée à l'article 5, qui, sur une distance d'au moins 5 m mesurée horizontalement à partir de tous les points de l'enceinte,

a) est libre de toute structure, matériel ou autre obstacle qui pourrait être utilisé pour pénétrer à l'intérieur de l'enceinte ou l'escalader, ou encore restreindre indûment le champ visuel des personnes qui se trouvent à l'intérieur de l'aire; et

(*b*) continuously illuminated at an intensity sufficient to permit clear observation of any person within the area.

Inner Areas

9. (1) Every place described in paragraph (*a*) of the definition "facility" shall be

(*a*) totally enclosed by a structure or barrier that is constructed in such a manner that the structure or barrier alone, or in combination with other structures or barriers, can be demonstrated by the licensee to delay the forced penetration thereof and the removal of a substance in a quantity set out in column II of an item of the schedule from the area thereby enclosed by a person using an explosive, a firearm or a hand-held power tool; and

(*b*) located within a protected area in such a manner that the structure or barrier referred to in paragraph (*a*) is not contiguous to the barrier referred to in section 5.

(2) For the purposes of paragraph (1)(*a*), "delay" means to delay for a period of time not less than the time estimated by the Board or a designated officer to be required before the response force with which an arrangement has been made *pursuant to subsection 32(1) can provide assistance at that* place.

10. Every inner area shall be

(*a*) provided with a device that

(i) detects the intrusion of any person or thing into, the passage of any person into and out of, and the movement of any person within the inner area,

(ii) detects any tampering with the device that may cause it to malfunction or to cease to function, and

(iii) when it detects an event referred to in subparagraph (i) or (ii), provides a continuous audible and visible alarm signal to a security monitoring room and to at least one other manned location outside the inner area where the alarm signal can only be stopped by a security guard or other authorized person; or

(*b*) under the visual observation of a security guard who is equipped with a device that can activate the alarm signal referred to in subparagraph (*a*)(iii).

11. (1) The structure or barrier described in subsection 9(1) shall be constructed in such a manner that each gate, door, window or other means of entry or exit in the structure or barrier may be kept closed and locked with a locking device that cannot be unlocked from outside the structure or barrier unless the locking device is operated by both a security guard and a person who is authorized pursuant to subsection 18(2) to enter the inner area.

(2) Subject to subsection (3), every gate, door, window or other means of entry or exit in the structure or barrier described in subsection 9(1) shall be kept closed and locked except during the time required for the passage of authorized

b) est constamment éclairée à une intensité suffisante pour permettre d'observer clairement toute personne se trouvant à l'intérieur de l'aire.

Aires intérieures

9. (1) Le lieu visé à l'alinéa *a*) de la définition d'«établissement» doit

a) être complètement entouré d'une structure ou d'une enceinte construite de manière que le détenteur de permis puisse démontrer qu'elle peut, seule ou combinée à d'autres structures ou enceintes, retarder l'introduction par effraction dans les lieux et l'enlèvement d'une quantité de substance visée à la colonne II de l'annexe par une personne se servant d'un explosif, d'une arme à feu ou d'un autre outil mécanique portatif; et

b) être situé à l'intérieur d'une aire protégée de manière que la structure ou l'enceinte visée à l'alinéa *a*) ne soit pas contiguë à l'enceinte décrite à l'article 5.

(2) Aux fins de l'alinéa (1)*a*), «retarder» signifie retarder pour une période de temps qui ne peut être inférieure aux prévisions, établies par la Commission ou un fonctionnaire désigné, du temps qu'il faut à l'équipe d'intervention, dont les *services ont été retenus aux termes du paragraphe 32(1), pour* se rendre sur les lieux.

10. Chaque aire intérieure doit

a) être munie d'un dispositif

(i) qui permet de détecter l'intrusion d'une personne ou d'un objet, le passage d'une personne entrant ou sortant, de même que les déplacements d'une personne à l'intérieur de l'aire intérieure,

(ii) qui permet de détecter toute tentative d'altérer le dispositif qui pourrait en causer le dérèglement ou l'arrêt, et

(iii) qui, dans une situation visée au sous-alinéa (i) ou (ii), déclenche un signal continu, sonore et visible, dans un local de surveillance et dans au moins un autre local, occupé par un garde de sécurité, à l'extérieur de l'aire intérieure, où le signal d'alarme ne peut être arrêté que par un garde de sécurité ou une autre personne autorisée; ou

b) être surveillée par un garde de sécurité muni d'un appareil qui peut déclencher le signal d'alarme visé au sous-alinéa *a*)(iii).

11. (1) La structure ou l'enceinte visée au paragraphe 9(1) doit être construite de manière que chaque grille, porte, fenêtre ou autre entrée ou sortie qui y est pratiquée puisse être gardée fermée et verrouillée au moyen d'un dispositif qui ne peut être déverrouillé de l'extérieur, en dehors de la présence à la fois d'un garde de sécurité et d'une personne autorisée aux termes du paragraphe 18(2) à pénétrer dans l'aire intérieure.

(2) Sous réserve du paragraphe (3), toute grille, porte, fenêtre ou autre entrée ou sortie pratiquée dans la structure ou dans l'enceinte visée au paragraphe 9(1) doit être gardée fermée et verrouillée, sauf pendant le passage des personnes

persons and the authorized movement of things into or out of the inner area.

(3) Any unlocked gate, door, window or other means of entry or exit in the structure or barrier described in subsection 9(1) shall be kept under the continuous visual observation of a security guard.

Site Plans

12. (1) A licensee shall prepare and maintain a site plan of each facility that he operates that indicates the location of

(*a*) the perimeter of the facility;

(*b*) the barrier referred to in section 5;

(*c*) the protected area;

(*d*) the unobstructed area;

(*e*) any structure or barrier described in subsection 9(1); and

(*f*) any inner area.

(2) The licensee shall keep the site plan described in subsection (1) available at all times at the facility for inspection by the Board or a designated officer or by an inspector appointed under the *Atomic Energy Control Regulations*.

Entry to a Protected Area

13. (1) No person shall enter a protected area unless he has an authorization in writing from the licensee who operates the protected area.

(2) Subject to section 14, a licensee may issue an authorization referred to in subsection (1) to any person for such term and subject to such conditions as he considers necessary in the interests of the security of any facility.

