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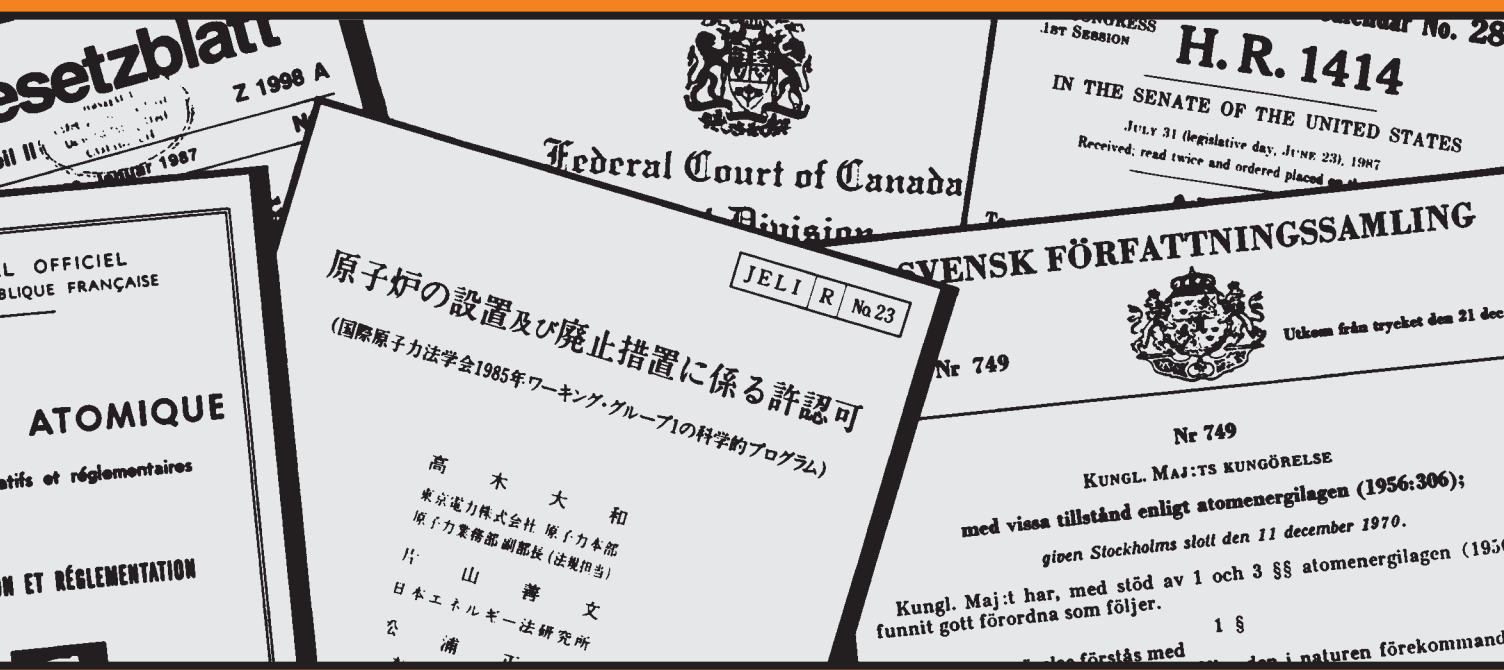

BULLETIN 60/DECEMBER 1997

NUCLEAR ENERGY AGENCY

OECD
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NUCLEAR LAW BULLETIN No. 60

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December 1997
Nuclear Energy Agency
Organisation for Economic Co-operation and Development

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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

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

The original Member countries of the OECD are Austria, Belgium Canada Denmark France Germany Greece Iceland Ireland Italy Luxembourg the Netherlands Norway Portugal Spain Sweden Switzerland Turkey the United Kingdom and the United States The following countries became Members subsequently through accession at the dates indicated hereafter Japan (28th April 1964), Finland (28th January 1969) Australia (7th June 1971) New Zealand (29th May 1973) Mexico (18th May 1994) the Czech Republic (21st December 1995) Hungary (7th May 1996), Poland (22nd November 1996) and the Republic of Korea (12th December 1996) The Commission of the European Communities takes part in the work of the OECD (Article 13 of the OECD Convention)

NUCLEAR ENERGY AGENCY

The OECD Nuclear Energy Agency (NEA) was established on 1st February 1958 under the name of the OEEC European Nuclear Energy Agency It received its present designation on 20th April 1972 when Japan became its first non-European full Member NEA membership today consists of all OECD Member countries except New Zealand and Poland The Commission of the European Communities takes part in the work of the Agency

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

This is achieved by

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

In these and related tasks, the 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

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The Organisation for Economic Co-operation and development assumes no liability concerning information published in this bulletin

Foreword

This 60th edition of the *Nuclear Law Bulletin* marks the 30th year of publication of this legal periodical which initially appeared in February 1968 That particular date marked in turn another anniversary the creation in February 1958 of what was then called the European Nuclear Energy Agency We would like to take this opportunity to thank readers for their support

In 1997, significant steps were taken in the field of international nuclear energy law This issue of the *Bulletin* provides details of the Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage as well as the Convention on Supplementary Compensation for Nuclear Damage, both of which were adopted in September 1997 Another highlight of this issue is an article on the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, also adopted in September

The *Supplement* to this *Bulletin* reproduces the texts of three recently enacted pieces of legislation, which, respectively, govern nuclear activities in Canada, Hungary and Lithuania

Finally, it should be noted that this *Bulletin* provides information on several Central and Eastern European countries For a more comprehensive review of nuclear law in such countries, readers are referred to this year's revised and expanded edition of the *Overview of Nuclear Legislation in Eastern Europe*, which will soon be available through the OECD Publications Service

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The Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management

by Wolfram Tonhauser and Odette Jankowitsch*

I. Introduction

The Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (Joint Convention) was adopted on 5 September 1997 – after two years of "travaux préparatoires" – by 84 States at a Diplomatic Conference convened at Vienna by the International Atomic Energy Agency (IAEA)[1]

The Joint Convention was opened for signature on 29 September 1997 in conjunction with the forty-first session of the General Conference of the IAEA As of one week following opening for signature, 23 States had signed the Convention

The Convention will enter into force on the ninetieth day after the twenty-fifth instrument of ratification is deposited with the IAEA, including the instruments of 15 States that each have an operational nuclear power plant

II. The Joint Convention (A Summary Description)

The Convention combines two discrete subject matters, namely the safety of spent fuel management and the safety of radioactive waste management in a "joint" structure which constitutes its essential originality

There is a common Preamble and common Chapter 1 on "Objectives, Definitions and Scope of Application', which sets out the two distinct subjects, Chapters 2 and 3 contain parallel sets of requirements governing the "Safety of Spent Fuel Management" and the "Safety of Radioactive Waste Management", Chapter 4 "General Safety Provisions" contains those requirements which apply both to the safety of spent fuel management and to the safety of radioactive waste management, Chapter 5 entitled "Miscellaneous Provisions" covers the transboundary movement of spent fuel and radioactive waste and, separately, legal commitments concerning disused sealed sources Finally, Chapters 6 and 7

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1 The text of the Joint Convention and the summary records of the plenary meetings are contained in IAEA document GOV/INF/821-GC(41)/INF/12

on "Meetings of the Contracting Parties" and "Final Clauses" again join both spent fuel and radioactive waste management

The Preamble

The Preamble, drafted as a quasi resolution, consists of explanatory elements regarding certain provisions in the Convention text, elements that found no consensus to be written as obligations and given the subject matter of the Convention, a reference to a broad array of other instruments of a binding and non-binding nature relating to nuclear safety, adopted under IAEA auspices, and, reflecting environmental consensus, a reference to Agenda 21 as well as to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention)

Particularly worth mentioning are paragraphs (i), (ii), (iii) and (vii) of the Preamble which explain in short, why the joint structure for the Convention was adopted, paragraphs (ix) and (x) of the Preamble on technical cooperation originally drafted as obligations under the Convention, and paragraph (xi) an attempt to combine the concept that waste should be disposed of in the State in which it was generated with the possibility, or even encouragement to establish regional or international repositories should safety and efficiency criteria so warrant The concept of public participation in the siting process is also confined to a preambular paragraph

Objectives, Definitions and Scope of Application

In addition to the general premises enumerated in the Preamble, the Convention defines in Article 1 three sets of "objectives" (i) the General Nuclear Safety Objective, (ii) the Radiation Protection Objective and (iii) the Technical Safety Objective[2]

Article 3 on "scope of application" is focused predominantly on specific activities rather than on substances

Pursuant to this Article, the Convention applies, with certain restrictions to (i) the safety of spent fuel management, defined as "all activities that relate to the handling or storage of spent fuel, excluding off-site transportation", (ii) the safety of radioactive waste management, defined as all activities including decommissioning activities, that relate to the handling, pretreatment, treatment, conditioning storage, or disposal of radioactive waste, excluding off-site transportation" (iii) the safety of management of spent fuel or radioactive waste resulting from military or defence programmes (if and when such materials are transferred permanently to and managed within exclusively civilian programmes, or when declared as spent fuel or radioactive waste for the purpose of the Convention by the Contracting Party) and (iv) to discharges, defined as "planned and controlled releases into the environment, as a legitimate practice, within limits authorized by the regulatory body of liquid or gaseous radioactive materials that originate from regulated nuclear facilities during normal operation

Obligations

The obligations to be undertaken by the Contracting Parties are principally of two types

The first type are general obligations *de moyens* contained in Chapters 2 3 and 4 and are based to a large extent on modified provisions of the Convention on Nuclear Safety and on the principles contained

2 The Convention thereby strictly follows Article 1 of the Convention on Nuclear Safety (for further reference see the previous Article by Odette Jankowitsch on the Convention on Nuclear Safety *Nuclear Law Bulletin* 54/1994)

in the IAEA Safety Series document No 111-F, "The Principles of Radioactive Waste Management" In particular, they require Contracting Parties to take the appropriate legislative, regulatory and administrative measures to govern the safety of spent fuel and radioactive waste management and to ensure that individuals, society and the environment are adequately protected against radiological and other hazards, *inter alia*, by appropriate siting, design and construction of facilities and by making provision for ensuring the safety of facilities both during their operation and after their closure

The second set of obligations contained in Chapter 6 of the Convention is of a different nature It is the reporting and peer review mechanism which is directly binding on Contracting Parties

Final Clauses

Chapter 7 of the Convention contains the Final Clauses

(a) Resolution of disagreements

The Convention, in keeping with the peer review mechanism, provides only for a simple consultation mechanism to resolve disputes Article 38 of the Convention provides that Parties "shall consult within the framework of a meeting of the Contracting Parties with a view to resolving the disagreement" Only in the event that these consultations prove unproductive can recourse be made to mediation, conciliation and arbitration mechanisms

(b) Reservations

No provision is included in the Convention regarding reservations, it being understood that in the absence of such a clause, should a Contracting Party choose to make a formal reservation, the mechanism foreseen under Articles 19 *et al* of the Vienna Convention on the Law of Treaties would apply

(c) Signature, ratification, acceptance approval, accession

The Convention is subject to ratification, acceptance or approval by the signatory States, after entry into force it is open for accession by all States As in most of the international instruments of a more recent date, the Article on signature, ratification, acceptance, approval and accession provides for the accession by 'regional organizations of an integration or other nature, provided that any such organization is constituted by sovereign States and has competence in respect of the negotiation, conclusion and application of international agreements in matters covered by the Convention" What is referred to here is the European Union, which may claim a certain competence in respect of specific matters regulated by the Joint Convention, notably questions of radiation protection[3]

(d) Amendments

Also in keeping with the nature of the Convention and its peer review mechanism, amendments to the Convention can only be made through a stringent formal amendment process laid out in Article 41 Amendments eventually require the convening of a Diplomatic Conference and a two thirds majority

3 See Articles 35 *et al* Euratom Treaty

(e) Denunciation

The Convention is of unlimited duration However, each Contracting Party has the right to withdraw from the Convention, without providing reasons, by way of written notification to the Depositary Denunciation takes effect one year – or later if so required – following the date of receipt of the notification by the Depository

(f) Secretariat

According to Article 37 of the Convention, the IAEA shall provide the secretariat for ' meetings of Contracting Parties" under the peer review mechanism Other services which Contracting Parties may also require in support of these review meetings shall either be provided by the IAEA in the frame of its regular programme and budget or as a separately funded activity

According to Article 43, the Director General of the IAEA is the Depositary of the Convention

III. The Negotiation Process

III 1 The Initial Consensus

During the development of the Convention on Nuclear Safety in the early 1990's a group of like-minded States argued that all safety issues related to the production of nuclear energy including those related to the management of radioactive waste should be covered by that Convention No consensus was reached on this, and the scope of that Convention was therefore limited to the safety of civil nuclear power plants Preambular paragraph (ix) of that Convention, however, did affirm the need to begin promptly the development of an international convention on the safety of radioactive waste management as soon as the ongoing process to develop waste management safety fundamentals has resulted in broad international agreement"[4]

This phrase clearly demonstrated that the process of international law making on nuclear safety was not yet completed Consequently, the Agency's General Conference in September 1994 *invite[d] the Board of Governors and the Director General to commence preparations for a convention on the safety of radioactive waste management* [5] Pursuant to that resolution and following agreement by the Board of Governors at its December 1994 session, the Director General convened an open-ended meeting of experts from Member States with the objective of holding preliminary discussions on basic concepts and the possible scope of such a convention and to examine working mechanisms and procedures for its preparations That meeting was held at the Agency's headquarters in February 1995 The Secretariat of the IAEA at that time provided participants with a list of reference material and a note on conventions and other instruments that could be consulted in the preparation of a convention The modest outcome of this meeting was an "Inventory of issues raised" and a request that the Agency following concurrence by the Board of Governors, convene a Group of Experts on a convention on the safety of radioactive waste management

The IAEA's Board of Governors in March 1995 approved the convening of such a Group of Experts and at the same time also adopted the relevant Safety Series Document at the fundamentals level

4 INFCIRC/449 IAEA Legal Series No 16
5 GC (XXXVIII)/Res/6

namely that on "The Principles of Radioactive Waste Management"[6] Having so been provided with a generally accepted guide to best practices in this area, the condition contained in the Preamble of the Convention on Nuclear Safety was met and the road was paved for the work of the Group of Experts to commence

The first meeting of what then became a formal Group of Legal and Technical Experts on a Convention on the Safety of Radioactive Waste Management open to all States was held in Vienna in July 1995 with well over 100 participants from 53 countries and observers from four international organizations The meeting elected Professor Alec Jean Baer, the former Deputy Director General of the Federal Office for Energy of Switzerland, as its Chairman

Based on the broad consensus just reached in the Convention on Nuclear Safety on main modalities, language and implementation mechanism, work on the future instrument seemed to be clearly marked to many experts, there already existed a blueprint for the new instrument, indeed even the technical input was available and generally agreed It was therefore no surprise that the first meeting of the Group of Experts rapidly agreed on the following points

1 that the Convention on Nuclear Safety was to be considered as a model for the Convention on the Safety of Radioactive Waste Management, notably, that it should also be an "incentive" convention, a term created during the negotiating process of the Convention on Nuclear Safety,

2 that a Convention on the Safety of Radioactive Waste Management should take over where the Convention on Nuclear Safety ceases to apply so as to avoid gaps in coverage, and

3 that consideration should also be given to including in the Convention the substance of the IAEA Code of Practice on the International Transboundary Movement of Radioactive Waste

Regarding the technical aspects of the Convention, there was broad agreement that the general message embodied in the Safety Series Document No 111-F, as adopted by the IAEA Board of Governors in March 1995, was suitable for incorporation in the Convention and that even a number of safety related provisions which are contained in the Convention on Nuclear Safety could be transferred to the new Convention, of course, with the appropriate adjustments and changes in wording

Finally, the Group of Experts felt that the Convention should apply to the full range of radioactive wastes as described in the Safety Series Document No 111-F, namely to radioactive wastes in "liquid", "gaseous" and in a "solid form"

III 2 The First Draft Text

With these conclusions, the basic concepts for the Convention appeared to be clearly laid down and the Chairman of the Group of Experts was thus assigned the task of producing a first draft text for consideration at the next meeting – without any request for national positions or drafted contributions by other experts

The Chairman prepared his first draft text in the summer months of 1995 in consultation with so-called "friends of the Chair", a small group of national, mainly technical experts in the field of radioactive waste management and with the help of the IAEA Secretariat

6 The Principles of Radioactive Waste Management IAEA Safety Series No 111-F

Basically all articles of the Convention on Nuclear Safety except for Article 12 on Human Factors" and the Principles of Radioactive Waste Management" as contained in the Safety Series Document No 111-F found their counterpart, with appropriate modifications, in the first draft text of the Convention

The Chairman's first draft achieved wide support at the second meeting of the Group of Experts in December 1995 and was considered a very good basis for further discussion Consequently the second and also the third meeting of the Group of Experts mainly focused on an article-by-article review of the first draft text and within the fairly short period between July 1995 and April 1996 the Group of Experts was able to agree on most of the radioactive waste management provisions in the Convention

With that consensus achieved, it seemed that the Group of Experts, from their fourth meeting on could focus on refinement of the draft

Specific elements, however, which had been shelved during the first three meetings of the Group of Experts and which went beyond the original understanding of the Group i e the modified contents of the Convention on Nuclear Safety and the IAEA Safety Series Document No 111-F, had to be added The entire negotiating and drafting process concentrated thereafter on these specific issues some of them only to be resolved at the Diplomatic Conference, or even not resolved thus resulting in a voted majority adoption of the instrument

III 3 The Search for a New Consensus Specific Elements of Disagreement

(1) The subject of spent fuel and the concomitant question of the structure of the Convention

The first and single most important issue of the negotiation was the subject of spent fuel and inseparable therefrom the question of the structure of the Convention

The Group of Experts was faced with the problem of whether or not a convention covering the safety of radioactive waste could and should include or exclude the safety issue associated with what in fact can be defined as a "mixture" of radioactive waste and other material called spent fuel

Initially, a number of countries notably these concerned with reprocessing were opposed to the inclusion of spent fuel in a Convention on Radioactive Waste Various arguments were forwarded One of the arguments was that the Group of Experts as established by the Board of Governors had no specific mandate to consider spent fuel as its mandate seemed to read as *expressis verbis* limited to radioactive waste Another argument was that spent fuel, considered a resource as part of the nuclear energy production cycle, could not legally be included in any definition of radioactive waste – or associated with the phrase generally applied ' for which no further use is foreseen National policy arguments were raised

After a long impasse an informal open-ended meeting of the Group of Experts expressly devoted to this issue was convened by the Chairman of the Group in September 1996 The negotiating problem seemed to be how to reach a common denominator – a common basis – for three divergent schools of opinion some States advocating a single text, still modeled on the Convention on Nuclear Safety which would include radioactive waste and also spent fuel others as mentioned above remaining strictly

opposed to any attempt to address spent fuel and, a third group arguing for two texts, a double or two-track text which would sufficiently separate the two subject matters and at the same time cover the common denominator, namely the safe management of certain nuclear matters not regulated elsewhere Among the latter school of opinion proposals circulated for twin conventions, i e two separate instruments adopted at the same time or a main Convention and an optional Protocol on spent fuel

A first breakthrough was achieved during the fifth meeting of the Group of Experts in South Africa in November 1996, a meeting which was originally designated to focus on general topics, in particular those relevant to African countries (i) France submitted a proposal for a single Convention text with two parallel sets of requirements, one on the safety of spent fuel management and one on the safety of radioactive waste management in an order reflecting the logical sequence of the nuclear fuel cycle, (ii) the Group objected in principle to an additional Protocol on spent fuel which entailed the risk of two sets of Contracting Parties or, worse, a Protocol treated as an option, and (iii) the Group was concerned that two legally separate instruments may create a lacuna in the safety regime of spent fuel and radioactive waste, as States may choose not to sign or ratify a Protocol (as it turned out later, it was in fact the inclusion of spent fuel in the Joint Convention that ensured that there would be no gap with the scope of application of the Convention on Nuclear Safety) The concept of a "Joint Convention" therefore prevailed from the sixth meeting onward, based on the consensus that the safety of management as the common denominator for both types of materials would justify the common legal instrument

(2) The relation of the Joint Convention with the Convention on Nuclear Safety

A second specific element of both technical and legal relevance was that of the relation of the Joint Convention with the Convention on Nuclear Safety

Three issues emerged in this context (i) the question of a possible overlap of the two conventions both applying to radioactive waste "on site", (ii) the coverage of nuclear installations that ceased to be covered by the Convention on Nuclear Safety and therefore the possibility of a gap between the two conventions, and (iii) the content of the reporting requirements, notably for States Parties to the Convention on Nuclear Safety It is recalled that the Convention on Nuclear Safety defines its scope of application as to

> *"the safety of nuclear installations [i e] any land-based civil nuclear power plant under [the] jurisdiction [of a Contracting Party] including such storage, handling and treatment facilities for radioactive materials as are on the same site and are directly related to the operation of the nuclear plant*

This language, in the view of many experts, allowed for a different interpretation as to what is located "on site"

Regarding the first and in effect the third above topic, it was felt that an overlap between the two Conventions was not harmful and could, in any event, be clarified at the respective meetings of Contracting Parties, should the Contacting Parties of the Convention on Nuclear Safety adhere to the new Joint Convention Moreover, the two conventions had different objectives and it was preferable and caused no practical difficulties to accept the possibility of some double reporting rather than accept gaps in the reporting mechanism thus allowing Contracting Parties to keep sites, facilities or wastes outside the report

Regarding the second topic, the Group of Experts felt that as nuclear installations ceased to be covered by the Convention on Nuclear Safety once a decommissioning programme had been agreed (see Article 2 (i) of the Convention on Nuclear Safety) there was a need to cover such installations under the Joint Convention and, accordingly the definition of the term radioactive waste management was expanded to include 'decommissioning' to mean all steps leading to the release of a nuclear facility other than a disposal facility, from regulatory control, [including] the processes of decontamination and dismantling [7] The term "nuclear facility" should be understood as defined in the Safety Series Document No 111-F 1 e

> *a facility and its associated land buildings and equipment in which radioactive materials are produced used handled stored or disposed of (for example repository) on such scale that consideration of safety is required'*

(3) Radioactive waste or spent fuel resulting from military or defence programmes

A third element in the Joint Convention was whether, and if so, how, to cover radioactive waste and spent fuel within or resulting from military or defence programmes under the jurisdiction of States with nuclear weapons programmes, under the Convention

After much negotiation conducted in open-ended sub-groups, essentially among States with such programmes radioactive waste or spent fuel within or resulting from military or defence programmes were dealt with in a package and covered under three different items in the Joint Convention

1 Article 3 (3) on scope reads "This Convention shall not apply to the safety of management of spent fuel or radioactive waste within military or defence programmes, unless declared as spent fuel or radioactive waste for the purposes of this Convention by the Contracting Party However this Convention shall apply to the safety of management of spent fuel and radioactive waste from military or defence programmes if and when such materials are transferred permanently to and managed within exclusively civilian programmes

2 For spent fuel or radioactive waste excluded from the Joint Convention because it is within military or defense programmes a reference is contained in the Preamble paragraph (viii) of the Preamble recognizes that such fuel and waste 'should be managed in accordance with the objectives stated in the Joint Convention"

3 Finally an extensive confidentiality clause was adopted in Article 36 (3) to provide for the exclusive discretion" of the Contracting Parties concerned to decide (i) whether such information is classified or otherwise controlled to preclude release (ii) whether to provide information referred to in sub-paragraph (i) above in the context of the Convention and (iii) what conditions of confidentiality are attached to such information if it is provided in the context of this Convention

The experts when considering this issue, discussed what was termed a voluntary submission of such fuels and wastes under the convention versus what was termed a "mandatory inclusion This distinction coded in language either as "shall not apply to such wastes unless or 'shall apply to such wastes except ' was negotiated with arguments of transparency and public perception in mind In the end the views of the majority of the five nuclear weapon States prevailed and the concept of voluntary

7 See Article 2 (b) of the Joint Convention

submission", as described in (1) above, was adopted However, this did not happen without a number of non-nuclear weapon States maintaining their preference for the "mandatory" submission of military fuels and wastes and expressing their concern that with the above-mentioned provisions in the convention text, such material could be managed at a lower safety level than that accorded to similar material from civilian nuclear applications

(4) Transboundary movement of spent fuel or radioactive waste

A fourth controversial issue in the negotiation was that of drafting international norms regarding the transboundary movement of spent fuel or radioactive waste

The subject is dealt with in Article 27 of the Joint Convention and is also addressed in preambular paragraph (xii) of the text, and is largely based on the IAEA's Code of Practice on International Transboundary Movement of Radioactive Waste as adopted by the General Conference in September 1990[8] The Code presumably will continue existing as a non-binding text reflecting good State practice

Following the spirit and the purpose of the Code of Practice, preambular paragraph (xii) of the Joint Convention text recognizes the sovereign right of every State to prohibit the import of radioactive waste into its territory Furthermore, Article 27 of the Joint Convention ensures that transboundary movements of radioactive waste take place in accordance with internationally accepted safety standards and respective national laws and regulations Finally, as did the Code of Practice in the form of a recommendation only, Article 27 of the Joint Convention, in effect, definitely disapplies the Basel Convention on Transboundary Movement of Hazardous Waste Article 1 (3) of the Basel Convention reads ' Wastes which, as a result of being radioactive, are subject to other international control systems, including international instruments, applying specifically to radioactive materials, are excluded from the scope of this Convention "

In discussing the question of transboundary movement of radioactive waste, experts also had to take into account that some States have enacted laws forbidding final disposal of foreign waste on their territory On the other hand, national industries reprocess foreign radioactive waste and return it to its country of origin The Convention could therefore neither directly encourage the setting up of regional repositories, nor prohibit it The solution found was to refer the matter to the Preamble[9] and adopt language that was similar to the Basel Convention[10]

Different from the Code of Practice, Article 27 of the Joint Convention prohibits the shipment of spent fuel or radioactive waste to Antarctica and, also different from the Code of Practice, the Joint Convention seems to accord less protection to States of transit, meaning States through whose territory a transboundary movement of spent fuel or radioactive waste takes place The Group of Experts argued that the Joint Convention could not create new international law in this regard but had to refer to existing law including, inter alia, the body of law codified by the United Nations Convention on the Law of the Sea (UNCLOS) States not Parties to that body of law, however, maintained their opposition and achieved the exclusion of any specific reference to UNCLOS

The Group finally decided upon a reference to existing international instruments in a twofold manner (1) Article 27(1)(ii) provides that "transboundary movement through States of transit shall be

8 That Code was requested by the IAEA General Conference in 1988 following reports on illicit transfer and disposal of hazardous wastes – a practice commonly called dumping – in territories of developing countries notably in Africa.

9 See Section II above

10 See eighth preambular paragraph of the Basel Convention

subject to those international obligations which are relevant to the particular modes of transport utilized it being understood that international obligations were only to include binding legal instruments and (2) Article 27(3)(i) of the Joint Convention reads 'Nothing in this Convention prejudices or affects (i) the exercise by ships and aircraft of all States of maritime river and air navigation rights and freedoms as provided for in international law The right of innocent passage whether through straits or the exclusive economic zone, therefore remained unchanged

(5) Disused sealed sources

A fifth somewhat extraneous element was that of so-called disused sealed sources which depending on the applicable technical definitions might or might not be considered to be radioactive waste when returned to the manufacturer Given the safety risk of such sealed sources – if not properly and safely disposed of – notably for developing countries importing them for use in medicine or agriculture the Group of Experts felt that a specific article in the Joint Convention should address this subject The problem, however was that of creating a legal obligation in certain countries with a potentially wide range of producers sellers, trade companies etc to import a matter they were not necessarily licensed to handle The compromise reached was included as Article 28 in the Convention text which provides that (1) Each Contracting Party shall, in the framework of its national law take the appropriate steps to ensure that the possession remanufacturing or disposal of disused sealed sources takes place in a safe manner and furthermore (2) that "A Contracting Party shall allow for reentry into its territory of disused sealed sources if in the framework of its national law it has accepted that they be returned to a manufacturer qualified to receive and possess the disused sealed sources

(6) The reporting requirements

A sixth element of the Joint Convention was to be found in respect of the reporting requirement which due to the specific subject matter could not be modeled after the Convention on Nuclear Safety

According to Article 32 of the Joint Convention, national reports should not only address the measures taken by each Contracting Party to implement each of the obligations of the Convention but should also contain a national list of radioactive waste and of spent fuel management facilities subject to the Convention their location, main purpose and essential features and an inventory both of spent fuel and of radioactive waste that is in storage, that has been disposed of, or for radioactive waste that has resulted from past practices Furthermore, the inventory to be submitted to the review meetings of Contracting Parties should also contain a list of nuclear facilities in the process of being decommissioned and the status of decommissioning activities at those facilities

This comprehensive obligation in fact, requires Contracting Parties to report all national waste sites and facilities including a description of the material held at such facilities The concept of an international inventory under IAEA auspices, floated by some experts was not accepted

(7) Participation of Contracting States in the Meetings of Contracting Parties

A seventh element was in fact a legal and procedural matter and a "lesson learned from the Convention on Nuclear Safety When the preparatory meeting for the Convention on Nuclear Safety was held at the IAEA Headquarters in April 1997 some countries which had ratified the Convention on Nuclear Safety were not yet Contracting Parties due to the delay of ninety days as provided for in Article 31 of the Convention, and hence could not participate in the preparatory meeting for this

11 As does Article 5 of the Convention on Nuclear Safety

Convention, a meeting, which, *inter alia,* adopts the rules of procedure and therefore sets the pace for any future review meetings Article 29(3) of the Joint Convention therefore uses a distinction known to the Vienna Convention on the Law of Treaties between Contracting Parties and Contracting States (i e States that have signed and ratified the Convention but for which the Convention has not yet entered into force) and provides for the participation of Contracting States in the preparatory meeting for the Joint Convention

(8) Environmental Aspects

The last but not least novelty of the Joint Convention, or rather, an additional perspective from which the Convention might be seen, are its references to environmental aspects for the safe management of spent fuel and radioactive waste

The Joint Convention, during the early negotiation phase, was often referred to as the "sister convention" to the Convention on Nuclear Safety However, as would need to be analyzed in depth, the Joint Convention covers a much broader range of subjects and therefore has the potential to attract the attention of different national authorities and groups in society, notably those concerned with the environment

Of the environmental elements in the Joint Convention the most obvious is contained in paragraph (xi) of the Preamble of the Joint Convention It is the principle which is reflected in many national waste policies and which was only recently reiterated during the Special Session of the UN General Assembly on Sustainable Development (UNGASS) in June 1997 that "radioactive waste should, as far as is compatible with the safety of the management of such material, be disposed of in the State in which it was generated"[12]

Moreover, all major technical Articles in the Convention, such as the Articles on "General Safety Requirements", "Siting of Proposed Facilities", "Design and Construction", "Safety Assessment" of radioactive waste and of spent fuel management facilities contain an explicit reference to the environment The Articles on "Siting of Proposed Facilities", in line with Agenda 21, address the potential transboundary effects of radioactive waste or of spent fuel management facilities providing for the need to consult Contracting Parties in the vicinity Article 32 of the Joint Convention on reporting, as mentioned above, provides for an inventory of spent fuel and radioactive waste held in the territory of a Contracting Party and a resolution recognizing, *inter alia,* "States' responsibilities in respect of the protection and preservation of the environment" and was adopted by consensus at the Diplomatic Conference

In this context it must be borne in mind that the measures taken to implement each of these Articles not only have to be reported to the review meetings of Contracting Parties but first have to be adopted by legislative assemblies and defended vis-a-vis the public in the respective countries

12 However as mentioned in Section II above this paragraph cannot be interpreted as to preclude regional or international repositories because preambular paragraph (xi) at the same time *recognizes that in certain circumstances safe and efficient management of spent fuel and radioactive waste might be fostered through agreements among Contracting Parties to use facilities in one of them for the benefit of the other Parties particularly where waste originates from joint projects*

IV The Diplomatic Conference

IV 1 The Negotiations

On the basis of the above-described results, the Group of Experts, in March 1997 agreed to present its draft text to a Diplomatic Conference Informal negotiations on open issues were conducted during the June 1997 session of the IAEA Board of Governors and continued until the eve of the Conference

The Diplomatic Conference, convened in Vienna from 1 to 5 September 1997 by the IAEA was attended by representatives from 84 States and four International Organizations