14. (1) A licensee shall, upon application, issue an authorization to enter a protected area operated by the licensee to an inspector appointed under the *Atomic Energy Control Regulations* or an inspector designated under an agreement between the Government of Canada and the International Atomic Energy Agency if

(*a*) the inspector produces his certificate or other evidence of appointment or designation for inspection by the licensee; and

(*b*) the certificate or other evidence of appointment or designation discloses the inspector's duty to inspect in the protected area or in an inner area within that protected area.

(2) A licensee shall, before issuing an authorization to enter a protected area to any person other than an inspector referred to in subsection (1), prepare an identification report with respect to that person.

(3) An identification report referred to in subsection (2) shall, with respect to the person identified in the report, include the following documents and information:

(*a*) the full name, date and place of birth of that person;

autorisées et pendant le transport autorisé d'articles entrant ou sortant de l'aire intérieure.

(3) Toute grille, porte, fenêtre ou autre entrée ou sortie pratiquée dans la structure ou l'enceinte visée au paragraphe 9(1) doit, lorsqu'elle n'est pas verrouillée, être gardée sous la surveillance visuelle constante d'un garde de sécurité.

Plan des lieux

12. (1) Le détenteur de permis doit dresser et conserver un plan de chaque établissement qu'il exploite, indiquant l'emplacement

a) du périmètre de l'établissement;

b) de l'enceinte visée à l'article 5;

c) de l'aire protégée;

d) de l'aire libre;

e) de toute structure ou enceinte décrite au paragraphe 9(1); et

f) de toute aire intérieure.

(2) Le détenteur de permis doit conserver le plan visé au paragraphe (1) à l'intérieur de l'établissement et le tenir, aux fins d'inspection, à la disposition de la Commission ou d'un fonctionnaire désigné, ou d'un inspecteur nommé en vertu du *Règlement sur le contrôle de l'énergie atomique*.

Entrée dans une aire protégée

13. (1) Il est interdit d'entrer dans une aire protégée à moins d'avoir obtenu une autorisation écrite du détenteur de permis qui exploite cette aire.

(2) Sous réserve de l'article 14, le détenteur de permis peut accorder à quiconque l'autorisation visée au paragraphe (1), pour la période et aux conditions qu'il juge nécessaires pour assurer la sécurité de tout établissement.

14. (1) Un détenteur de permis doit, sur demande, accorder l'autorisation d'entrer dans une aire protégée qu'il exploite, à un inspecteur nommé aux termes du *Règlement sur le contrôle de l'énergie atomique* ou à un inspecteur désigné en vertu d'une entente conclue entre le gouvernement du Canada et l'Agence internationale de l'énergie atomique, si

a) l'inspecteur produit un certificat ou une autre preuve établissant qu'il a été nommé ou désigné par le détenteur de permis à des fins d'inspection; et

b) le certificat ou toute autre preuve de nomination ou de désignation indique les responsabilités de l'inspecteur quant à l'inspection de l'aire protégée ou de l'aire intérieure située dans les limites de l'aire protégée.

(2) Un détenteur de permis doit, avant d'accorder l'autorisation d'entrer dans une aire protégée à une personne autre qu'un inspecteur visé au paragraphe (1), préparer un rapport d'identification concernant cette personne.

(3) Le rapport d'identification visé au paragraphe (2) doit comprendre les documents et les renseignements suivants au sujet de la personne concernée:

a) ses nom et prénom, sa date et son lieu de naissance;

(*b*) documentary evidence that that person's presence in Canada is lawful;

(*c*) the address of that person's principal residence in Canada;

(*d*) a photograph depicting the frontal view of the face of that person; and

(*e*) the occupation of that person.

(4) A licensee who prepares an identification report with respect to a person pursuant to subsection (2) shall

(*a*) on the request of that person, make a copy of the report available to that person; and

(*b*) on the request of the Board or a designated officer, submit a copy of the report to the Board or designated officer.

15. (1) A licensee shall prepare and maintain a list of the names of all persons who are authorized to enter a protected area operated by the licensee and shall make available a copy of the list to the security guards who are responsible for security in the protected area.

(2) A licensee shall, on the request of the Board or a designated officer, submit to the Board or designated officer a list of the names of all persons who, at the time of the request, are authorized to enter a protected area operated by the licensee.

16. Notwithstanding subsection 14(2), a licensee may issue an authorization to a person to enter a protected area operated by the licensee, without preparing an identification report with respect to that person, if that person gives his name and address to the licensee and is accompanied at all times while he is in the protected area by a person who is authorized to enter the protected area pursuant to section 13 and whose name appears on the list of names referred to in section 15.

Entry to an Inner Area

17. Subject to section 21, no person shall enter an inner area unless he has authorization in writing from the Board or a designated officer and is authorized pursuant to section 13 or 16 to enter the protected area that surrounds that inner area.

18. (1) The Board or a designated officer may issue an authorization to enter an inner area to an inspector appointed under the *Atomic Energy Control Regulations* or an inspector designated under an agreement between the Government of Canada and the International Atomic Energy Agency if the Board or designated officer is satisfied that such entry is necessary for the inspector to properly carry out his duties and that the entry of that inspector is not a risk and will not give rise to a risk to the security of any facility.

(2) The Board or a designated officer shall issue an authorization to a person to enter an inner area if

(*a*) the licensee who operates the inner area submits to the Board

(*i*) a copy of an identification report referred to in section 14 with respect to that person,

b) des preuves documentaires établissant la légalité de sa présence au Canada;

c) l'adresse de sa résidence principale au Canada;

d) une photographie montrant un portrait de face de cette personne; et

e) sa profession.

(4) Le détenteur de permis qui dresse un rapport d'identification au sujet d'une personne conformément au paragraphe (2) doit,

a) à la demande de cette personne, lui en remettre une copie; et

b) à la demande de la Commission ou d'un fonctionnaire désigné, leur en remettre une copie.

15. (1) Le détenteur de permis doit établir et conserver une liste des noms de toutes les personnes qui sont autorisées à entrer dans une aire protégée qu'il exploite et doit en remettre une copie au garde de sécurité chargé de la surveillance de l'aire protégée.

(2) Le détenteur de permis doit, à la demande de la Commission ou d'un fonctionnaire désigné, leur remettre une liste des noms de toutes les personnes qui, au moment de la demande, sont autorisées à entrer dans l'aire protégée exploitée par lui.

16. Nonobstant le paragraphe 14(2), le détenteur de permis peut accorder à une personne l'autorisation d'entrer dans une aire protégée qu'il exploite, sans dresser de rapport d'identification à son sujet, si cette personne lui donne son nom et son adresse et est accompagnée pendant tout le temps où elle se trouve à l'intérieur de l'aire protégée par une personne autorisée à y entrer aux termes de l'article 13 et dont le nom figure sur la liste visée à l'article 15.

Entrée dans une aire intérieure

17. Sous réserve de l'article 21, il est interdit d'entrer dans une aire intérieure, à moins d'avoir obtenu une autorisation écrite de la Commission ou d'un fonctionnaire désigné et d'être autorisé aux termes de l'article 13 ou 16 à pénétrer dans l'aire protégée qui entoure cette aire intérieure.

18. (1) La Commission ou un fonctionnaire désigné peut accorder l'autorisation d'entrer dans une aire intérieure à un inspecteur nommé aux termes du *Règlement sur le contrôle de l'énergie atomique* ou à un inspecteur désigné en vertu d'une entente conclue entre le gouvernement du Canada et l'Agence internationale de l'énergie atomique, si la Commission ou le fonctionnaire désigné est convaincu que l'entrée de l'inspecteur dans l'aire intérieure est nécessaire à l'accomplissement de ses fonctions et ne présente pas de risque pour la sécurité de tout établissement.

(2) La Commission ou un fonctionnaire désigné doit accorder à une personne l'autorisation d'entrer dans une aire intérieure

a) si le détenteur de permis qui exploite l'aire intérieure remet à la Commission

(ii) an application, signed by the licensee and that person, that contains the information required under section 19 and sets out the purpose for which entry into the inner area is required,

(iii) a copy of the fingerprints of that person,

(iv) a copy of any medical report on that person required pursuant to subsection 28(1), and

(v) the written consent of that person to the disclosure of any of the information contained in the documents referred to in subparagraphs (i) to (iv) to or by the Board to the extent necessary for the Board to properly investigate and determine whether the entry of that person into the inner area is a risk or may give rise to a risk to the security of any facility; and

(*b*) the Board or designated officer is satisfied that the documents submitted by the licensee and any investigation carried out by or on behalf of the Board establish that the entry of that person is not a risk and will not give rise to a risk to the security of any facility.

(i) une copie du rapport d'identification visé à l'article 14 au sujet de cette personne,

(ii) une demande, signée par le détenteur de permis et cette personne, contenant les renseignements exigés à l'article 19 et exposant la raison pour laquelle l'entrée dans l'aire intérieure est demandée,

(iii) une copie des empreintes digitales de cette personne,

(iv) une copie de tout rapport médical au sujet de cette personne exigé aux termes du paragraphe 28(1), et

(v) le consentement écrit de cette personne autorisant la divulgation des renseignements contenus dans les documents visés aux sous-alinéas (i) à (iv) à la Commission ou par celle-ci, dans la mesure où ils lui sont nécessaires pour mener une enquête appropriée et déterminer si l'entrée de cette personne dans l'aire intérieure présente ou pourrait présenter un risque pour la sécurité de tout établissement; et

b) si la Commission ou le fonctionnaire désigné est convaincu que les documents fournis par le détenteur de permis et les résultats de toute enquête menée par la Commission ou en son nom établissent que l'entrée de cette personne ne présente pas de risque pour la sécurité de tout établissement.

(3) The Board or a designated officer may issue the authorization referred to in subsection (1) or (2) for such term and subject to such conditions as the Board or designated officer considers necessary in the interests of the security of any facility.

(3) La Commission ou un fonctionnaire désigné peut délivrer l'autorisation visée au paragraphe (1) ou (2) pour la durée et aux conditions que l'un ou l'autre juge nécessaires pour assurer la sécurité de tout établissement.

(4) Where a licensee submits to the Board the documents referred to in subparagraphs (2)(*a*)(i) to (v) with respect to a person for whom an authorization to enter an inner area is sought, the licensee shall make a copy of the documents available to that person if that person requests a copy before the date of expiry of the authorization as established in accordance with section 20.

(4) Le détenteur de permis doit, lorsqu'il soumet à la Commission les documents visés aux sous-alinéas (2)*a*)(i) à (v) au sujet d'une personne pour laquelle l'autorisation d'entrer dans une aire intérieure est sollicitée, en remettre une copie à la personne concernée si cette personne le demande avant la date d'expiration de l'autorisation délivrée conformément à l'article 20.

19. An application for an authorization to enter an inner area shall contain the following information with respect to the person for whom the authorization is sought:

(*a*) the Social Insurance Number of that person;

(*b*) full particulars of any change of name of that person;

(*c*) the marital status of that person including the date and place of any marriage, divorce or annulment;

(*d*) where applicable, the name, nationality, date and place of birth of the spouse of that person;

(*e*) the occupation of that person and the name and address of the present employer of that person;

(*f*) the name and address of each employer of that person during the previous 10 years and the dates of employment with each such employer;

(*g*) the address of the principal residence of that person during each of the previous 10 years;

(*h*) where applicable, the name, address, date and place of birth of that person's

(i) parents,

(ii) step-parents,

(iii) brothers and sisters,

(iv) step-brothers and step-sisters,

(v) children,

19. Une demande d'autorisation d'entrer dans une aire intérieure doit contenir les renseignements suivants au sujet de la personne pour laquelle l'autorisation est demandée:

a) son numéro d'assurance sociale;

b) le détail de tout changement de nom de cette personne;

c) son état civil, y compris la date et le lieu de tout mariage, divorce ou annulation;

d) s'il y a lieu, le nom, la nationalité, la date et le lieu de naissance de son conjoint;

e) sa profession ainsi que le nom et l'adresse de son employeur actuel;

f) le nom et l'adresse de chacun de ses employeurs au cours des 10 années antérieures, de même que les dates de début et de fin d'emploi auprès de chacun d'eux;

g) l'adresse de sa résidence principale au cours de chacune des 10 années antérieures;

h) s'il y a lieu, le nom, l'adresse, la date et le lieu de naissance

(i) de ses parents,

(ii) de son beau-père ou de sa belle-mère,

(iii) de ses frères et sœurs,

(iv) de ses demi-frères et demis-sœurs,

(v) de ses enfants,

(vi) step-children,

(vii) spouse's parents, and

(viii) spouse's step-parents;

(*i*) where applicable, the names and addresses of the present employers of the persons referred to in paragraph (*h*);

(*j*) the name and address of the last school or university at which that person was in full-time attendance;

(*k*) full particulars of any conviction of that person for an offence, other than a conviction for a minor traffic offence or for an offence in respect of which that person has been granted a pardon that is not revoked;

(*l*) the names and addresses of three persons who can provide a character reference for that person;

(*m*) full details of any military or police service in which that person has engaged, including the dates of employment in and release or retirement from that service and the rank that person attained during such service; and

(*n*) any other information that the Board may require for the purpose of clarifying any matter mentioned in the application.