The substance of all of the 44 articles of the Joint Convention, as drafted by the Group of Experts were agreed to by the Conference without challenge or even further discussion except for the articles relating to three legal and political points which had eluded consensus

These points were

1 an amendment to the scope of the Joint Convention [Article 3 (1)] proposed by the United Kingdom,

2 the question whether or not the transboundary movement of spent fuel or radioactive waste required notification and consent of a state of transit and

3 the question of waste transactions conducted independently by Contracting Parties with non-sovereign entities

Regarding the latter issue, China sought to rule out that Taiwan (China), which has nuclear facilities producing spent fuel and radioactive waste, might receive by implication the status of a sovereign State A number of delegations, however, felt that express language to this effect was not needed in the Convention and therefore opposed the inclusion of a specific paragraph proposed by China during the Diplomatic Conference

Regarding the question of transboundary movement, some transit states in particular Turkey Morocco some South American countries and New Zealand speaking also for some states in the South Pacific region, strongly requested a notification and consent procedure

These States argued that the principle of prior notification and consent had received widespread support in relation to transboundary movement of hazardous wastes, as was reflected in a number of international instruments such as the Basel Convention, the Convention on the Ban of the Import of Hazardous Wastes into Africa and on the Control of their Transboundary Movements within Africa (Bamako Convention), the IAEA Code of Practice, the IAEA Regulations for the Safe Transport of Radioactive Material and Euratom Directive 92/3 Countries of origin or destination of such transboundary movements however, gave preference to their right of innocent passage as embodied in UNCLOS By a vote of 57 in favor and 5 against with two abstentions the article on transboundary movement stayed as drafted by the Group of Experts

The question of prior notification and consent, however, endured in a different form namely as a resolution adopted by the Conference by consensus and included in the Final Act In the operative part

of this resolution, the Conference "urges all States parties to the Convention to take into full consideration the IAEA Regulations for the Safe Transport of Radioactive Material (1996), in particular in the case of transboundary movement of spent fuel and radioactive waste, notably in the formulation and implementation of their national laws and regulations" In addition, the Conference "invited the Agency, in consultation and where appropriate in collaboration with the competent organs of the United Nations and with the specialized agencies concerned, including IMO and UNEP to keep under review the existing rules and regulations with respect to the safety of the transboundary movement of spent fuel and radioactive waste [13]

Regarding the first issue, the United Kingdom submitted an amendment to the Diplomatic Conference providing that the Joint Convention apply to the full range of spent fuel management activities and therefore include the reprocessing activity as such The proposal was understood as a further broadening of the scope of the Convention Other States, while not objecting to this concept, felt that the proposed amendment on such an important matter should have been consulted in advance In the end, after a number of votes, a drafting proposal submitted by India relating to the scope of application of the Joint Convention was adopted, so that Article 3(1) of the Joint Convention is now divided into two sentences The first sentence reads "This Convention shall apply to the safety of spent fuel management when the spent fuel results from the operation of civilian nuclear reactors" thereby clearly including, as a matter of principle, the safety of spent fuel management in the Joint Convention The second sentence reads "Spent fuel held at reprocessing facilities as part of a reprocessing activity is not covered in the scope of the Convention unless the Contracting Party declares reprocessing to be part of spent fuel management" and therefore excludes only the reprocessing activity as such from the scope of the Convention In this context, France, the United Kingdom and Japan made a declaration during the Diplomatic Conference to the effect that they "shall report within the context of the Convention on reprocessing as part of spent fuel management"

IV 2 Adoption by Vote

The Diplomatic Conference rose after a motion by New Zealand to put the Convention as a whole to a vote on the grounds that the issue of transboundary movement, and more particularly the question of notification and consent of transit States was not sufficiently addressed in the Convention[14]

The adoption of the Convention, however, was not at stake Out of 67 States present at the time of voting two, namely New Zealand and Pakistan voted against the Convention Three States abstained and an overwhelming majority of 62 States voted in favor The Final Act of the Diplomatic Conference was signed on 5 September 1997 by 65 States, three States present did not sign the Final Act

V. Outlook

In establishing a Convention with a broad scope of application closely tied to the Convention on Nuclear Safety, the negotiations clearly intended to complete a norm-making project initiated at the 1991 "International Conference on Nuclear Safety strategies for the future" This project was to elevate to international law, the body of recommendations, codes and principles generally referred to as "soft law" containing internationally accepted best safety practices applicable to the entire nuclear fuel cycle Safety culture should indeed cease to be a lofty concept but rather be described in detailed technical terms and worded in the language of international law

13 See IAEA document GOV/INF/821-GC(41)/INF/12

14 See also the negotiations in the Group of Experts Section III 3(4) above

A first analysis could conclude that, added to the existing norms on the physical protection of nuclear material, the rules of international notification, cooperation and assistance in case of accidents and the liability regime, the international community has now endowed itself with a complete finite *corpus juris* – the international law of nuclear safety

Such static interpretation, however, in the opinion of the authors, does not seem to be satisfactory The norms established in the 1960s and the 1970s are not necessarily adequate to meet the stricter legal demands of the present and the future – as demonstrated by the recent amendment and complimentary norms adopted in the field of nuclear liability

Moreover, implementation of the Convention on Nuclear Safety and of the Joint Convention will presumably create new State practice by the mere functioning of the peer review mechanism Bilateral and regional agreements will further develop the basic principles so far internationally agreed

Therefore, while the adoption of the Joint Convention no doubt constitutes a major leap in codifying nuclear safety norms, many steps are still required to give this instrument its full potential

United States Nuclear Waste Policy Act

by Sophia Angelini*

Legislation to substantially revise the high-level nuclear waste program in the United States and amend the Nuclear Waste Policy Act of 1982 is currently pending before both chambers of the U S Congress The Senate passed S 104, the Nuclear Waste Policy Act of 1997 on April 15, 1997, by a vote of 65 to 34, two votes less than necessary to override a threatened Presidential veto by President Clinton On October 30, 1997, the House passed H R 1270, its version of the legislation, by a vote of 307 to 120 which provides an ample margin to override the threatened veto A House-Senate Conference may take place later this year to resolve differences between the Senate and House bills

The ultimate goal of the 1997 legislation remains geologic disposal However, if enacted into law, the interim storage proposals in S 104 and H R 1270 would represent a significant evolution of U S policy for management of spent nuclear fuel and high-level radioactive waste This latest round of legislation has been occasioned by impatience on the part of Congress and the nuclear industry with the pace and the cost of the present Federal program, and by a 1996 court decision, *Indiana Michigan Power Company v U S Department of Energy*, in favor of the nuclear utilities The decision held that the Department of Energy has an obligation to start disposing of the utilities' spent fuel by January 31, 1998, reciprocal to the utilities' obligation to pay fees, and that the Department of Energy's obligation is not conditioned on the availability of a repository The court noted that it was premature to determine the appropriate remedy since the Department of Energy has not yet defaulted on its statutory or contractual obligation In 1997, the nuclear utilities again sued, this time for implementation of the 1996 decision Oral arguments in the most recent case, *Northern States Power v U S Department of Energy*, were held on September 25, 1997, before the same court that rendered the 1996 decision, the U S Court of Appeals for the District of Columbia Circuit

The legislation would create an integrated management system, including a licensed federal interim storage facility at the Nevada Test Site near Yucca Mountain, Nevada, for spent fuel acceptance as early as January 31, 2002 (four years later than the 1998 disposal date contemplated under current law), as well as a repository and a transportation network linked to current storage sites The nuclear utilities in the United States, which have contracted with the Department of Energy for disposal of spent fuel and contributed to date about $8 4 billion to the Nuclear Waste Fund, are concerned about the rising costs of storing spent fuel at commercial reactors if the Federal Government does not develop a central storage facility by the year 2002 They project that 26 reactors will run out of storage space in 1998 The nuclear utilities also report that they could save consumers $3 3 billion if a federal interim storage facility were operating in 2002

Under the parameters of current law, the Nuclear Waste Policy Act of 1982, as amended[1] and the program implemented by the Department of Energy, there are no plans for an interim storage facility for acceptance of the nuclear utilities' spent fuel commencing in 1998 The Department of Energy presently projects that a repository license application will be submitted to the Nuclear Regulatory

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1 Pub L No 97-425 was signed into law on January 7 1983 The Act was amended extensively by Pub L No 100-202 and Pub L No 100-203 on December 22 1987 The Act appears at 42 U S C 10101 *et seq* Most recently the Act was amended by Title VIII of the Energy Policy Act of 1992 which appears at 42 U S C 10141 note

Commission in the year 2002, with a long-term goal of starting repository operations by the year 2010 This projection applies only if Yucca Mountain, Nevada – the sole site of investigation in the United States – should indeed prove suitable

President Clinton opposes and has threatened to veto the legislation which provides for interim storage in Nevada, prior to completion of a 'viability assessment" to be completed by September 30, 1998 To date, the Department of Energy's scientific investigations have revealed no reasons to disqualify Yucca Mountain as a repository However, the viability assessment would address major unresolved technical questions and essentially determine whether a repository at Yucca Mountain would be technically feasible and cost effective In opposing the legislation the Administration has stated that Yucca Mountain should be determined safe as a repository before nuclear waste is transported to Nevada for interim storage The Administration contends that the legislation could result in spent fuel being transported twice – once for interim storage, and again should Yucca Mountain prove unsuitable – thereby subjecting communities to unnecessary risks Further concerns are that the legislation would weaken existing environmental standards In opposing the legislation the Administration echoes the view of the Nuclear Regulatory Commission that any spent fuel generated in reactors can be stored safely and without significant environmental impact for about 100 years

This note contains

- background on existing law, the Nuclear Waste Policy Act of 1982 and the repository program
- a summary of the 1996 court decision on the Department of Energy s obligation to commence disposal of the utilities' spent fuel in 1998
- key provisions of the Nuclear Waste Policy Act of 1997,
- a review of President Clinton's position concerning the legislation, and
- a description of some interim storage options being independently pursued by the nuclear utilities and private entities

The legislation remains subject to significant changes as amendments may be adopted during a House/Senate Conference to resolve differences between H R 1270 and S 104 and aimed at avoiding a Presidential veto This note will not, therefore, provide a detailed analysis of the present content of the bills, as may be appropriate at the conclusion of their legislative odyssey

I BACKGROUND

There are currently 109 nuclear power plants licensed to operate in the United States which provide approximately 20 per cent of the country's electricity These nuclear power plants produce about 2 000 metric tons of spent or "used" fuel annually (a typical plant produces about 20 metric tons of spent fuel each year) At present over 30 000 metric tons of spent fuel are in temporary storage at nuclear power plants at about 75 sites in 34 states The Nuclear Energy Institute (NEI) reports that by

1998, 26 nuclear reactors will exhaust their existing on-site used fuel storage capacity[2] NEI estimates that, if they are not obliged to build additional storage facilities and are able to reduce operating costs of spent fuel pools after shutdown through use of a federal storage facility, utilities could net to consumers a total savings of about $3 3 billion The nuclear utility industry also contends that a centralized interim storage site, as compared to dispersed storage throughout the country, would allow for a more focused inspection and monitoring program by the Department of Energy and the Nuclear Regulatory Commission, and save inspection resources for permanently shutdown plants With respect to transportation, NEI reports over 2 400 shipments of used nuclear fuel during the past 30 years in the United States with no release of radioactivity, and no harm to humans or the environment[3]

According to NEI, between 1973 and 1996 nuclear energy met 41 per cent of the increase in demand for electricity in the United States During that period, nuclear power plants reduced cumulative emissions of carbon dioxide, the greenhouse gas, by 2 billion metric tons NEI estimates that in 1996 the 109 utilities prevented emissions of 147 million metric tons of carbon into the atmosphere[4] We note that on April 21, 1993 ("Earth Day"), President Clinton committed the United States to stabilizing its emissions of greenhouse gases at 1990 levels by the year 2000 In this regard, the Department of Energy recently reported that "In 1995 demand for [electric] power increased by 2 9 per cent, but utility carbon emissions declined because nuclear and conventional hydroelectric power generation met a disproportionately large share of the increased demand"[5]

The Federal Government also produces spent fuel and high-level radioactive waste through its defense and research activities[6] Research reactors of the Department of Energy and various universities produce spent fuel which is stored at sites owned by the Department of Energy However most of the spent fuel produced by the Department is from reactors at the Hanford and Savannnah River sites that produced materials for the nuclear weapons program and from nuclear-powered vessels and naval reactor prototypes Additionally, high-level radioactive waste resulting from

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2 This information is from the Nuclear Energy Institute 1997 'Fact Sheet , available on the World Wide Web- http://www nei org and updated periodically The Nuclear Energy Institute represents all of the nuclear utilities in the United States, as well as nuclear vendors, radiopharmaceutical companies and universities with nuclear programs.

3 Used nuclear fuel – solid, ceramic-coated pellets of uranium sealed inside zirconium alloy tubes – is placed in dry rugged containers for shipment. These specially designed containers, certified by the Nuclear Regulatory Commission, use heavy steel-walled technology to safely confine radioactive materials From *Managing Used Nuclear Fuel*, Nuclear Energy Institute, May 1997

4 In a speech before the United Nations General Assembly on June 24 1997, the Director General of the International Atomic Energy Agency, Dr Hans Blix, made the following comments concerning the environmental benefits of nuclear energy

Energy in particular electricity is of fundamental importance to sustainable development and nuclear fission offers the world ways of generating vast amounts of electricity and heat without causing acid rain or contributing to global warming and without risk that the fuel will run out Nuclear power rather than being largely ignored or written off by reference to public concerns would deserve to be examined on its merits by United Nations organs in search of a sustainable energy mix.

5 U S Department of Energy, *Emissions of Greenhouse Gases in the United States* DOE/EIA-0573 (95), p 13 The report notes the signing of the Framework Convention on Climate Change (Rio Treaty) in Rio de Janeiro on May 4, 1992 by more than 160 countries, including the United States. The objective of the Rio Treaty is to " *achieve. stabilization of the greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system*

6 The spent nuclear fuel is fuel that has been withdrawn from a nuclear reactor following irradiation, the constituent elements of which have not been separated by reprocessing. The high-level radioactive waste results from the chemical processing of spent nuclear fuel and irradiated target assembles It includes liquid waste produced directly, and any solid waste derived from the liquid, that contains a combination of transuranic elements and fission products in concentrations that require permanent isolation. The terms "high-level radioactive waste and "spent nuclear fuel" are defined in section 2 of the Nuclear Waste Policy Act of 1982 as amended.

chemical reprocessing of spent fuel and irradiated targets has been produced through the Department of Energy s defense activities Of the total volume of 380 000 cubic meters about 92 per cent (350 000 cubic meters) of the Department's high-level waste is the result of weapons production and 8 per cent is the result of nonweapons activities This high-level radioactive waste is currently stored at Hanford (Washington) the Idaho National Engineering Laboratory (Idaho), Savannah River (South Carolina) and West Valley (New York)

The Department categorizes spent fuel, including fuel and targets from weapons production reactors research reactors and some power reactors, as ' materials in inventory" rather than waste Depleted uranium accounts for about 71 per cent of the mass of materials in inventory while scrap metal makes up 19 per cent About 49 per cent of such materials results from nuclear weapons productions The remaining materials result from supplying enriched uranium to the Naval Nuclear Propulsion Program and commercial nuclear power reactors, various research programs of the Department of Energy and other nonweapons activities Materials in inventory are stored at 44 sites in 19 States with over 85 per cent of such materials maintained at the three gaseous diffusion plants at Paducah, Kentucky, Portsmouth, Ohio, and Oak Ridge, Tennessee[8]

For over 20 years the effort in the United States to build a permanent repository has unfolded like an immense Wagnerian opera with a recurring leitmotiv 'Is this safe?' from the Federal Government the States and others[9] Nuclear waste management became a key project of the Reagan Administration to secure energy strength through nuclear power"[10] The Nuclear Waste Policy Act of 1982, signed by President Reagan on January 7, 1983, directed the Department of Energy to site design construct and operate the Nation's first geologic repositories for permanent disposal of spent nuclear fuel and high-level radioactive waste Pursuant to the 1982 Act, the Department focused on potential sites for two geologic repositories in six Western and Southern States as well as nearly 20 crystalline rock States in the East and Midwest On May 28 1986 President Reagan approved the selection of three sites for detailed study or ' site characterization" Yucca Mountain, Nevada Deaf Smith County Texas and Hanford Washington