(vi) des enfants de son conjoint,

(vii) des parents de son conjoint, et

(viii) du beau-père ou de la belle-mère de son conjoint;

i) s'il y a lieu, les noms et adresses des employeurs actuels des personnes visées à l'alinéa *h*);

j) le nom et l'adresse de la dernière école ou université qu'elle a fréquentée à plein temps;

k) le détail de toute condamnation qu'elle a subie à la suite d'un délit, autre qu'une condamnation pour une infraction mineure aux règles de circulation ou une infraction pour laquelle elle a obtenu un pardon qui n'a pas été révoqué;

l) les noms et adresses de trois personnes qui peuvent donner des références à son sujet;

m) le détail de toute période de service militaire ou de service dans un corps policier qu'elle a exercé, y compris les dates de début et de fin de service ou de mise à la retraite, et le plus haut grade obtenu; et

n) tout autre renseignement que la Commission peut exiger à l'appui des questions mentionnées dans la demande.

20. (1) Subject to subsections (2) and (3) and section 22, an authorization to enter an inner area shall expire on the fifth anniversary of the date of issue of the authorization or on such earlier date as may be specified in the authorization.

20. (1) Sous réserve des paragraphes (2) et (3) et de l'article 22, l'autorisation d'entrer dans une aire intérieure doit expirer ou à la date du cinquième anniversaire de la délivrance de l'autorisation ou à une date antérieure précisée dans l'autorisation.

(2) An authorization to enter an inner area that has been issued to an inspector appointed under the *Atomic Energy Control Regulations* or an inspector designated under an agreement between the Government of Canada and the International Atomic Energy Agency may be renewed by the Board or a designated officer for additional terms not exceeding five years each if the Board or designated officer is satisfied that such entry is necessary for the inspector to properly carry out his duties and that the entry of the inspector is not a risk and will not give rise to a risk to the security of any facility.

(2) L'autorisation d'entrer dans une aire intérieure qui a été délivrée à un inspecteur nommé en vertu du *Règlement sur le contrôle de l'énergie atomique* ou à un inspecteur désigné en vertu d'une entente conclue entre le gouvernement du Canada et l'Agence internationale de l'énergie atomique peut être renouvelée par la Commission ou par un fonctionnaire désigné pour des périodes ne dépassant pas cinq années chacune, si la Commission ou le fonctionnaire désigné est convaincu que la présence de l'inspecteur sur les lieux est nécessaire à l'exercice de ses fonctions et ne présente pas de risque pour la sécurité de tout établissement.

(3) An authorization to enter an inner area that has been issued to any person other than an inspector referred to in subsection (2) may be renewed by the Board or a designated officer for additional terms not exceeding five years each if

(*a*) the licensee who operates the inner area in respect of which the authorization refers submits to the Board or designated officer the documents referred to in subparagraphs 18(2)(*a*)(i) to (v) that contain current information in respect of the person who was granted the authorization; and

(*b*) the Board or designated officer is satisfied that the documents submitted by the licensee and any investigation carried out by or on behalf of the Board establish that the entry of that person into the inner area is not a risk and will not give rise to a risk to the security of any facility.

(3) L'autorisation d'entrer dans une aire intérieure qui a été délivrée à une personne autre qu'un inspecteur visé au paragraphe (2) peut être renouvelée par la Commission ou un fonctionnaire désigné pour des périodes ne dépassant pas cinq années chacune, si

a) le détenteur de permis qui exploite l'aire intérieure visée dans l'autorisation présente à la Commission ou au fonctionnaire désigné les documents mentionnés aux sous-alinéas 18(2)*a*)(i) à (v) qui renferment les renseignements à jour au sujet de la personne qui a obtenu l'autorisation; et

b) la Commission ou le fonctionnaire désigné est convaincu que les documents produits par le détenteur de permis et les résultats de toute enquête effectuée par la Commission ou en son nom établissent que la présence de cette personne dans l'aire intérieure ne présente pas de risque pour la sécurité de tout établissement.

21. (1) A licensee may issue an authorization, in writing, to a person to enter an inner area operated by the licensee for the purpose of performing duties that are required by the licensee, the Board or a designated officer if that person

21. (1) Le détenteur de permis peut délivrer une autorisation écrite à une personne, lui permettant de pénétrer dans une aire intérieure qu'il exploite afin de s'acquitter des fonctions exigées par le détenteur de permis, la Commission ou un fonctionnaire désigné, si cette personne

(*a*) gives his name and address and the name and business address of his employer to the licensee;

(*b*) consents to be searched, before entry into the inner area, for weapons and explosives; and

(*c*) consents to be accompanied at all times while he is in the inner area by a person who is authorized to enter the inner area pursuant to subsection 18(2).

(2) Where a person is authorized pursuant to subsection (1) to enter an inner area operated by a licensee, the licensee shall not permit that person to enter that inner area unless that person

(*a*) is searched for weapons and explosives; and

(*b*) is accompanied by a person who is authorized pursuant to subsection 18(2) to enter that inner area.

Revocation

22. (1) Subject to subsection (2), a licensee may revoke an authorization to enter an inner area or a protected area issued by the licensee.

(2) A licensee shall not, without the approval of the Board, revoke an authorization to enter a protected area issued by the licensee pursuant to subsection 14(1) to an inspector apppointed under the *Atomic Energy Control Regulations* or an inspector designated under an agreement between the Government of Canada and the International Atomic Energy Agency.

(3) The Board may revoke an authorization to enter an inner area or a protected area issued by the Board or a licensee if it has, at any time, reasonable and probable grounds to believe that the entry of the authorized person into the inner area or protected area is a risk or may give rise to a risk to the security of any facility.

(4) Where the Board revokes an authorization pursuant to subsection (3), it shall

(*a*) forthwith notify the licensee and the person whose authorization has been revoked of the revocation and the reasons therefor; and

(*b*) give the licensee and the person whose authorization has been revoked a reasonable opportunity to be heard by the Board.

(5) Where the licensee or the person whose authorization has been revoked is heard by the Board pursuant to paragraph (4)(*b*) and the Board is satisfied that the entry of that person into the inner area or protected area is not a risk and will not give rise to a risk to the security of any facility, the Board may issue that person a new authorization for such term and subject to such conditions as the Board considers necessary in the interests of the security of any facility.

a) donne au détenteur de permis son nom et son adresse, de même que le nom et l'adresse commerciale de son employeur;

b) consent à être fouillée, avant d'entrer dans l'aire intérieure, pour que l'on s'assure qu'elle ne porte ni arme ni explosif; et

c) consent à être accompagnée pendant tout le temps où elle se trouve dans l'aire intérieure par une personne autorisée à entrer dans l'aire intérieure aux termes du paragraphe 18(2).

(2) Lorsqu'une personne est autorisée, aux termes du paragraphe (1), à entrer dans une aire intérieure exploitée par un détenteur de permis, ce dernier ne doit pas autoriser cette personne à entrer dans l'aire intérieure à moins

a) qu'elle n'ait été fouillée pour que l'on s'assure qu'elle ne porte ni arme ni explosif; et

b) qu'elle ne soit accompagnée d'une personne autorisée à entrer dans l'aire intérieure aux termes du paragraphe 18(2).

Révocation

22. (1) Sous réserve du paragraphe (2), le détenteur de permis peut révoquer une autorisation d'entrer dans une aire intérieure ou dans une aire protégée délivrée par lui.

(2) Le détenteur de permis ne peut, sans l'approbation de la Commission, révoquer une autorisation d'entrer dans une aire protégée qu'il a délivrée, aux termes du paragraphe 14(1), à un inspecteur nommé en vertu du *Règlement sur le contrôle de l'énergie atomique* ou à un inspecteur désigné en vertu d'une entente conclue entre le gouvernement du Canada et l'Agence internationale de l'énergie atomique.

(3) La Commission peut révoquer une autorisation d'entrer dans une aire intérieure ou dans une aire protégée délivrée par elle ou par un détenteur de permis si elle a des raisons valables de croire que l'entrée de la personne autorisée dans l'aire intérieure ou l'aire protégée présente ou pourrait présenter un risque pour la sécurité de tout établissement.

(4) Lorsque la Commission révoque une autorisation aux termes du paragraphe (3), elle doit

a) aviser immédiatement le détenteur de permis et la personne visée de la révocation de son autorisation, de même que des raisons qui l'ont motivée; et

b) donner au détenteur de permis et à la personne dont l'autorisation a été révoquée une occasion raisonnable de se faire entendre.

(5) Lorsque le détenteur de permis ou la personne dont l'autorisation a été révoquée comparaît devant la Commission pour se faire entendre selon l'alinéa (4)*b*) et que la Commission est convaincue que l'entrée de cette personne dans l'aire intérieure ou l'aire protégée ne présente pas de risque et ne donnera pas ouverture à un risque que pose la sécurité de tout établissement, la Commission peut délivrer à cette personne une nouvelle autorisation pour la période et aux conditions que la Commission estime nécessaires pour assurer la sécurité de tout établissement.

Entry and Exit

23. (1) Where any person at a facility sees a person in an inner area or a protected area whom, on reasonable and probable grounds, he believes to be an unauthorized person, that person shall report that fact to the nearest security guard.

(2) No licensee or security guard employed at a facility operated by the licensee shall permit an unauthorized person to enter or remain in an inner area or a protected area in respect of that facility.

24. Except as provided in sections 13 to 16 and section 21, no licensee shall authorize a person to enter an inner area or a protected area.

25. No person shall remove a substance in a quantity set out in column II of an item of the schedule from an inner area or a protected area or remove a substance in a quantity set out in column III of an item of the schedule from a protected area except in accordance with a written authorization issued by the Board or a designated officer.

26. Every licensee shall ensure that

(*a*) all packages and containers brought into an inner area operated by the licensee and all vehicles that enter the inner area do not carry or contain unauthorized weapons or explosives; and

(*b*) all packages and containers taken out of a facility operated by the licensee in which a substance is located and all persons and vehicles that leave the facility are monitored by appropriate devices or by security guards to ensure that no substance is removed from that facility without authority.

Security Guard Service

27. Every licensee shall have available at all times at each facility operated by him a number of security guards sufficient to enable the licensee to comply with these Regulations.

28. (1) Every licensee shall submit to the Board, with respect to each person whom the licensee intends to authorize to act as a security guard at a facility operated by the licensee, the following documents:

(*a*) an identification report with respect to that person, signed by the licensee and that person, that contains the following information:

(i) the full name of that person,

(ii) the date and place of birth of that person,

(iii) the address of the principal residence of that person, and

(iv) the information required by section 19 in respect of an application for an authorization to enter an inner area;

(*b*) a copy of the fingerprints of that person;

(*c*) a medical report that certifies that that person is in good physical and mental health, prepared by a doctor who is

Entrée et sortie

23. (1) Quiconque dans un établissement voit une personne se trouvant dans une aire intérieure ou une aire protégée et a de bonnes raisons de croire qu'il s'agit d'une personne non autorisée doit en signaler la présence au garde de sécurité le plus proche.

(2) Le détenteur de permis ou un garde de sécurité travaillant dans un établissement exploité par le détenteur de permis ne doit permettre à aucune personne non autorisée d'entrer ou de demeurer dans une aire intérieure ou une aire protégée de cet établissement.

24. Sous réserve des articles 13 à 16 et de l'article 21, le détenteur de permis ne peut autoriser une personne à entrer dans une aire intérieure ou dans une aire protégée.

25. Il est interdit d'enlever, d'une aire intérieure ou d'une aire protégée, une substance dont la quantité est indiquée à la colonne II d'un article de l'annexe, ou d'enlever d'une aire protégée une substance dont la quantité est indiquée à la colonne III d'un article de l'annexe, à moins d'avoir obtenu une autorisation écrite de la Commission ou d'un fonctionnaire désigné.

26. Le détenteur de permis doit s'assurer

a) que tous les emballages et conteneurs transportés dans l'aire intérieure exploitée par lui, ainsi que tous les véhicules qui pénètrent dans l'aire intérieure, ne transportent ni ne renferment des armes ou des explosifs non autorisés; et

b) que tous les emballages et conteneurs sortant d'un établissement exploité par lui dans lequel se trouve une substance, ainsi que toutes les personnes et véhicules qui quittent l'établissement, sont surveillés au moyen des dispositifs appropriés ou par des gardes de sécurité afin qu'aucune substance ne soit, sans autorisation, enlevée de cet établissement.

Service de sécurité

27. Le détenteur de permis doit assurer un service permanent de sécurité dans tous les établissements qu'il exploite, et prévoir un nombre suffisant de gardes de sécurité pour lui permettre de se conformer au présent règlement.