In 1987, however, Congress negotiated a political and money-saving compromise whereby site characterization for a repository, then ongoing in the three Western States would continue only in Nevada despite the State s vehement protests[11] The State of Nevada produced no spent fuel from commercial reactors but had few electoral votes Further, it contained remote arid regions like Yucca Mountain near the Nevada Test Site where nuclear bombs were detonated during the Cold War

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7 U S Department of Energy *Linking Legacies – Connecting the Cold War Nuclear Weapons Production Processes To Their Environmental Consequences* DOE/EM-0319 (January 1997) pp 33-34

8 *Id* pp 106-109

9 Since 1957 various disposal options for radioactive waste have been studied in the United States including ocean burial burial in polar ice sheets or rocketing waste into space However underground disposal has remained the preferred option In 1963 Project Salt Vault was launched to study salt formations for a radioactive waste laboratory at sites throughout the United States In 1976 the Energy Research and Development Administration, a predecessor to the Department of Energy selected sites in 36 states for six repositories in geologic media including salt, shale granite and tuff From *Managing Used Nuclear Fuel – A Guide to Legislative Reform of the Federal Used Fuel Management Program* NEI 1997

10 U S Department of Energy Terrence R. Fehner Jack M. Holl *Department of Energy 1977-1994 A Summary History* DOE/HR-0098 (November 1994), p 43

11 In 1987 opinions varied greatly as to the merits of investigating only Nevada. Representative Barbara Vucanovich (R -Nev) said *Congress is behaving like a pack of wolves going in for the kill* Senator Harry Reid (D -Nev) echoed similar sentiments, saying, *When you rub all the fog off this window you look in and you see base power politics at its worst* However Senator Bennett Johnston (D -La.) said *If I were a Nevadan living in the real world I would be happy with this bill I bet that in a few years Nevada will deem this one of their most treasured industries* Congressional Quarterly Almanac Vol XLIII, p 307

Nuclear weapons testing began in Nevada in January 1951 and ended in September 1992 Thus, some Nevadans felt that their State had already made a sufficient contribution to the country's nuclear endeavours In addition to environmental issues associated with a repository or interim storage, Nevadans feared negative economic impacts, such as lost tourism and gambling, as well as decreased property values due to perceived risk[12]

As amended in 1987, the Nuclear Waste Policy Act also eliminated a potential second repository which probably would have been located in the eastern half of the United States – which produced most of the spent fuel but also had most of the electoral votes Nevadans were irate that the site selection process had been short circuited, and Nevada Governor Richard Bryan termed the Act "A legislative atrocity" He promised that the State would use every legal remedy to oppose the decision[13] Accordingly, the State of Nevada filed a series of lawsuits in the 1980's and 1990's which effectively contributed to delaying the Department of Energy in its site characterization activities at Yucca Mountain

Scientific investigations are still underway to determine the suitability of Yucca Mountain for a permanent geologic repository, pursuant to the Nuclear Waste Policy Act

Dr Daniel A Dreyfus, Director of the Office of Civilian Radioactive Waste Management[14] from 1993 to 1997, reported to Congress

> *'With passage of the Nuclear Waste Policy Act in 1982 following years of debate Congress signalled its commitment to solving the problem of high-level radioactive waste disposal In 1987 Congress reaffirmed and focused this commitment by designating Yucca Mountain, in Nevada, as the only site to be evaluated for suitability as a high-level radioactive waste repository With no scientific, technical, or social precedents, the U S civilian high-level radioactive waste management program, like waste management programs of other nations, is moving up what has proved to be a very steep learning curve Congress' investment has produced a program with considerable strengths, including a developing methodology and regulatory framework for the decision on the integrity of a geologic repository for waste disposal over a period of 10,000 years This evaluation must rest on agreement within the scientific and oversight communities as to what reasonable standards for safety should be and how compliance with those standards, throughout the 10,000-year period, can be reasonably demonstrated tasks that sound straightforward but entail extremely complex scientific issues"*[15]

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12 The State of Nevada took note in 1992 of a decision by the New Mexico Supreme Court in *Santa Fe v Komis* 845 P.2d 753 (1992) addressing a claim of diminution of property values based on perceived risks of nuclear waste transportation. The case involved a partial condemnation of land taken by the City of Santa Fe to construct a highway for primarily normal public use but also for occasional transportation of nuclear waste from Los Alamos to the Waste Isolation Pilot Plant (WIPP) near Carlsbad, New Mexico The jury in the District Court awarded $489 582 for the land actually taken, $60 784 for severance damages to the buffer zone and $337 915 for perceived loss due to public perception. The New Mexico Supreme Court affirmed judgment of the District Court and stated *If people will not purchase property because they fear living or working on or near a WIPP route or if a buyer can be found but only at a reduced price a loss of value exists If this loss can be proven to the jury the landowner should be compensated*

13 U S Department of Energy, Terrence R. Fehner and Jack M. Holl *Department of Energy 1977-1994 – A Summary History* DOE/HR-0098 (November 1994), p 44

14 The Nuclear Waste Policy Act of 1982 created the Office of Civilian Radioactive Waste Management within the Department of Energy and the functions of its Director Lake Barrett is currently serving as acting Director of the Office of Civilian Radioactive Waste Management.

15 U S Department of Energy, *Office of Civilian Radioactive Waste Management Fiscal Year 1994 Annual Report to Congress*, DOE/RW-0464 (May 1995)

With regard to progress of the repository program in the United States, the Wall Street Journal of February 19, 1997 which profiled Dr Dreyfus, noted the virtual completion during his tenure of a "subway-sized, five-mile tunnel" at Yucca Mountain Nevada, and that "The Department of Energy will celebrate what appears to be a milestone in the nation s 30-year old program to find a permanent repository for nuclear waste"[16]

While there is still no decision with regard to a permanent repository at Yucca Mountain current law[17] requires that the Department proceed with a "viability assessment' of Yucca Mountain to be submitted to the Congress and the President by September 30, 1998 The assessment is an interim step in the process leading to a site suitability determination, a potential site recommendation to the President in 2001, and a license application that would be submitted to the Nuclear Regulatory Commission in 2002[18]

Under this revised strategy, characterization of Yucca Mountain will focus on major unresolved technical questions about the site's suitability The four main components required to complete the viability assessment are (1) more specific design work on the repository and waste package and a more specific concept of repository operations, (2) a total system performance assessment describing the probable behavior of the repository, (3) a plan and cost estimate for the work remaining to complete a license application by the Department of Energy to the Nuclear Regulatory Commission and (4) a more precise estimate of the costs of constructing and operating the repository based on the latest design and operational concept[19] Completion of a "viability assessment" of Yucca Mountain to determine its safety for a repository, prior to shipping spent fuel to Nevada for interim storage is part of President Clinton's rationale in threatening to veto the Nuclear Waste Policy Act of 1997 which would authorize interim storage in Nevada His policy is consistent with a recommendation by the Nuclear Waste Technical Review Board[20] which reported in March 1997 to Congress that *A decision to locate the nation's primary centralized storage facility for spent fuel at or near Yucca Mountain should be deferred until the suitability of the site as a repository location has been determined*[21]

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16 "Daylighting of the 8-kilometer tunnel occurred on April 25 1997 Excavation began in the fall of 1994 with the same type of 7 6-meter wide tunnel boring machine used for the "Chunnel" The tunnel will serve as an exploratory studies facility to provide scientists with access for direct observation and testing of subsurface geologic features and hydrologic conditions that might affect repository design and performance

17 The Energy and Water Development Appropriations Act 1997, Pub L No 104-206

18 Appearing before the Nuclear Waste Technical Review Board in October 1996 Dr Dreyfus described the viability assessment as "a management tool" and emphasized that it is "just a step along the way" to the more formal decision by the Secretary of Energy on whether to recommend the Yucca Mountain site to the President for development as a repository U S Nuclear Waste Technical Review Board, "Report to the U S Congress and the Secretary of Energy January to December 1996 (March 1997), p 3

19 U S Department of Energy *Office of Civilian Radioactive Waste Management Annual Report to Congress* DOE/RW-0494 (May 1997).

20 Title V of the Nuclear Waste Policy Act of 1982 as amended, created the Nuclear Waste Technical Review Board composed of eleven members, appointed by the President, who are eminent in a field of science or engineering, including environmental sciences. The Board was created to evaluate the technical and scientific validity of the Department of Energy s repository program, including its site characterization activities, and activities relating to the packaging and transportation of spent fuel and high-level radioactive waste. The Board must report its conclusions and recommendations twice a year to the Congress and the Secretary of Energy

21 U S Nuclear Waste Technical Review Board, *Report to the U.S Congress and the Secretary of Energy January to December 1996* (March 1997), p 16

II. COURT OF APPEALS DECISION

The Nuclear Waste Policy Act created the Department of Energy's responsibility to permanently dispose of the nation's high-level radioactive waste and spent fuel It also established a "Nuclear Waste Fund" composed of payments made by the generators and owners of waste and spent fuel to ensure that they would bear in toto the costs of carrying out activities related to disposal In order to collect for the project, Congress authorized the Department of Energy to enter into contracts with the generators and owners of waste and spent fuel of domestic origin for acceptance of title, subsequent transportation, and disposal in return for a prescribed fee The Act required that, following commencement of repository operation, the Secretary of Energy take title to the high-level radioactive waste or spent nuclear fuel involved as expeditiously as practicable and, in return for payment of the fees, begin disposal by January 31, 1998[22]

Consequently in 1983 the Department of Energy promulgated the so-called "Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste"[23] which was signed by all nuclear utilities in the United States It provides for acceptance and disposal of their spent fuel by the Department of Energy according to certain schedules in return for their payment of fees To date, approximately $8 4 billion in fees have been placed in the Nuclear Waste Fund to cover the costs of activities related to disposal of the utilities' spent fuel[24]

The Department experienced delays in its site characterization program at Yucca Mountain and on May 3, 1995 the Department issued a "Final Interpretation of Nuclear Waste Acceptance Issues" in the Federal Register (60 Fed Reg 21,739) This Final Interpretation concluded that the Department of Energy was not legally obligated to accept spent nuclear fuel in 1998 in the absence of an operational disposal facility, constructed pursuant to the Nuclear Waste Policy Act On May 30, 1995 various utilities, States and State public utility commissions filed a petition challenging that interpretation in the U S Court of Appeals for the District of Columbia Circuit

On July 23, 1996 the U S Court of Appeals for the District of Columbia Circuit found in *Indiana Michigan Power Company v U S Dept of Energy*, 88 F 3d 1271 (D C Cir 1996) that, although Congress had anticipated the existence of a repository by 1998, the Nuclear Waste Policy Act created an unconditional obligation that the Department of Energy commence disposing of spent nuclear fuel no later than January 31, 1998, in return for payment of fees by utilities under the Standard Contract The Department had argued that it did not have an unconditional statutory or contractual obligation to accept spent nuclear fuel by January 31, 1998, in the absence of a repository or interim storage facility constructed and licensed under the Act The Court in Indiana Michigan also held that it was premature to determine an appropriate remedy as the Department had not yet defaulted upon either its statutory or contractual obligation The Department did not appeal the decision On December 17, 1996, pursuant to the Standard Contract and consistent with the court decision, the Department advised the utilities by letter of the anticipated delay in accepting spent nuclear fuel and requested that the contract holders respond by March 14, 1997 on how to best accommodate the delay

On January 31, 1997, exactly one year before the Department must commence disposal under the Indiana Michigan decision, 36 utilities and 33 States filed petitions in *Northern States Power*

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22 Section 302 of the Nuclear Waste Policy Act, 42 U S C 10222

23 The Standard Contract is codified at 10 C F R. Part 961 11

24 Congress funds the Department of Energy s activities related to disposal of the utilities spent fuel via annual appropriations from the Nuclear Waste Fund. Congress separately funds activities related to disposal of the United States defense nuclear spent fuel and waste via separate appropriations from the Department of Energy s Defense Nuclear Waste Disposal budget.

Company v U S Dept of Energy, again in the U S Court of Appeals for the District of Columbia Circuit, for enforcement" of the January 31, 1998 disposal provision The utilities assert that the anticipated inability of the Department to meet the deadline constitutes an anticipatory breach of provisions of the Nuclear Waste Policy Act and their contracts They contend that they are entitled to suspend their payment of fees into the Nuclear Waste Fund and that any fees should be placed in escrow until the Department commences disposal pursuant to the Standard Contract The utilities also seek an order which would prohibit the Department from imposing interest or otherwise penalizing utilities placing their fees in escrow, and direct the Department to develop a program to commence disposal by the 1998 date Oral arguments in this case were held on September 25 1997 before the U S Court of Appeals for the District of Columbia Circuit in Washington D C

Secretary of Energy Federico Pena has met with nuclear industry executives to consider contractual issues and various remedies suggested by utilities, in response to the Department of Energy's letter of December 17, 1996 Options under discussion have ranged from compensation for the utilities to taking title to, and moving, the spent nuclear fuel Discussions between the utility industry and the Department of Energy are ongoing

III PROPOSED NUCLEAR WASTE POLICY ACT

The legislation on nuclear waste pending before the 105th Congress is very similar to bills introduced in 1995 and 1996 which were supported by the nuclear utilities and would also have designated a portion of the Nevada Test Site for an interim storage facility site [5]

S 104 Status

On January 21 1997 Senator Frank Murkowski (R -Alaska), Chairman of the Senate Committee on Energy and Natural Resources introduced the " Nuclear Waste Policy Act of 1997" which would replace major portions of the existing law, the Nuclear Waste Policy Act The full Senate passed S 104, as amended during floor consideration, on April 15, 1997 by a vote of 65 to 34 with two votes less than necessary to override a threatened Presidential veto

H R 1270 Status

On April 10, 1997 Representative Fred Upton (R - Michigan) introduced H R 1270 the House version of the Nuclear Waste Policy Act of 1997 The full House passed H R 1270 on October 30 1997, by a vote of 307 to 120 which represents more than sufficient votes to override the threatened veto

Murkowski Substitute Amendment

The following amendments, adopted during floor consideration of S 104, represent areas of controversy that were negotiated in the Senate in response to objections of the Clinton Administration or to obtain undecided or "swing votes The amendments primarily involved extending timeframes for licensing, 'toughening" environmental processes and providing for more stringent radiation

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25 On July 31 1996 the Senate approved the "Nuclear Waste Policy Act of 1996 (S 1936) which contained interim storage provisions, by a bipartisan vote of 63 to 37 President Clinton threatened to veto any legislation designating Nevada as an interim storage site In 1996 the Senate was four votes short of the two-thirds majority necessary to override a Presidential veto The companion House bill, H.R. 1020 was not brought to a vote in the full House during the 104th Congress

protection standards They are noted because similar compromises may be negotiated during a House/Senate Conference

Thus, under S 104, as passed

1 The timeframe for submitting the viability assessment would be extended to December 1, 1998 Originally S 104 would have hastened that submittal date to June 30, 1998

2 The interim storage facility would commence operations by June 30, 2003 if Yucca Mountain is determined "viable", and if not at a different location by June 30, 2005 Originally S 104 envisioned initial operation of a central storage facility by December 31, 2002 if Yucca Mountain were determined viable, and if not, by December 31, 2004

3 Initial capacity of the interim storage facility would be 33 100 metric tons Originally S 104 set the potential size of the interim storage facility at 60 000 metric tons but critics argued that this created a de facto repository diverting resources from the repository program

4 The Environmental Protection Agency (EPA) would be fully involved in setting a risk-based radiation protection standard likely to result in a dose standard of between 25 and 30 millirem for a hypothetical person located at the site boundary Originally S 104 set a 100 millirem dose standard that could be changed by the Environmental Protection Agency and the Nuclear Regulatory Commission if either determined that the 100 millirem standard would constitute an unreasonable risk to health and safety Critics nonetheless deemed this insufficient noting that, in contrast, regulations of the Environmental Protection Agency at 40 C F R 191 and 40 C F R 194 provide for a 15 millirem dose standard at the Waste Isolation Pilot Plant near Carlsbad, New Mexico