28. (1) Le détenteur de permis doit remettre à la Commission, quant à chaque personne qu'il a l'intention d'autoriser à occuper le poste de garde de sécurité dans un établissement qu'il exploite, les documents suivants:

a) un rapport d'identification concernant cette personne, signé par le détenteur de permis et par cette personne et contenant les renseignements suivants:

(i) les nom et prénom de cette personne,

(ii) sa date et son lieu de naissance,

(iii) son adresse principale, et

(iv) les renseignements exigés à l'article 19 aux fins de la demande d'autorisation d'entrer dans une aire intérieure;

b) une copie de ses empreintes digitales;

c) un rapport médical attestant que cette personne est en bonne condition physique et mentale, préparé par un méde-

licensed to practise medicine in the province in which the person is to act as a security guard;

(*d*) documentary evidence that that person is a Canadian citizen;

(*e*) a photograph depicting the frontal view of the face of that person; and

(*f*) the written consent of that person to the disclosure of any of the information contained in the documents referred to in paragraphs (*a*) to (*e*) to or by the Board to the extent necessary for the Board to properly investigate and determine whether there could be a risk or would be a risk to the security of any facility if that person were authorized to act as a security guard at a facility.

(2) The Board or a designated officer shall, following receipt of the documents referred to in subsection (1) and any investigation carried out by or on behalf of the Board, determine whether or not there may be reasonable and probable grounds to believe that there could be a risk or would be a risk to the security of any facility if the person with respect to whom the documents were submitted were authorized to act as a security guard at a facility.

(3) Where, pursuant to subsection (2), the Board or designated officer determines that there may be reasonable and probable grounds to believe that there could be a risk or would be a risk to the security of any facility if the person with respect to whom the documents were submitted were authorized to act as a security guard at a facility, the Board or designated officer shall notify that person and give that person a reasonable opportunity to be heard.

(4) The Board or a designated officer shall, following the determination of the Board or designated officer pursuant to subsection (2) and any hearing held pursuant to subsection (3), notify the licensee and the person with respect to whom the documents were submitted whether or not the Board or designated officer has reasonable and probable grounds to believe that there could be a risk or would be a risk to the security of any facility if that person were authorized to act as a security guard at a facility.

29. No licensee shall authorize a person to act as a security guard at a facility operated by the licensee unless

(*a*) the documents referred to in paragraphs 28(1)(*a*) to (*f*) with respect to that person have been submitted to the Board; and

(*b*) the Board or a designated officer notifies the licensee pursuant to subsection 28(4) that the Board or designated officer has no reasonable and probable grounds to believe that there could be a risk or would be a risk to the security of any facility if that person were authorized to act as a security guard at a facility.

30. (1) A licensee shall set out in writing the duties and responsibilities of a security guard and shall make a copy thereof available to each person who is authorized to act as a security guard at a facility operated by the licensee.

(2) A licensee shall familiarize and instruct each person who is authorized to act as a security guard at a facility operated by the licensee in respect of the duties and responsibilities of a

cin autorisé à pratiquer dans la province où la personne occupera le poste de garde de sécurité;

d) des preuves documentaires établissant que cette personne est citoyen canadien;

e) une photo montrant un portrait de face de cette personne; et

f) son consentement écrit, autorisant la divulgation de la totalité ou d'une partie des renseignements contenus dans les documents visés aux alinéas *a*) à *e*) à la Commission ou par celle-ci, dans la mesure où ils lui sont nécessaires pour effectuer une enquête appropriée et déterminer si l'emploi de cette personne à titre de garde de sécurité dans un établissement présente ou pourrait présenter un risque pour la sécurité de tout établissement.

(2) La Commission ou un fonctionnaire désigné doit, après avoir reçu les documents visés au paragraphe (1) et à la fin de l'enquête effectuée par la Commission ou au nom de celle-ci, déterminer s'il existe des raisons valables de croire que l'emploi de la personne concernée à titre de garde de sécurité dans un établissement présente ou pourrait présenter un risque pour la sécurité de tout établissement.

(3) Si la Commission ou un fonctionnaire désigné détermine, selon le paragraphe (2), qu'il peut exister des raisons valables de croire que l'emploi de la personne à titre de garde de sécurité dans un établissement présente ou pourrait présenter un risque pour la sécurité de tout établissement, la Commission ou le fonctionnaire désigné doit en informer la personne et lui donner l'occasion de se faire entendre.

(4) La Commission ou un fonctionnaire désigné doit, après avoir pris la décision visée au paragraphe (2) et après avoir entendu la personne concernée selon le paragraphe (3), informer le détenteur de permis et la personne concernée par les documents soumis que la Commission ou le fonctionnaire désigné a ou non des raisons valables de croire que l'emploi de la personne à titre de garde de sécurité dans un établissement présente ou pourrait présenter un risque pour la sécurité de tout établissement.

29. Le détenteur de permis ne peut autoriser une personne à occuper le poste de garde de sécurité dans un établissement qu'il exploite que

a) si les documents visés aux alinéas 28(1)*a*) à *f*) au sujet de cette personne ont été soumis à la Commission; et

b) si la Commission ou un fonctionnaire désigné informe le détenteur de permis, aux termes du paragraphe 28(4), que l'un ou l'autre n'a aucune raison valable de croire que l'emploi de cette personne à titre de garde de sécurité dans un établissement présente ou pourrait présenter un risque pour la sécurité de tout établissement.

30. (1) Le détenteur de permis doit exposer par écrit les fonctions et les responsabilités d'un garde de sécurité et en remettre une copie à chaque personne autorisée à occuper le poste de garde de sécurité dans un établissement qu'il exploite.

(2) Le détenteur de permis doit familiariser chaque personne autorisée à occuper le poste d'agent de sécurité dans un établissement qu'il exploite avec les fonctions et les responsabi-

security guard and shall require each such person on assuming his duties as a security guard to demonstrate his familiarity with those duties and responsibilities.

lités de son poste et exiger que chaque personne qui accepte un tel poste prouve qu'elle connaît bien ses fonctions et responsabilités.

Security Monitoring Room

31. (1) Every facility shall be monitored from a security monitoring room on the site or near the site of the facility.

(2) The security monitoring room referred to in subsection (1) shall be

(*a*) located outside any inner area;

(*b*) so designed and constructed as to resist forced entry into the room by a person using a hand-held tool or light firearms;

(*c*) equipped with

(i) a two-way radio that can be used to communicate with a response force,

(ii) a telephone,

(iii) an alarm device that can be used at any time to alert a response force, and

(iv) equipment that permits communication directly with security guards who are stationed elsewhere than in the room;

(*d*) so equipped and located as to enable a security guard in the room to receive and acknowledge the audible and visible alarm signals referred to in subparagraphs 6(*a*)(iii) and 10(*a*)(iii); and

(*e*) manned at all times by at least one security guard.