5 The Savannah River site (South Carolina), Barnwell County (South Carolina), and Oak Ridge Reservation (Tennessee) would be excluded from consideration for interim storage This met concerns from the Congressional delegation from South Carolina and Tennessee (Senator Strom Thurmond (R -S C), Congressman Ernest Hollings (D -S C), Senator Fred Thompson (R -Tenn) and Congressman Bill Frist (R -Tenn) As initially introduced, S 104 excluded only the Hanford Reservation (Washington) from consideration for an interim storage facility

6 With respect to transportation, the Senate rejected an amendment proposed by the Senator Harry Reid (D -Nev) and Senator Richard Bryan (D -Nev), both opponents of the bill, that would have prevented transportation of spent fuel and high-level radioactive waste through States without prior consent from the state governors The consent of State governors is not required under existing law governing the transportation of hazardous materials and it was thought that such an amendment would have rendered S 104 ineffectual

S. 104 Key Provisions Passed by the Senate

Obligations of the Secretary of Energy

– The Secretary would develop and operate an "integrated management system" for acceptance, transportation, storage and permanent disposal of spent fuel and high-level radioactive waste

Interim Storage

- The Department of Energy would develop a licensed interim storage facility probably at Area 25 of the Nevada Test Site, by approximately June 30, 2003

- The Department would determine by December 31, 1998 whether Yucca Mountain is viable for geologic disposal and would submit a "viability assessment' addressing technical feasibility and cost to the President and Congress Construction of the interim storage facility would not commence until after completion of the viability assessment

- By March 1, 1999, the President could make a determination disqualifying Yucca Mountain for a repository and must then designate an alternate site for construction of an interim storage facility by September 1, 2000 The Hanford Nuclear Reservation in the State of Washington, the Savannah River Site or Barnwell County in the State of South Carolina, or the Oak Ridge Reservation in the State of Tennessee may not be considered as sites for interim storage

- By March 31, 1999, if neither the viability assessment or the President disqualifies Yucca Mountain for a repository, the Secretary of Energy must make a preliminary designation of a specific site within Area 25 of the Nevada Test Site for planning and construction of a licensed interim storage facility

- If the President does not designate an alternate site or if Congress does not approve construction at an alternate site by March 1, 2001, Area 25 will be deemed approved by law as the interim storage facility site

- The Secretary could not commence construction until the Nuclear Regulatory Commission (Commission) approves the license application The Commission would either grant or deny the license application within 32 months of its submittal

- The license application would be for a term of 40 years and capacity would be for 33 100 metric tons uranium/spent fuel The Secretary could seek an amended license for the interim storage facility as deemed appropriate, including the authority to use new storage technologies or to respond to changes in the Commission's regulations After receiving a license to receive and store spent fuel and high-level radioactive waste in the permanent repository, the Secretary must seek amendments to the license for the interim storage facility to permit its optimal use as an integral part of a single system with the repository

Repository

- The Department of Energy would continue site characterization at Yucca Mountain consistent with the new Program Approach"

- The Department of Energy's Siting Guidelines at 10 C F R 960 would be amended to base any conclusions regarding suitability of the repository on an assessment of the total system performance of the repository

- The Department of Energy would prepare a final environmental impact statement by September 30, 2000 and a final record of decision on a recommended site by October 31, 2000

- *Three-Step Repository Licensing* The Secretary of Energy would apply to the Commission for authorization to construct the repository by October 31, 2001, and would seek to maximize the capacity of the repository in the most cost-effective manner, consistent with the need for disposal The Commission would be required to take final action on the Secretary's application within 40 months of its submittal Following substantial completion of construction, the Commission would issue a license to dispose of spent nuclear fuel After emplacing fuel and waste and collecting sufficient confirmatory data on repository performance, the Commission would amend the license to permit permanent closure At each stage, the Commission would be required to determine that the action complies with the Secretary's application, the "Nuclear Waste Policy Act of 1997", the Commission's regulations, and does not present an unreasonable risk to the health and safety of the public, and is consistent with the common defense and security

- *Overall System Performance Standard* The Environmental Protection Agency would promulgate site-specific public health and safety standards for protection from releases from radioactive materials stored or disposed of in a repository at the Yucca Mountain site, consistent with recommendations of the National Academy of Sciences, as already required under existing law (section 801 of the "Energy Policy Act of 1992") The Environmental Protection Agency standards would be in the form of an "overall sytem performance standard" which would specifically establish a risk standard of no greater than 1 in 1 000 for the average member of a defined "critical" group This risk level corresponds approximately to a dose limit of 30 millirem annually (Under S 104 as originally reported, the overall system performance standard for the repository would have prohibited releases of radioactive material or radioactivity that would expose an average member of the general population in the vicinity of Yucca Mountain to an annual dose in excess of 100 millirems)

- The Commission would be required to amend its regulations to reflect the overall system performance standard developed by the Environmental Protection Agency The Commission would issue the construction authorization, license or license amendment if it found reasonable assurance that the overall performance standard will be met for the first 10 000 years following closure of the repository In finding that the overall standard is met, the Environmental Protection Agency and the Commission would be prohibited, *inter alia*, from considering climate regimes substantially different from those at Yucca Mountain during the last 100 000 years and catastrophic events, or scenarios involving human intrusion into the repository following repository closure

- The Commission would be required to transmit to the Congress, upon issuing a construction authorization for the repository, an analysis of the overall performance standard through probabilistic evaluations that use best estimate assumptions for the first 10 000 years after repository closure

- *Transportation Planning* The Secretary of Energy would be required to ensure safe transport of spent fuel from sites designated by the utilities (e g , an at-reactor storage facility or an away-from-reactor storage facility) to mainline transportation facilities and from there to the interim storage facility, using routes that minimize, to the maximum extent practicable, transportation through populated areas, consistent with Federal requirements governing transportation of hazardous materials Within 24 months after submitting a license application for the interim storage facility, the Secretary of Energy must, in consultation with the Secretary of Transportation and affected States and Indian tribes, develop and implement a

comprehensive management plan to ensure safe transportation All spent fuel and high-level radioactive waste would be transported in containers certified by the Commission

- *Foreign Research Reactors* No spent fuel or high-level radioactive waste of U S origin from foreign research reactors or U S defense activities would be stored at the interim storage facility unless the Federal Government pays associated costs

H.R. 1270 Key Provisions Passed by the House

Obligations of the Secretary

The Secretary would develop an "integrated management system" so that the Department of Energy can commence accepting spent fuel and high-level radioactive waste for interim storage by January 31, 2002, and for permanent disposal at a repository by January 17, 2010

Interim Storage

- The Department of Energy would operate a licensed interim storage facility at Area 25 of the Nevada Test Site to commence accepting spent fuel and high-level radioactive waste by January 31, 2002

- The interim storage facility would be licensed by the Commission in two phases the first phase facility would be licensed for a 20-year term with a capacity limit of 10 000 MTU the second phase facility would be licensed for up to 100 years (renewable upon application by the Secretary of Energy) with a capacity limit of 40 000 MTU

Permanent Repository

- The Department of Energy would annul and revoke its Siting Guidelines at 10 C F R Part 960

- The Commission would amend its existing regulations, within one year of enactment to reflect provisions of H R 1270

- The Department of Energy would apply to the Commission for a construction authorization by December 31, 2002

- The Department of Energy would commence repository operations by January 17, 2010

- The Environmental Protection Agency would be prohibited from promulgating repository standards

- The bill establishes an overall system performance standard with an annual dose limit of 100 millirems The standard for protection of the public from releases of radioactive material or radioactivity from the repository would prohibit releases exposing an average member of the general population in the vicinity of Yucca Mountain to an annual dose in excess of 100 millirem (unless the Commission determined by rule, in consultation with the

Environmental Protection Agency, that such standard would constitute an unreasonable risk to health and safety and established another standard)

- The Commission would be required to amend its regulations to conform with requirements of the Nuclear Waste Policy Act of 1997

- The Commission's licensing determinations for protection of the public must be based solely on a finding of whether the repository can be operated in conformance with the overall system performance standard The Commission must issue a license if it finds reasonable assurance that the standard will be met for the first 1 000 years of repository operation "Likely compliance" with the standard is required for the period thereafter, terminating at 10 000 years after commencement of repository operations

- The Commission must issue licenses for construction, disposal, and permanent closure if it finds that requirements of the Act can be met, without unreasonable risk to the health and safety of the public, consistent with the common defense and security

Expected Legislative Procedures

Since the Senate and House versions of the nuclear waste legislation are different, leadership in both chambers must now appoint conferees to negotiate a compromise "Conference Report" to resolve differences between the bills The Conference Report will be then submitted to each chamber for approval Once both House and Senate have passed identical language, the bill is sent to the President for his signature

One of the ways in which the U S Constitution balances power between the Legislative and Executive branches is to allow the President to reject or veto a bill If the President exercises the right to veto, a two-thirds majority of both the House and Senate is required to override the veto Customarily, only a majority of each chamber of Congress is necessary to pass legislation

Since a Conference report and potential veto have yet to occur, there can be at present only a "snapshot view" of the Nuclear Waste Policy Act of 1997 The legislation can be expected to evolve along with legal and political realities

IV. *ADMINISTRATION POLICY ON S. 104*

President Clinton remains firm in his intent to veto any legislation designating an interim storage site in Nevada prior to completion of a viability assessment to determine by September 30, 1998 whether a repository at Yucca Mountain, Nevada, would be cost effective and technically feasible On April 7, 1997 the Executive Office of the President issued a Statement of Administration Policy that the President would veto S 104 if presented to him in its present form President Clinton stated that S 104 would undermine the credibility of the Nation's nuclear waste disposal program by effectively establishing Nevada as the interim storage facility site before completion of the "viability assessment" of Yucca Mountain and because it would undermine ongoing work on the permanent disposal site by "siphoning away resources for an interim site "

Permanent geological disposal remains the basic goal of the Administration's high-level radioactive waste management policy Therefore the Clinton Administration is accelerating its assessment of Yucca Mountain, and has urged Congress to provide it with sufficient resources to allow it to complete the "viability assessment" by 1998

The Administration also contends that S 104 would weaken existing environmental standards by preempting Federal, State and local laws inconsistent with requirements of the bill and that S 104 precludes the 'environmental impact statement' under the National Environmental Policy Act (NEPA) from addressing long-term environmental impacts of interim storage focusing instead on the initial license term or subsequent renewal periods As noted in a statement by the Council on Environmental Quality on April 7, 1997

- Congress passed NEPA in 1969 to ensure that federal agencies integrate environmental values as well as social, economic and technical factors, into the decision making process To that end, section 102 of NEPA establishes an "action forcing device' known as an environmental impact statement (EIS), for proposed major federal actions significantly affecting the quality of the human environment At the heart of the EIS process is the alternatives analysis in which reasonable alternatives to the proposed action are addressed in an effort to provide a clear basis of choice by decision makers and the public, and to ensure that the most environmentally sound course of action is taken

- 104 renders the NEPA process meaningless by precluding the incorporation of NEPA s core values which are necessary for making informed and timely decisions essential for protecting public health safety and environmental quality Consequently, the bill all but locks into place both interim and permanent storage sites by giving decision makers no reasonable options in the event that Yucca Mountain is found unsuitable

In addition, the Environmental Protection Agency contends that S 104, which originally set a 100 millirem annual dose standard, is less protective than other U S standards for a single source and that the 1 000-year period for compliance analysis (by the Commission) is too short since risk to public health and the environment will occur after 1 000 years, the estimated life expectancy for the Department of Energy's containers

The Environmental Protection Agency has also voiced concern that S 104 could result in nuclear waste being transported twice once for interim storage and a second time if the Yucca Mountain site were determined to be unsuitable for a permanent repository Further the Agency believes that acceptability of Yucca Mountain should be established prior to transportation of nuclear waste to the State of Nevada, and that transport to an interim storage site is not necessary at this time In this regard the Environmental Protection Agency's Administrator Carol Browner wrote in a letter dated April 7, 1997 to Senator Thomas Daschle, Ranking Minority Leader, noting a finding of the Commission that, if necessary, spent fuel generated in any reactor can be stored safely and without significant environmental impact, for about 100 years in its spent fuel storage basin or at either on-site or offsite independent spent fuel storage installations

Following passage of S 104, Administrator Browner wrote in a letter dated April 15 1997 to Senator Richard Bryan (D -Nev) that while the bill as amended represents an improvement it still places unwarranted restrictions on the Agency's standard setting authority and that

"Any standard that is based on limiting exposure to the average person may not be sufficiently protective because there must always be people who have above average exposures and, therefore, have above average risks The risk of 1 in 1,000 [in S 104] is at least 3 times higher than the risk level normally allowed in other environmental standards"

The Administration had already voiced similar concerns with respect to H R 1270 In a letter dated September 18, 1997, Franklin D Raines, Director of the Executive Office of the President, confirmed to the House Commerce Committee that the President would veto any legislation designating an interim storage facility at a specific site before the viability of a permanent geologic repository at Yucca Mountain has been determined The letter notes that H R 1270 presents environmental problems, "including the removal of the Environmental Protection Agency from its responsibility for developing a radiation exposure standard and preempting the National Environmental Policy Act and other applicable Federal, State and local laws"

V PRIVATE STORAGE INITIATIVES

The Nuclear Waste Policy Act of 1982 provides for the Federal responsibility for disposal of spent fuel and high-level radioactive waste However by establishing the Office of the Nuclear Waste Negotiator through the amendments of 1987, Congress acknowledged the possibility that private initiatives might offer some solutions for disposal of spent fuel and waste The Nuclear Waste Negotiator was ultimately unsuccessful in locating any volunteer communities to serve as hosts for a waste management facility However, the following illustrates continuing private initiatives and that the nuclear utility industry is willing to actively pursue non-federal options, even as legislation with emphasis on interim storage is under consideration by Congress

Wake Island

A private entity, U S Fuel & Security Inc , has proposed and briefed members of Congress and the Administration on its concept for international disposition of spent fuel and associated fissile materials on Wake Island in the Pacific Wake Island is a U S territory approximately 2 500 miles west of Hawaii Rather than geological sequestration, the company proposes containment in licensed, massive, steel containers and permanent above-ground monitored storage on the isolated atoll The containers would be designed for transportation as well as storage and would be manufactured in partnership with the German "Castor" producer, Gesellschaft fur Nuklear-Behalter, which produces containers presently in use at a facility in Germany Storage would be subject to oversight by the Commission and the International Atomic Energy Agency The proposal calls also for constructing vessels to ship the containers, and preparing the atoll by filling a portion of the lagoon for the above-ground storage Reportedly, the concept would involve a partnership with the Russian MinAtom which would formally agree to refrain from reprocessing and limit proliferation, *inter alia*[26]

Marshall Islands

The Administration continues to oppose proposals to store spent nuclear fuel and high-level radioactive waste in the Republic of the Marshall Islands and cites safety concerns as well as commitments under national and international law, such as the Nuclear Waste Policy Act, the

26 *Der Spiegel*, Atomenergie-Castor in der Sudsee", No 21 May 1996, p 22

Compact of Free Association Act of 1985[27] and the International Atomic Energy Agency Code of Practice on the International Transboundary Movement of Radioactive Waste (1990)

Skull Valley Band of Goshutes

On December 27, 1996, Private Fuel Storage LLC (PFS) a consortium of eleven nuclear utilities signed an agreement with the Skull Valley Band of Goshutes, an Indian tribe in Utah for a possible storage facility on tribal land until the Federal Government commences operation of an interim or permanent disposal facility The facility would be located about 70 miles from Salt Lake City on 98 acres of the 1 800-acre Goshute reservation[28] PFS reportedly applied in June 1997 to the Nuclear Regulatory Commission for a 20-year operating license for a facility with storage capacity for 40 000 metric tons That application is pending[29] PFS had previously entered into discussions concerning such temporary storage with the Mescalero Apaches, an Indian tribe in New Mexico This initiative was abandoned after significant controversy developed around the plan

VI CONCLUSION

Will a permanent repository prove an elusive Grail, and could interim storage in Nevada constitute a practical temporary solution to the Department of Energy's 1998 disposal obligation since foreseeably there will be no repository before the year 2010, even if Yucca Mountain is determined suitable? Or would constructing a storage facility in Nevada, before completing studies of Yucca Mountain create a fait accompli, a *de facto* repository, regardless of technical suitability and engender needless transportation when there is no present safety reason to do so? Is the status quo with spent fuel stored at 80 sites in 41 States, more desirable than transportation casks en route to either a centralized interim storage or permanent site[30]?