Local de surveillance

31. (1) Chaque établissement doit être surveillée à partir d'un local de surveillance situé à l'intérieur ou à proximité des lieux de l'établissement.

(2) Le local de surveillance visé au paragraphe (1) doit

a) être situé à l'extérieur de toute aire intérieure;

b) être conçu et construit de manière à résister à toute introduction par effraction dans le local d'une personne utilisant un outil à main ou une arme à feu légère;

c) être muni

(i) d'un poste émetteur-récepteur qui peut être utilisé pour communiquer avec l'équipe d'intervention;

(ii) d'un téléphone,

(iii) d'un dispositif d'alarme qui peut être déclenché à n'importe quel moment pour donner l'alerte à l'équipe d'intervention, et

(iv) de matériel qui permet de communiquer directement avec les gardes de sécurité postés à l'extérieur du local;

d) être équipé et situé de manière à permettre à un garde de sécurité qui s'y trouve de recevoir et de reconnaître les signaux d'alarmes, sonores et visibles, visés aux sous-alinéas 6*a*)(iii) et 10*a*)(iii); et

e) être occupé en permanence par au moins un garde de sécurité.

Arrangements with Response Forces

32. (1) Every licensee shall, in respect of each facility that is operated by him, make arrangements for a response force to provide assistance at the facility when it is required.

(2) The arrangements referred to subsection (1) shall include provisions

(*a*) to ensure that at any time immediate communication can be established between the facility and the response force;

(*b*) to ensure that assistance at the facility can be provided by the response force forthwith after it is requested;

(*c*) in respect of the installation of a two-way radio and alarm system of communication between the security monitoring room and the response force;

(*d*) in respect of the arrangement of annual visits to the facility by officers of the response force; and

(*e*) to provide for consultation among the licensee, the response force and the Board regarding the arrangements referred to in this section and the resources and equipment available to the licensee and the response force with respect to the security of the facility.

Entente avec les équipes d'intervention

32. (1) Le détenteur de permis doit, pour chaque établissement qu'il exploite, prendre des arrangements pour obtenir les services d'une équipe d'intervention qui assurera la protection de l'établissement en cas de besoin.

(2) Les arrangements visés au paragraphe (1) doivent comprendre des dispositions

a) visant à assurer la possibilité d'établir à n'importe quel moment une communication immédiate entre l'établissement et l'équipe d'intervention;

b) visant à assurer la défense immédiate de l'établissement par l'équipe d'intervention;

c) concernant l'installation d'un poste émetteur-récepteur et d'un système d'alarme reliant le local de surveillance à l'équipe d'intervention;

d) concernant l'organisation de visites annuelles à l'établissement des représentants de l'équipe d'intervention; et

e) visant à assurer la consultation entre le détenteur de permis, l'équipe d'intervention et la Commission au sujet des arrangements visés dans le présent article, de même que des ressources et du matériel mis à la disposition du détenteur de permis et de l'équipe d'intervention pour assurer la sécurité de l'établissement.

Verification of Security Systems and Procedures

33. Every licensee shall conduct an alarm drill at least once every six months to test the proper operation of the security equipment, systems and procedures established pursuant to these Regulations.

Vérification des systèmes et des mesures de sécurité

33. Le détenteur de permis doit effectuer un exercice d'alerte au moins une fois tous les six mois pour vérifier le bon fonctionnement du matériel, des systèmes et des mesures établis aux termes du présent règlement.

Security Report

34. (1) Subject to subsection (2), every licensee shall, in respect of each facility operated by him, submit to the Board, within 30 days after the issuing of his licence, a copy of the arrangements referred to in section 32, a copy of the site plan referred to in section 12 and a security report in respect of each protected area and inner area including complete information in respect of

(*a*) all security equipment, systems and procedures;

(*b*) communications equipment, systems and procedures both on-site and off-site;

(*c*) the structure of the security guard service and the administration, duties, responsibilities, and training of the security guard service; and

(*d*) the procedures established by the licensee for the assessment of and response to breaches of security.

(2) Every licensee whose licence in respect of a facility was issued on or before the day that these Regulations apply in respect of the facility shall submit the material referred to in subsection (1) to the Board within 30 days after that day.

Rapport de sécurité

34. (1) Sous réserve du paragraphe (2), le détenteur de permis doit, pour chaque établissement qu'il exploite, présenter à la Commission, dans les 30 jours suivant la délivrance de son permis, une copie des arrangements visés à l'article 32, une copie du plan prévu à l'article 12, de même qu'un rapport de sécurité concernant chaque aire protégée et aire intérieure, y compris des renseignements complets sur

a) le matériel, les systèmes et les mesures de sécurité;

b) le matériel, les systèmes et les instructions de communication à l'intérieur et à l'extérieur des lieux;

c) l'organisation du service de sécurité et l'administration, les fonctions et responsabilités et la formation du personnel de sécurité; et

d) les dispositions établies par le détenteur de permis pour l'évaluation des manquements à la sécurité et les mesures correctives à prendre.

(2) Le détenteur d'un permis ayant été délivré au plus tard à la date d'entrée en vigueur du présent règlement doit présenter les documents prévus au paragraphe (1) à la Commission dans les 30 jours qui suivent cette date.

Smaller Quantities of Plutonium, U-233 and U-235

35. Where a person is in possession of a substance in a quantity set out in column IV of an item of the schedule under a licence issued to that person and the substance is located outside of a protected area and is not under the continuous visual observation of that person or an authorized agent of that person, that person shall, subject to any conditions set out in the licence, store such substance in such a manner so as to prevent its unauthorized removal by a person using a hand-held tool.

Quantités minimes de plutonium, de U-233 et de U-235

35. Lorsqu'une personne a en sa possession, aux termes d'un permis qui lui a été délivré, une quantité de substance indiquée à la colonne IV d'un article de l'annexe, et que la substance se trouve à l'extérieur d'une aire protégée et n'est pas constamment sous la surveillance visuelle de cette personne ou de son agent autorisé, cette personne doit, sous réserve de toute condition énoncée dans son permis, ranger cette substance de manière à ce que personne ne puisse s'en emparer, sans autorisation, au moyen d'un outil à main.