The Department of Energy was faced, *ab initio*, in 1982, with the rather optimistic deadline of constructing a repository by January 1998 It was first charged with the task of comparing several possible repository sites then it was directed in 1987 to change course and conduct site characterization at only one site at Yucca Mountain, Nevada This provoked strong opposition by the State of Nevada which fears *inter alia*, negative impacts to its economy, and the Department of Energy encountered delays in its unprecedented site characterization efforts[31] Now the tunnel necessary for an underground exploratory studies facility is completed and the Department of Energy will submit a viability assessment of a repository at Yucca Mountain to the President and Congress by September 30 1998

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27 Under section 314(d) of the Compact of Free Association Act of 1985 (Pub L No 99-239) any storage of radioactive materials in the Republic of the Marshall Islands would be required to meet, *inter alia* the standards in the environmental laws and regulations of the United States, as well as international guidelines accepted by the United States

28 This proposal is not without controversy The Governor of Utah, Mike Leavitt, issued a statement regarding nuclear waste on April 14 1997 in which he strongly opposed Utah becoming 'the dumping ground for high-level nuclear waste and noted that letters would be sent immediately to the President, the Skull Valley Goshutes, the Nuclear Regulatory Commission, Congress and others advising of the State s opposition.

29 In July 1997 the State of Utah reportedly requested that the Nuclear Regulatory Commission dismiss the application citing various deficiencies and incompleteness.

30 These figures include storage sites for both spent nuclear fuel from commercial reactors and defense programs of the Department of Energy

31 The State of Nevada denied until 1991 and 1992 environmental permits for which the Department of Energy applied in 1988 (air quality and underground injection control) and 1989 (water appropriation) as necessary for site characterization, including excavation of the tunnel at Yucca Mountain. In 1989 the State of Nevada passed a law making it illegal to store or dispose of radioactive waste in the State and refused to process the permit applications

However, the high-level nuclear waste management program in the United States remains at a juncture of competing political, economic and environmental interests The U S Court of Appeals for the District of Columbia Circuit found in 1996 that the Department of Energy is unconditionally obligated to commence disposal in 1998 although it has no repository or interim storage facility to receive the utilities' spent fuel The utilities cite enormous savings to consumers if the Department of Energy accepts their spent fuel by the year 2002, as provided for in the Nuclear Waste Policy Act of 1997 They maintain that nuclear energy is not only cheaper than oil but that nuclear energy in the United States has reduced emissions of carbon dioxide, consistent with goals of the 1992 Rio Earth Summit The Clinton Administration cites other environmental concerns such as the legislation's weakening of radiation protection standards and unnecessary risks of transporting spent fuel to Nevada for interim storage prior to completion of the viability assessment The State of Nevada and virtually all environmental organizations in the United States support President Clinton's position To date, the Department of Energy has not been directed to take spent fuel from the utilities in connection with the court decision on the 1998 obligation

In April 1997, the Senate sponsors of S 104 accepted numerous amendments to secure votes necessary to compromise with the Administration or override a Presidential veto On October 30, 1997, the House passed H R 1270 by a wide margin The nuclear industry is reportedly optimistic that a conference committee will develop a solution acceptable to several Senators who voted against S 104 in April[32] Perhaps Congress and the Administration will reach a compromise Perhaps a decision by the U S Court of Appeals for the District of Columbia Circuit will play a role in such a scenario In any event, there is suspense in awaiting the denouement[33]

32 "House Adopts Nuclear Waste Bill with Votes to Override Any Veto Lura Behrens, *Inside Energy*, November 3 1997

33 On November 14 1997, the United States Court of Appeals for the District of Columbia Circuit issued an opinion holding that the "remedial scheme" of the Standard Contract for disposal of spent nuclear fuel between the Department of Energy and the utilities provides a "potentially adequate remedy' if the Department of Energy fails to fulfill its obligations by the 1998 deadline However, the Court specifically precludes the Department of Energy from excusing its own delay on the grounds that it has not yet prepared a permanent repository or interim storage facility The Court did not grant the utilities (petitioners) request that all future payments into the Nuclear Waste Fund be held in escrow Thus the Court s decision appears to require that the utilities seek, and that the Department of Energy provide, a remedy under the Standard Contract

Strengthening the Effectiveness and Improving the Efficiency of the IAEA Safeguards System

by Laura Rockwood*

On 15 May 1997, the Board of Governors of the International Atomic Energy Agency (IAEA) approved a model for a new legal instrument designed to strengthen the effectiveness and improve the efficiency of the IAEA safeguards system a Protocol Additional to IAEA Safeguards Agreements (INFCIRC/540) It was the most significant revision to the Agency's safeguards system since the adoption in 1970 of the first guidelines for comprehensive safeguards agreements with non-nuclear-weapon States pursuant to the Treaty on the Non-Proliferation of Nuclear Weapons (the NPT), INFCIRC/153 (Corr)

The following describes the setting of the stage for this revision, the process which led to its adoption, some of the major issues and the provisions of the Model Additional Protocol

I. BACKGROUND

Although originally developed for use in connection with non-nuclear-weapon States' obligations under the NPT, INFCIRC/153 (Corr) has been used as the basis for comprehensive safeguards agreements[1] concluded with other States as well Comprehensive safeguards agreements are distinguished from those concluded by the five nuclear-weapon States[2], which are referred to as "Voluntary Offer Agreements", and from those item-specific agreements based on INFCIRC/66/Rev 2 concluded with a number of other States[3]

Under comprehensive safeguards agreements, the Agency has the right and the obligation to ensure that all source or special fissionable material in all peaceful nuclear activities of the State is subject to safeguards, and that safeguards are in fact applied to such material The Agency's obligation is not limited to nuclear material and facilities actually declared by a State, it also extends to that which is required to be declared Likewise, the Agency's right to information and its right of access to facilities and other locations are not limited to information, facilities, locations or material declared by the State However, the Agency's right to carry out routine inspections is limited to those locations within a nuclear facility, or other location containing nuclear material (LOF), through which nuclear material was expected to flow (strategic points)

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1 'Comprehensive safeguards agreements are those concluded along the lines of IAEA document INFCIRC/153(Corr) which require States parties to place under safeguards all nuclear material in all peaceful nuclear activities of the State and not to divert such material to nuclear weapons or other nuclear explosive devices

2 China France the Russian Federation the United Kingdom and the United States of America.

3 Cuba India Israel and Pakistan

Access to "undeclared" sites or to locations suspected of containing 'undeclared nuclear material has always been possible under the standard INFCIRC/153 provisions for special inspections However not even these provisions were interpreted by IAEA Member States as an unlimited right permitting the IAEA to conduct "fishing expeditions" to seek out undeclared nuclear material or activities in the absence of some indications as to the possible existence of such material or activities Prior to the beginning of this decade, the Agency had only a few occasions to carry out special inspections to verify the absence of undeclared material or activities but even then, only at locations which had been declared by the State concerned to the Agency The IAEA had never had available to it sufficiently specific information suggesting that such an action was called for Moreover, there still existed considerable political reservations among some States about the exercise of such a right by the IAEA

It was not until 1990-1991 that sufficient political consensus had developed to support the full exercise of the IAEA's authority with a view to its providing improved assurances as to the absence in a State, with a comprehensive safeguards agreement, of undeclared nuclear material and activities

By the end of the Cold War, States' perceptions of security concerns were changing The international community was pressing for more active measures with the goal of eliminating the risk posed by weapons of mass destruction At the August 1990 NPT Review Conference the States parties agreed on language welcoming a study by the Agency of the possible scope, application and procedures for special inspections in NPT-safeguarded States where uncertainty existed about whether a State had conformed to the purpose of the NPT and, in particular, whether the State had declared to the Agency all nuclear material required to be subject to safeguards [4] Much of the momentum in this regard was attributable to growing concerns about compliance by Iraq and the Democratic People's Republic of Korea (DPRK) with their obligations under the NPT

It was the discovery in 1991 of Iraq's clandestine nuclear weapons programme which confirmed the need for, and dramatically underscored the importance of, the IAEA's providing assurances not only of the non-diversion of declared nuclear material, but of the absence of undeclared nuclear activities in States with comprehensive safeguards agreements This was reaffirmed by the Member States of the Agency in their collective demand for assurances concerning the completeness of South Africa's initial nuclear material inventory declaration required in accordance with its NPT safeguards agreement, which entered into force in September 1991 [5]

Following entry into force of the DPRK's Safeguards Agreement[6] in April 1992, and drawing on its experiences in Iraq and in South Africa, the IAEA was able to bring to the world's attention its concerns about the possibility of the existence in the DPRK of undeclared nuclear material and activities Although the DPRK had initially invited the IAEA to conduct "anywhere anytime visits in pursuing its verification of the DPRK's declaration of its initial inventory the request by the IAEA for access to visit two particular sites which appeared to be related to nuclear waste was declined making it necessary in February 1993 for the IAEA to request formally, through special inspections

4 For a detailed description of the 1990 NPT Review Conference see *Nuclear Law Bulletin* No 46 December 1990

5 South Africa became a party to the NPT in July 1991 The safeguards agreement concluded by South Africa pursuant to the NPT was signed and entered into force on 16 September 1991 (IAEA document INFCIRC/394) In March 1993 South Africa announced that it had six completed nuclear weapons which it had dismantled prior to becoming party to the NPT It voluntarily offered the IAEA extensive access to locations information and materials with a view to assisting the inspectors in verifying the absence of undeclared nuclear materials and activities outside of IAEA safeguards

6 The agreement was approved by the Board of Governors on 12 September 1991 and was signed by both parties on 30 January 1992 However the agreement did not enter into force until 10 April 1992

access at those locations and to additional information The DPRK's rejection of that request led to a report to the United Nations Security Council on the DPRK's non-compliance with its safeguards agreement and of the existence of information which suggested that the DPRK had failed to declare to the IAEA all nuclear material required to be safeguarded under its safeguards agreement As the IAEA had (and has) no enforcement powers under its safeguards agreements, it was for the Members of the Security Council to take whatever action they deemed necessary, including action under Chapter VII of the United Nations Charter, to respond to threats to international peace and security

Collectively, these events demonstrated that the strength of the IAEA's safeguards system depended upon three interrelated elements

- the extent to which the IAEA is aware of the nature and locations of States' nuclear and nuclear-related activities,

- the extent to which IAEA inspectors have physical access to relevant locations for the purpose of providing independent verification of the exclusively peaceful intent of a State's nuclear programme, and

- the will of the international community, through IAEA access to the United Nations Security Council, to take action against States that are not complying with their non-proliferation commitments

The last of these elements, IAEA access to the Security Council, was re-affirmed immediately, as was the will of the Council to act promptly and decisively in the face of reports of a State's non-compliance with its non-proliferation undertakings and its safeguards agreement

In the longer term, it also became clear to the Member States of the IAEA that, for the IAEA to provide increased assurance of the absence of undeclared nuclear material, it was imperative to update the safeguards system by integrating into it measures that would give the Agency an improved capability of detecting clandestine nuclear activities This was achieved through the implementation of certain measures under existing legal authority, such as the provision of additional information on facilities the expanded use of unannounced inspections, the collection of environmental samples at locations where inspectors had routine access under existing agreements and the use of advanced technology to monitor remotely the movements of nuclear material, and by the introduction of new measures not within existing legal authority, including

- information about, and inspector access to, all aspects of States' nuclear fuel cycle, from uranium mines to nuclear waste and any other location where nuclear material intended for non-nuclear use is present,

- information about, and inspection of, nuclear fuel cycle-related research and development,

- information on, and short-notice inspector access to, all buildings on a State's nuclear sites,

- information on the manufacture and export of sensitive nuclear-related technologies and inspector access at manufacturing and import locations,

- the collection of environmental samples at locations other than those declared by the State when deemed necessary by the IAEA, and

- administrative arrangements that improve the process of designating inspectors the issuance of multi-entry visas (necessary for unannounced inspections) and IAEA access to modern means of communication (e g , satellite communications systems)

II. THE PROCESS

II.1 Preliminary Steps

In February 1991, the Director General addressed the Board of Governors on a number of broad issues relating to the effectiveness and efficiency of Agency safeguards In his report, he made reference to the questions relating to safeguards focused on at the Fourth NPT Review Conference in 1990, and other issues which arose in the course of day-to day work, including special inspections the early provision of design information on nuclear facilities, safeguards in nuclear-weapon States universal reporting of nuclear material and significant quantities of nuclear material In May 1991 the Secretariat issued a document addressing in some detail the first two issues (special inspections and safeguards in nuclear-weapon States), which were given preliminary consideration during the June 1991 session of the Board Background information on the three remaining issues was provided to the Board in August 1991 for its session in September

On 6 April 1991, the United Nations Security Council adopted resolution 687 (1991) which *inter alia*, requested the Director General to carry out immediate on-site inspection of Iraq's nuclear capabilities and to develop and implement a plan for the destruction, removal or rendering harmless as appropriate, of Iraq's nuclear weapons or nuclear-weapons-usable material or any related subsystems or components or any related research, development, support or manufacturing facilities The Director General was also requested to develop a plan for the future ongoing monitoring and verification of Iraq's compliance with the terms of resolution 687

In September 1991, the NPT safeguards agreements with South Africa and the DPRK were approved by the Board of Governors At the same time, the Board adopted a resolution requesting the Director General to verify the completeness of South Africa's initial declaration of nuclear material The Board also endorsed individual measures for increasing the Agency's capabilities in respect of verifying the completeness of States' declarations

At the 1991 General Conference immediately following that Board meeting, the General Conference also adopted a resolution requesting the Director General to verify the completeness of the inventory of South Africa's nuclear installations and material (GC/(XXXV)/RES/567) In addition, the General Conference adopted a separate resolution, GC(XXXV)/RES/559 requesting the Board of Governors and the Director General to continue their efforts in respect of strengthening the effectiveness and efficiency of the Agency's safeguards system

In November of 1991, prompted by revelations of Iraq's clandestine uranium enrichment and weapons programmes, the Secretariat issued a paper for the Board's consideration in December recommending that the Board take note of the Director General's intention to make appropriate use of the procedures for special inspections, as outlined in the paper, to verify that States party to comprehensive safeguards agreements comply with their obligations The Secretariat also

recommended that the Board approve the proposals concerning the obligations of States with respect to the early provision of design information on nuclear facilities In February 1992, following a revision of the November paper, the Board of Governors confirmed the right of the Secretariat to request access under the provisions for special inspections and confirmed the obligation of States to provide design information on nuclear facilities in accordance with the interpretation proposed by the Secretariat

In January 1992, the Secretariat tabled proposals for the establishment of a universal mechanism for reporting on exports, imports and production of nuclear material and on exports, imports and production of sensitive equipment and non-nuclear material In June 1992, the Board of Governors finally approved the concept as a voluntary scheme for reporting on exports, imports and inventories of nuclear material for peaceful purposes, and on exports and imports of certain equipment and non-nuclear material for peaceful nuclear purposes[7]

In May of 1992, the Secretariat reported to the Board of Governors on improved safeguards procedures which had been established, and safeguards efficiency gains which had been achieved thus far These included improvements in the efficient use of Agency resources, the New Partnership Approach agreed to between EURATOM and the IAEA, expected improvements in safeguards procedures, and simplified procedures for the designation of inspectors and the waiving of, or granting multi-year multiple entry, visas for inspectors

Over the course of the next year, the IAEA Member States and Secretariat were focused not only on the efforts to strengthen IAEA safeguards, but on the implementation of safeguards in particular States, such as the DPRK and South Africa (which had announced its renunciation of an indigenous nuclear weapons programme), and the conclusion of a comprehensive safeguards agreement with Argentina and Brazil[8]

In June 1993, the Board of Governors requested the Director General to submit to it concrete proposals for the assessment, development and testing of measures for strengthening safeguards and improving its cost effectiveness

II.2 Programme 93 + 2: Parts 1 and 2

In response to that request, the Secretariat of the IAEA presented in December 1993 a programme, "Programme 93 + 2", to evaluate the technical, financial and legal aspects of a comprehensive set of measures, and to present, early in 1995, proposals for a strengthened and more efficient safeguards system In March 1995, the Board was presented with an overview of measures, each discussed in terms of its cost, effort, assurance, legal aspects and its interrelation with other measures In June 1995, the Secretariat submitted to the Board a revised document which contained a comprehensive set of strengthening and efficiency measures divided into two parts Part 1, consisting of measures which could, in the Secretariat's view, be implemented under existing legal authority and which the Secretariat would proceed to implement, and Part 2, consisting of measures which were believed to require complementary authority

7 In the meantime in April of 1992 the nuclear suppliers had adopted a policy requiring full scope safeguards as a condition of future nuclear supplies (INFCIRC/405/Att 1 (3 April 1992))

8 After extensive negotiation of Subsidiary Arrangements during 1992 and 1993 the comprehensive safeguards agreement with Argentina Brazil and the Brazilian-Argentine Agency for the Accounting and Control of Nuclear Materials (ABACC) which had been approved by the Board of Governors in December 1991 entered into force on 4 March 1994

Between June 1995 and June 1996, the Secretariat of the IAEA, in close consultation with Member States of the Agency, was able to develop for the Board's consideration a formal document describing, and explaining the need for, the new measures for which complementary legal authority would be required (the Part 2 measures) This paper also included a draft model protocol for that complementary authority[9]

At its meeting in June 1996, the Board decided to establish an open-ended committee of the Board of Governors to negotiate a draft model protocol, using as the basis the draft protocol prepared by the Secretariat The committee, referred to as the "Committee on Strengthening the Effectiveness and Improving the Efficiency of the Safeguards System", or "Committee 24", held four sessions 2 through 4 July 1996, 1-11 October 1996, 20-31 January 1997, and 2-4 April 1997 Representatives of 61 States, Euratom and ABACC attended

At the conclusion of its fourth and final session, Committee 24 was able to agree on a text for the Model Additional Protocol In its report to the Board (GOV/2914, 10 April 1997), it included a Foreword to the Protocol and the text of the Model Additional Protocol (Attachment 1), and an interpretation and an understanding (Attachments 2 and 3, respectively) which had been agreed to in the course of the Committee meetings The report was sent to the Board of Governors for its approval at its next session

On 15 May 1997, the Board of Governors, meeting in special session

1 took note of the report of Committee 24 contained in GOV/2914,

2 endorsed the understandings reached in the Committee on the relationship between additional protocols and the respective safeguards agreements,

3 having taken note of the statements made by States with non-comprehensive safeguards agreements, approved the draft Model Protocol contained in Attachment 1 to GOV/2914

4 requested the Director General to proceed as set forth in the Foreword to the Model Protocol and to keep the Board regularly informed of the conclusion and entry into force of individual protocols,

5 agreed to set up open-ended ad hoc working groups to advise it whenever amendments were proposed to the lists contained in the Annexes to the Model Protocol, and

6 requested the Director General to review periodically and update the regime for the protection of confidential information and to keep the Board periodically informed on the implementation of that regime

At the Board of Governors meeting in September 1997, draft Additional Protocols with six States were approved Australia, Armenia, Georgia, Poland, the Philippines and Uruguay Following their approval, the Additional Protocols were signed and now await notification by the respective States for

9 See IAEA Document GC(40)/17 dated 23 August 1996 which contains *inter alia* GOV/2863 of 6 May 1996 (Annex III of which is the draft Model Protocol)

entry into force Two of the Protocols, with Armenia and with Georgia[10], provide for provisional application of the Protocol pending their formal entry into force

III MAJOR ISSUES

III.1 Universality

Although initially prompted by concerns about the effectiveness and efficiency of comprehensive safeguards agreements, the exercise in strengthening safeguards quickly expanded in response to non-nuclear-weapon State concerns that they alone would bear the burden of the new measures As a consequence, the fate of the Model Additional Protocol eventually hung on agreement to include in the text of the foreword to the Protocol a reference to the acceptance of Additional Protocol measures by States with non-comprehensive safeguards agreements, upon which many of the non-nuclear-weapon States had insisted as a pre-condition for their backing of the exercise Indeed, it was one of the last issues debated by the Committee Language was eventually agreed upon which requested the Director General

1 To use the Model Protocol as the standard for additional protocols to be concluded by States and other parties with comprehensive safeguards agreements with the Agency Such protocols are to contain all of the measures in the Model Protocol

2 To negotiate additional protocols or other legally binding agreements with nuclear-weapon States incorporating those measures provided for in the Model Protocol that each nuclear-weapons State has identified as capable of contributing to the non-proliferation and efficiency aims of the Protocol, when implemented with regard to that State, and as consistent with that State's obligations under Article I of the NPT

3 To negotiate additional protocols with other States that are prepared to accept measures provided for in the Model Protocol in pursuance of safeguards effectiveness and efficiency objectives

As had been agreed prior to the adoption of the text by Committee 24, each of the nuclear-weapon States made statements at the 15 May special session of the Board of Governors, concerning their respective intentions to accept some or all of the measures identified in the Model Additional Protocol[11]

China indicated that it was prepared, on a voluntary basis, to enter into negotiations with the Agency in due course, and in the light of the obligations set forth in Article I of the NPT, with a view to adopting, in a legally binding instrument, certain of the measures set out in the Model Additional Protocol The measures would include those such as the provision of certain information on activities that involve links with nuclear fuel cycle operations conducted in, and in co-operation with, non-nuclear-weapon States, and information on imports from and exports to non-nuclear-weapon States of nuclear material, high-level waste and the items specified in Annex II of the Model Protocol China also indicated that it would accept in principle the measures relating to Agency inspector designation, visas and communications

10 Although the Additional Protocol for Armenia will be applied immediately the Protocol for Georgia will be applied only upon entry into force of its underlying safeguards agreement, which Georgia signed at the same time

11 See IAEA document GC(41)/22/Annex 4

The Russian Federation stated that it would be ready to apply a number of the measures provided for in the Model Protocol with a view to increasing safeguards effectiveness and efficiency In particular, it would be ready to provide additional information on its nuclear exports to non-nuclear-weapon States and on Russian nuclear material located within the territory of other States The Russian Federation would also provide information on international co-operation with non-nuclear-weapon States in the nuclear fuel cycle field that was of importance from the nuclear non-proliferation point of view, and would be ready to create suitable conditions for the possible testing of new technical safeguards measures and to conduct experiments within its territory with a view to the subsequent application of such measures in non-nuclear-weapon States It also undertook to accept simplified procedures for designation of inspectors and the issuance of visas

France announced that it would undertake to apply, under one or more legally binding agreements negotiated with the Agency, those measures provided for in the Model Protocol which were relevant from the point of view of improving safeguards efficiency and strengthening non-proliferation controls, such as the provision of additional information and the granting of complementary access France also undertook to accept measures which, when implemented in France, could help to reduce the risks of proliferation in non-nuclear-weapon States

The United Kingdom indicated its readiness to accept through a new legally binding agreement, or new legally binding agreements, those measures which, when implemented by it, would either contribute to an increase in the Agency's ability to detect undeclared nuclear activities in non-nuclear-weapon States, or improve the effectiveness or efficiency of Agency safeguards at facilities in the United Kingdom designated for inspection

The United States expressed its intention to accept the Protocol in its entirety and to apply all of its provisions, treating the Protocol as an integral part of its existing voluntary offer safeguards agreement However, consistent with that agreement, the United States would reserve the right to exclude Agency access under the Protocol to activities of direct national security significance to the United States and to locations and information associated with such activities

III.2 Confidentiality

One of the major corollary issues to the adoption of the substantive measures was that of confidentiality In the view of a number of Member States, the increased scope of information which was to be received by the Secretariat from States warranted increased vigilance in the protection of such information against unauthorized release

Emphasis was placed on the need for the Agency to implement a regime for the protection of disclosure of commercial, technological and industrial secrets and other confidential information coming to the Agency's knowledge in the implementation of the Protocol The Secretariat was asked as part of this regime, to strengthen the contractual undertakings of staff members and other individuals with access to safeguards confidential information, and establish actions to be taken in the event of a breach of such undertakings by any employee or former employee, to consider the introduction of technical mechanisms for improving the protection of such information (e g encoding, computer protection), and to establish procedures for the prompt follow-up of incidents involving the loss or unauthorized release of information

On 17 January 1997, the Secretariat tabled a Note on the Agency's confidentiality regime By the conclusion of Committee 24's session at the end of January, what ultimately became Article 15 of the Protocol began to crystallise The Agency's confidentiality regime was to include general principles and associated measures for the handling of confidential information, conditions of staff employment relating to the protection of confidential information, and procedures in cases of breaches or alleged breaches of confidentiality It would also call for the approval and periodic review of the confidentiality regime by the Board of Governors

In March 1997, the Secretariat submitted to the Board of Governors GOV/2987, a description of the Agency's regime for the protection of safeguards confidential information At its regular meeting in March, the Board generally endorsed the regime, while requesting that the Secretariat, with the advice of an open-ended group of experts, supplement the regime in a further document for the Board Action is currently being taken in this regard It is expected that such a paper will be tabled for the Board of Governors by the end of 1997

III.3 The Agreed Interpretation and Understanding to the Report of Committee 24

In the course of the Committee's deliberations, the Assistant Director General for External Relations (ADG-ADEX) of the IAEA, Mr M ElBaradei, was called upon to provide the Secretariat's interpretation of the relationship between the Protocol and Safeguards Agreements The interpretation was included as Attachment 2 to the report of Committee 24 and forwarded to the Board of Governors along with the text of the Model Protocol

In his intervention, Mr ElBaradei stated that Article 1 of the Protocol, which dealt with the relationship between the Protocol and the Safeguards Agreement, did not seek to determine the question of the existence or non-existence of a legal obligation to adhere to the Protocol Nor did it prejudge the question of prospective parties or the modalities for their adherence Whether States would adhere individually, or as a group, or in conjunction with international organisations was outside the scope of Article 1 Questions of legal obligations and political undertakings had to be considered in the light of States' non-proliferation obligations and policies outside the framework of the Protocol Article 1 simply sought to determine the manner in which the Protocol was to be implemented in conjunction with the Safeguards Agreements

In addition, the Protocol was not to be a stand-alone document for two reasons Firstly, no State could adhere to the Protocol unless it had previously concluded a Safeguards Agreement with the Agency, secondly, the Protocol depended in many ways on the underlying Safeguards Agreement Thus, for the purpose of interpretation, the two documents, once concluded, had to be read and interpreted as one agreement

Attachment 3 of the Committee 24 report reflects the understanding of the Committee with respect to the manner of concluding Additional Protocols and the responsibility for their implementation The understanding states briefly that, for States that are members of international institutions that are party to safeguards agreements with the IAEA, this text does not prejudge the legal modalities which these States and international institutions adopt regarding the conclusion of additional protocols or the division of responsibilities in their implementation

IV. PROVISIONS OF THE MODEL ADDITIONAL PROTOCOL

The text of the Model Protocol consists of a five-paragraph preamble, eighteen articles and two annexes

The language of the Preamble reflects the backbone of the negotiations the need for a balance to be struck between, on the one hand, the "desire of the international community to further enhance nuclear non-proliferation by strengthening the effectiveness and improving the efficiency of the Agency's safeguards system", and, on the other hand, the obligation to keep the frequency and intensity of activities described in this Protocol to the minimum consistent with the objective of strengthening the effectiveness and improving the efficiency of Agency safeguards '

The language of the intervening paragraph of the Preamble summarises some of the chief concerns of the non-nuclear-weapons States expected to conclude such a Protocol

> " *the Agency must take into account in the implementation of safeguards the need to avoid hampering the economic and technological development of [the State] or international co-operation in the field of peaceful nuclear activities respect health safety, physical protection and other security provisions in force and the rights of individuals, and take every precaution to protect commercial, technological and industrial secrets as well as other confidential information coming to its knowledge*

Article I of the Model Protocol settled the legal issue of the relationship between the Protocol and the underlying safeguards agreement It reflects the position asserted by the Secretariat that the basic undertaking of the safeguards agreements remains the same for States with comprehensive safeguards agreements, the focus is still the provision of assurances that nuclear material required to be subject to safeguards is in fact declared under safeguards and that no nuclear material required to be declared to the IAEA goes undeclared The purpose of the Protocol was to provide the IAEA with additional and improved tools with which to achieve that end The Protocol is thus in the nature of an add-on to the underlying agreements However, while most of the provisions of the Protocol were drafted in such a way as to supplement the provisions of INFCIRC/153, and many provisions in INFCIRC/153 would apply *mutatis mutandis* to the implementation of the Protocol, it was recognised that a few of the provisions of the agreement would, of necessity be superseded by the Protocol (e g the designation of inspectors), while other provisions of the agreement would simply not be applicable to the Protocol (e g , paragraph 7 of INFCIRC/153)

Thus, the language of Article 1 states that the provisions of the underlying safeguards agreement "shall apply to this Protocol to the extent that they are relevant to and compatible with the provisions of this Protocol" In case of conflict between the provisions of the safeguards agreement and those of the Model Protocol, the provisions of the Protocol are to apply

Articles 2 and 3 of the Model Protocol relate to the "Provision of Information' Article 2 is divided into three parts

a Information required to be provided to the Agency by the State These elements include information about the following

   (i) nuclear fuel cycle-related research development activities not involving nuclear material carried out anywhere that are funded, specifically authorized or controlled by or carried

out on behalf of, the State The significance of this language is that it requires the State to declare such activities regardless of whether they are carried out within the State or on the territory of another State,

(ii) operational activities of safeguards relevance at facilities and locations outside facilities where nuclear material is customarily used (LOFs),

(iii) all buildings on the site of each facility and LOF in the State,

(iv) key activities listed in Annex I of the Protocol These include activities which, while not necessarily involving the use of nuclear material, are key to nuclear-fuel cycle programmes,

(v) uranium mines and concentration plants and thorium concentration plants,

(vi) inventories, exports and imports of nuclear material which is not currently required to be declared to the IAEA under INFCIRC/153 (nuclear material referred to as "pre-safeguards" material),

(vii) nuclear material which has been exempted from safeguards (for example, nuclear material exempted for use in a non-nuclear activity),

(viii) intermediate or high-level waste containing plutonium, high enriched uranium or uranium ^{233} on which safeguards have been terminated,

(ix) specified equipment and non-nuclear material listed in Annex II of the Protocol,

(x) general plans for the succeeding ten-year period relevant to the development of the nuclear fuel cycle,

b Information which the State is required to "make every reasonable effort to provide to the Agency"

(i) nuclear fuel cycle-related research and development activities not involving nuclear material which are specifically related to enrichment, reprocessing of nuclear fuel or the processing of intermediate or high-level waste containing plutonium, high enriched uranium or uranium ^{233} that are carried out anywhere in the State, but which are not funded, specifically authorized or controlled by, or carried out on behalf of, the State,

(ii) activities, and the identity of the person or entity carrying out such activities, at locations identified by the Agency outside a site which the Agency considers might be functionally related to the activities of the site, and

c Amplifications or clarifications of information provided under Article 2 of the Protocol, which States are required to provide upon request by the Agency

Article 3 sets out the time limits for the provision of the information required under Article 2, including, *inter alia*, a requirement for an initial declaration of the information called for under Articles 2 a (i), (iii)-(v), (vi)(a), (vii) and (x) and Article 2 b (i), and annual updates of such

information, annual declarations on exports and imports of pre-safeguards nuclear material quarterly reports on exports of the specified equipment and non-nuclear material identified in Annex II of the Model Protocol declarations of changes in locations of highly active waste and advance reporting of plans to further process such waste

Articles 4 through 10 contain the provisions concerning "Complementary Access , the other cornerstone of the strengthening safeguards measures

Article 4 describes the why and when of complementary access access may be requested to assure the absence of undeclared nuclear material and activities and to resolve questions relating to the correctness and completeness of the information provided pursuant to Article 2 or to resolve an inconsistency relating to that information Complementary access may also be requested to the extent necessary for the IAEA to confirm the decommissioned status of a facility or LOF

Advance notice of at least 24 hours is required for complementary access, except for access to any place on a site that is sought in connection with design information verification visits or ad hoc or routine inspections on that site, which may be two hours or, in exceptional circumstances, less than two hours

Article 4 also provides for the State to have an opportunity to clarify and facilitate the resolution of a question or inconsistency before a request for access is granted, unless the Agency considers that delay in access would prejudice the purpose for which the access is sought