Security of Information

36. Except with the approval of the Board, no person shall knowingly disclose to any other person information relating to the security equipment, systems or procedures established by a licensee pursuant to these Regulations unless

(*a*) he is required to disclose such information by or under a law of Canada including these Regulations; or

(*b*) he discloses such information to

(i) a Minister of the Crown or an employee of the Government of Canada or its agencies to the extent necessary to assist the Minister or the employee to exercise a power or perform a duty or function lawfully conferred or imposed upon him,

(ii) an official of a foreign government or an international agency to the extent necessary to enable the Government of Canada to perform the obligations imposed by any

Protection des renseignements

36. Sauf autorisation contraire de la Commission, il est interdit de divulguer sciemment à quiconque des renseignements ayant trait au matériel, aux systèmes ou aux mesures de sécurité établis par un détenteur de permis conformément au présent règlement, à moins

a) d'y être tenu aux termes d'une loi du Canada, y compris le présent règlement; ou

b) de divulguer ces renseignements

(i) à un ministre de la Couronne ou à un employé du gouvernement du Canada ou de ses organismes, dans la mesure où ces renseignements leur sont nécessaires pour s'acquitter des fonctions qui leur ont été légalement confiées ou imposées,

(ii) à un représentant d'un gouvernement étranger à d'un organisme international, dans la mesure où ces renseigne-

arrangement between the Government of Canada and that foreign government or international agency,

(iii) officers or members of a response force with which the licensee has made an arrangement pursuant to section 32 to the extent necessary to enable the officers or members to properly perform their duties or functions under the arrangement,

(iv) officers or employees of the licensee to the extent necessary to enable the officers or employees to properly perform their duties of office or employment,

(v) officers or employees of a contractor under contract with the licensee to the extent necessary to enable the officers or employees to properly perform their duties or functions under the contract, or

(vi) a person who is required or authorized by or under a law of Canada to obtain or receive such information.

ments sont nécessaires pour permettre au gouvernement du Canada de respecter les obligations qu'il a contractées aux termes d'une entente qu'il a conclue avec ce gouvernement étranger ou cet organisme international,

(iii) aux agents ou aux membres d'une équipe d'intervention avec laquelle le détenteur de permis a pris des arrangements conformément à l'article 32, dans la mesure où ces renseignements leur sont nécessaires pour s'acquitter convenablement des fonctions ou des responsabilités prévues dans ces arrangements,

(iv) aux agents ou aux employés du détenteur de permis, dans la mesure où ces renseignements leur sont nécessaires pour exercer convenablement leurs fonctions ou leur emploi,

(v) à des agents ou à des employés d'un entrepreneur avec lequel le détenteur de permis a passé un contrat, dans la mesure où ces renseignements leur sont nécessaires pour s'acquitter convenablement des fonctions ou des responsabilités précisées dans le contrat, ou

(vi) à une personne qui, aux termes d'une loi du Canada, est tenue d'obtenir ou de recevoir ces renseignements ou y est autorisée.

SCHEDULE

Control of Prescribed Substances

Item	Column I Prescribed Substances	Quantities Column II	Column III	Column IV
1.	Unirradiated Plutonium or U-233	2 kg or more	less than 2 kg but more than 500 g	500 g or less but more than 15 g
2.	Unirradiated U-235, in uranium enriched in U-235 to			
	(*a*) 20% or more	5 kg or more	less than 5 kg but more than 1 kg	1 kg or less but more than 15 g
	(*b*) 10% or more but less than 20%	not applicable	10 kg or more	less than 10 kg but more than 1 kg

ANNEXE

Contrôle des substances prescrites

Article	Colonne I Substances prescrites	Quantités Colonne II	Colonne III	Colonne IV
1.	Plutonium non irradié ou U-233	2 kg ou plus	Moins de 2 kg mais plus de 500 g	500 g ou moins, mais plus de 15 g
2.	U-235 non irradié, uranium enrichi de U-235 à			
	a) 20% ou plus	5 kg ou plus	Moins de 5 kg, mais plus de 1 kg	1 kg ou moins, mais plus de 15 g
	b) 10% ou plus, mais moins de 20%	sans objet	10 kg ou plus	Moins de 10 kg, mais plus de 1 kg

NOTES TO SCHEDULE

1. For the purposes of this schedule, an unirradiated substance is a substance that has not been irradiated in a nuclear reactor or a substance that has been irradiated in a nuclear reactor but which has a radiation level equal to or less than 100 rad (one gray) per hour measured at a distance of 1 m from the substance.

2. The aggregate of the quantities of substances of each kind listed in column I in the possession of a licensee shall be the quantity considered for the purposes of this schedule, except that a quantity of such substance that is

(*a*) located more than 1 000 m from any other quantity of a substance of the same kind, or

(*b*) located in a locked building or a structure of similar resistance to unauthorized entry,

shall be deemed to be a separate quantity of the substance.

3. For the purpose of this schedule, plutonium means all plutonium except that having an isotopic concentration of plutonium 238 which exceeds 80%.

REMARQUES

1. Aux fins de la présente annexe, une substance non irradiée est une substance qui n'a pas été irradiée dans un réacteur nucléaire, ou une substance qui a été irradiée dans un réacteur nucléaire mais dont le niveau de rayonnement est égal ou inférieur à 100 rad (un gray) par heure, mesuré à une distance de 1 m de la substance.

2. L'ensemble des quantités de substances de chaque type énumérées à la colonne I, que possède un détenteur de permis est la quantité permise aux termes de la présente annexe, à l'exception de toute quantité d'une telle substance qui est

a) située à plus de 1 000 m de toute autre quantité de la même substance, ou

b) située dans un bâtiment fermé à clé ou dans une structure dont l'accès interdit de quelque façon aux personnes non autorisées,

laquelle est réputée être une quantité distincte de cette substance.

3. Aux fins de la présente annexe, plutonium s'entend de tout plutonium sauf celui ayant une concentration isotopique de plutonium 238 de plus de 80%.

EXPLANATORY NOTE

(This note is not part of the Regulation, but is intended only for information purposes.)

These Regulations establish and require the maintenance of security systems, equipment and procedures at certain nuclear facilities to implement Canada's international obligations in respect of security at those facilities.

NOTE EXPLICATIVE

(La présente note ne fait pas partie du règlement et n'est publiée qu'à titre d'information.)

Ce règlement prévoit la mise en place de systèmes, de matériel et de mesures de sécurité dans certains établissements nucléaires, à la suite des engagements pris par le Canada à l'échelle internationale pour assurer la sécurité de ces établissements.