Article 5 obliges a State to provide access to the Agency to any place on a site of a nuclear facility or a LOF, to any location where the State has declared nuclear material to be present (Article 2 a (v)(viii)), and to any decommissioned facility or LOF With regard to other locations identified by the State under Article 2 a or 2 b, if the State is unable to provide access to the Agency the State is required to "make every reasonable effort to satisfy Agency requirements, without delay, through other means" Article 5 also authorises the Agency to carry out location-specific environmental sampling at any other location in the State specified by the Agency, provided that if the State is unable to provide such access, the State must make "every reasonable effort to satisfy Agency requirements, without delay, at adjacent locations or through other means "

Article 6 identifies the activities which the Agency is authorized to carry out at the various categories of locations as set forth in Article 5 They include, inter alia, visual observation collection of environmental samples, utilization of radiation detection and measurement devices examination of records, including production and shipping records, the use of seals and other identifying and tamper indicating devices, and, in consultation with the State, other objective measures which are demonstrated to be technically feasible and the use of which has been agreed by the Board of Governors

Article 7 provides for managed access under the Protocol in order to prevent the dissemination of proliferation sensitive information, to meet safety or physical protection requirements, or to protect proprietary or commercially sensitive information, a concept borrowed from the Convention on the Prohibition of Chemical Weapons However, as also provided for in Article 7, such arrangements are not to preclude the Agency from conducting activities necessary for the exercise of its rights and obligations

Article 8 contemplates the possibility of a State offering the Agency access to other locations in the State It also provides that if a State requests the Agency to conduct verification activities at any other location in the State, the Agency shall, without delay, make every reasonable effort to act upon that request

Article 9 provides for the use by the Agency of wide-area environmental sampling within the State at such time as the Board of Governors has approved the use of such sampling and the procedural arrangements for its use As with other new technologies, the implementation of wide-area environmental sampling would require consultations between the Agency and the State

Article 10 of the Model Protocol requires the Agency to provide the State with statements on the results and conclusions of complementary access, and sets out the time frames within which the Agency is required to do so

Articles 11 and 12 establish simplified procedures for the designation of inspectors to the State, and require the State, within one month of the receipt of a request therefor, to provide a designated inspector with appropriate multiple entry/exit and/or transit visas, where required If the State requires a visa, the visa must be valid for at least one year and must be renewed, as required, to cover the duration of the inspector's designation to the State

Article 13 provides for the conclusion of Subsidiary Arrangements, but does not suspend the implementation of the Protocol pending their conclusion

Article 14 reflects the need to modernise communications and data transmission systems, acknowledging the Agency's right to protected free communication, including attended and unattended transmission of information It establishes the right of the Agency to make use of internationally established systems of direct communications, including satellite systems and other forms of telecommunications which are not available for use in the State

The obligation of the IAEA to protect confidential information is underscored in Article 15, which requires Board approval and periodic review of a regime to ensure the effective protection of disclosure of commercial, technological and industrial secrets and other confidential information coming to the Agency's knowledge in the implementation of the Protocol

Article 16 sets out the procedures for the amendment of the technical annexes to the Model Protocol Any such amendment will take effect four months after adoption by the Board of Governors acting upon the advice of an open-ended working group of experts Such amendments would thus require no formal revision of the Protocol to become effective

Article 17 permits the State to elect entry into force of the Protocol upon signature or upon written notification that its statutory and/or constitutional requirements for entry into force have been met In accordance with the Vienna Convention on the Law of Treaties, the Model Protocol also contemplates the provisional application of the Protocol by a State after its signature pending its entry into force

Article 18 contains the definitions of terms used in the Model Protocol

V. CONCLUSION

It is hoped that these new obligations will be transformed into binding and verifiable undertakings in the near future National support for a strengthened system would contribute to greater assurance as to the absence of proscribed activities through the risk of earlier detection As indicated above, the States party to the NPT already have pronounced their collective support for the Agency's recent and ongoing exercise to strengthen the effectiveness and efficiency of its safeguards The success of this exercise, however, will be entirely dependent upon the political will of the individual States party to safeguards agreements, and on their preparedness to pay the additional cost for increased confidence and security History alone should suffice to demonstrate the need for and efficacy of such steps

Recent Developments in German Nuclear Energy Law

by Bernd Kunth and Herbert Posser*

In the last twelve months, German nuclear energy law has seen some remarkable developments, in particular regarding several court decisions on government liability (the Mulheim-Karlich, Gorleben facilities) and on the handling of material alterations of nuclear power plants (Krummel) After a great surge of excitement, especially in public perception and opinion, it seems appropriate at this time to take stock of such developments What exactly do the above-mentioned court decisions mean? Will there be any changes in the way nuclear law provisions are enforced by the competent authorities? Has the position of the operator of nuclear power plants been strengthened or weakened?

To answer these questions, it is necessary to outline the most important requirements of government liability claims as well as those of material alterations of nuclear power plants In addition to that, special characteristics of the cases in question have to be identified in order to assess properly the consequences of the rulings As the legal implications differ strongly, we address the topic "government liability" in the first part and the issue of "material alterations" in the second In the third part, an outlook on the future development of the peaceful use of nuclear energy in Germany is provided

A. Government Liability Under German Nuclear Law

I Introduction

This subject involves two topics which are the subject of heated debate in Germany at present On the one hand, government liability, i e the general question of whether and under which conditions the State is liable for a certain conduct of its officials in cases where such conduct has caused financial damage to any person or company On the other hand, it deals with the peaceful use of nuclear energy, the future outlook of which looks bleak in Germany at the moment New nuclear power plants are neither planned nor being built The operating nuclear power plants are faced with increasing difficulties of acceptance by the public Certain political sides, in particular the Greens, have decided to abandon nuclear energy as soon as possible They deem its danger unacceptable to the population, especially since future generations have been unreasonably burdened with nuclear waste In Lander with these political majorities, such policies have already been applied by illegally interpreting laws to the detriment of the operators

These trends collide when the subject "Government Liability in Nuclear Energy Law" is concerned If and to the extent administrative practice in nuclear energy law is unlawful, the question arises as to whether the operators are able to assert government liability claims for any damage sustained by them In terms of the legal, economic and social aspects, this is an extremely explosive political subject If an investment of several billions is lost due to a breach of an official duty by an authority, a consequent claim for damages could heavily burden a state's budget Many citizens question whether government liability ought to protect such large-scale projects From the legal point of view, a great number of unsolved problems render dealing with this matter more difficult

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II Requirements of a Government Liability Claim

Should anyone breach an official duty imposed on him vis-à-vis a third party in the execution of a government office, the State shall indemnify the third party against the damage caused by such breach Requirements for a government liability claim are as follows[1]

1 a government (i e not purely fiscal) act or default,
2 the conduct must constitute a breach of an official duty that exists vis-à-vis a certain third party,
3 such infringement must have been illegal and culpable,
4 the third party must have sustained adequate and causal damage, and
5 the claim must neither be excluded nor limited nor statute-barred,

If these requirements are fulfilled, the injured party is entitled to claim compensation for damage in cash Such claim is directed against the State, which, however, may have internal recourse against its officials

It would take too long to deal with the above-mentioned prerequisites for claims in detail In addition, there have also been various periods in the approximately 100-year history of government liability during which such requirements were understood and handled differently Therefore reference is made here only to those aspects relevant to the comprehension of the matter

The Court rulings have intentionally provided for a wide range of government duties Apart from the general government duty for lawful conduct[2], there exists a government duty for prompt substantive decisions[3], for faultless exercise of discretion[4] as well as for the provision of correct information and instructions[5] In order to avoid an infinite scope of liability imposed on the State the group of persons making up the "third party" is limited Not everybody is entitled to a claim when an unlawful act has been committed[6], but only that person whose demands are to be protected or furthered according to the purpose and the legal intention of the government business For the Bundesgerichtshof ("BGH", or Federal Supreme Court), as the competent court in this matter the aspect of the legal protection of confidence is decisive Thus, only a person who might consider himself to be part of the group of third parties in a manner worthy of protection is allowed to claim a violation of government duty

It is only a government act, committed in an unlawful and culpable manner, which gives rise to a right to compensation[7] Whereas the evidence of unlawfulness is, as a rule, successful and has often been already determined by the administrative courts having primary jurisdiction, the additional requirement of fault often entails great problems of evidence For the discharge of the administration the court rulings have developed the formula that a party has not acted in a culpable manner if the lawfulness of its action has been confirmed by a court in at least one instance[8] Neither can any objectively wrong legal application automatically be associated with blame In a reasonable

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1 Cf as to the requirements derived from § 839 BGB in conjunction with Article 34 GG Ossenbuhl Staatshaftungsrecht 4th ed. p 12 Bonk in Sachs GG Article 34 note 57 *et seq*
2 BGHZ 16 11 (113) BGH NVwZ 1986 961 (961 *et seq*) NVwZ 1989 287
3 BGHZ 30 19 (26 *et seq*) OLG Koblenz NVwZ 1989 (900)
4 BGHZ 74 144 (156) 75 120 (124)
5 BGH DOV 1970 680 (681) NJW 1980 2576 DVBl 1994 1134 (1135)
6 BGH NJW 1971 1699 BGHZ 63 35 (38 *et seq*) 84 292 (299) 110 1 (8 *et seq*)
7 Ossenbuhl *loc cit* p 58
8 BGHZ 27 338 (343) 73 161 (164) 78 274 (279) restricting BGH NVwZ 1987 258 (259 *et seq*)

application of law which only turns out to be incorrect afterwards, there is, in principle, no fault The courts' attitude is in practice rather untenable[9], because such high requirements often lead to the result that government liability claims appear to be hopeless and are therefore not made from the outset

There must also be a link of causality between the violation of government duty and the damage so caused which has to be proved by the injured party Such distribution of the burden of proof in practice means that it is difficult to succeed with such proof, since many factors may constitute the cause of an incident of damage The administration can often argue that the same damage would also have occurred in the case of lawful behaviour, particularly if only procedural errors are under discussion[10]

The assertion of a compensation claim is finally made more difficult by the fact that government liability is, as a general rule, only subsidiary The party concerned cannot simply liquidate the respective damage being caused by the state's conduct Rather, it is required to first seek judicial remedy in the administrative courts for the affirmation of a legal violation[11], damage should thus be prevented or at least reduced Any party concerned has to institute a lengthy administrative legal proceeding for the final assertion of its financial losses suffered As a rule, such an administrative proceeding does not lead to the complete exclusion of a head of damage, it results, however, in a decision of the administrative courts being rendered on the lawfulness of government acts, which is legally binding upon the civil courts[12]

III Particularities in Nuclear Law

In view of the situation described above in which certain Lander levy a so-called "enforcement of law by abandoning nuclear energy", government liability under nuclear law is of particular importance and must prove itself in its practical application For it is shown here, as in practically no other legal field, that the purely judicial remedy of administrative courts does not constitute an effective barrier against officials acting in a politically biased manner

There are many possibilities for administrative authorities to impede the lawful operation of nuclear power plants Some cases may serve as an example

- unlawful refusal of a licence (Fast Breeder in Kalkar),
- issue of an unlawful licence (Power Plant in Mulheim-Karlich),
- delay in issuing the licence (High-Temperature Reactor in Hamm, Gorleben),
- delay in relaunching after stoppage (Power Plant in Brokdorf), and
- unlawful supervision decrees to retrofit the plant (Power Plants in Biblis and Brokdorf)

As a rule, the judicial remedy of administrative courts initially sought against such measures does not take effect in time to avoid the emergence of damage As an example, the action filed against an order including 55 retrofitting requirements, which the operator considers to be unlawful, is still

9 BGH NJW 1979 2097 (2098)

10 Cf BGHZ 36 144 (154) BGH NJW 1959 1316 BGH UPR 1997 71 (72) BGHZ 96 157 (172 *et seq*) in the context of which according to the BGH such question of the lawful alternative conduct does not affect the causality as such and only leads to the exclusion of the attribution of the misconduct for reasons of equity

11 § 839 para 3 BGB (Civil Code BGB)

12 BGHZ 9 329 (332) BGH WM 1975 426 (427)

pending in the first instance since 1991 without even one court hearing having taken place The administrative courts, which often have a friendly attitude towards the authorities, do not always show the courage required in such matters to revoke politically motivated decisions Even if they would do so, it would not directly lead to financial compensation In view of the insufficient deterrent effect of administrative proceedings, the authorities abandoning nuclear energy thus only run a relatively small risk

Against this background, government liability is of great importance If, for example an unlawful licence has been issued and the operator of a nuclear power plant then invests several billions in vain because he has to shut down the power plant, his primary interest will be financial compensation Should, for example, a necessary retrofitting of the plant be given up because of a subsequent order which was enforced immediately, it will not be much help for the operator if several years later the order turns out to be unlawful In such a case, the interest in compensation is understandably of foremost importance

In this respect, the threat of government liability serves a considerable preventative purpose The expressed or latent threat of compensation claims induces politically motivated authorities – sometimes more so than a respect for the law – to adhere to this in practice Such officials, who are guided by political instructions rather than by the applicable law, have become aware of the fact that the government liability claim hangs over them like the sword of Damocles The authorities not only run the risk that their illegal act will be set aside by the administrative courts They must also expect that the party concerned will claim compensation for the financial losses sustained by it Due to the possibility of the States taking recourse against their officials[13], government liability also constitutes a personal risk for each individual, giving rise to an undeniably educative effect

IV Mulheim-Karlich

RWE Energie AG, the largest German electricity supply company, actually obtained the legal enforcement of such a right by obtaining the award of the Bundesgerichtshof (BGH, or Federal Supreme Court) a claim for damages due to a breach of official duty by the Government of the Land of Rheinland-Pfalz The amount of damages is still subject to legal action The facts of the lawsuit are as follows

In 1975, the Land of Rheinland-Pfalz granted a first partial construction licence to RWE followed by several supplementary licences, to build a nuclear power plant in Mulheim-Karlich with an investment of several billion Deutschmarks Due to a potential risk of earthquakes, however the plant was not established exactly on the designated site but a few metres aside The competent authority gave its consent, but did not adapt the permit to the new situation Hence, the plant was not built in compliance with the licence granted The plant finally went into operation in 1986 As the Federal Administrative Court revoked the initial part-licence after 13 years due to its illegality, the power plant actually produced electricity for only one year The dispute concerning the lawfulness of the supplementary licences is still pending in the administrative courts The power plant has been shut down since 1988

13 Article 34 sentence 2 of the basic Law (GG)

Regardless of these administrative lawsuits, RWE sued the Land of Rheinland-Pfalz in 1991 for damages on the grounds that the first construction-licence was unlawful due to a breach of official duty RWE demanded, in particular, damages for the loss of profit since 1988, for the purchase of replacement electricity and for the operating costs during the stoppage of the plant

The BGH ruled, on 16 January 1997[14], that RWE had no claim for damages covering the lost investments made in confidence in the validity of the initial first licence, as the plaintiff knew or should have known that the licence was unlawful, the mere consent of the competent authority without adapting the licence was not a sufficient cause of action However, the court decided also that RWE could demand damages in view of the further licences granted by the State, as they may have created a trustworthy basis for RWE's investments The BGH distinguishes two different classes of damage as follows On the one hand, under its ruling, RWE is in a position to obtain indemnification for the operating costs during the stoppage of the plant, for the construction costs and financing of the power plant as well as for the costs of purchase of fuel elements These expenses, caused by the culpable and unlawful conduct of the Land of Rheinland-Pfalz, were recoverable It was the official duty of the competent authority not to grant an unlawful licence On the other hand, RWE's further claims have been denied on the grounds that RWE knew or should have known the incorrectness of the initial part-licence As far as RWE had relied upon the continuance of this licence, it has invested at its own risk Therefore, RWE could neither demand damages for the loss of profit nor for the costs of purchase of electricity However, the further licences for the construction, especially the second one in 1977, created a trustworthy basis under which investments effected after 1977 could be recovered The competent civil court now has to consider the actual amount of these claims (BGH III ZR 117/95, decision of 16 January 1997) Although the judgement cannot be regarded as a full victory for the operator, it certainly shows that government liability is an effective means to ensure law-abiding conduct by State authorities Furthermore, the case is a good example of judicial independence, since the compensation will possibly exceed 1 billion Deutschmarks and result in a severe financial predicament for the State budget

V Gorleben

Another important case – with ample legal problems – concerns the salt dome in Gorleben in the Land of Niedersachsen (Lower Saxony) This former salt mine has been reviewed for its possible use as a dump site for the final disposal of nuclear waste The necessary explorations and investigations have been carried out by the Bundesamt für Strahlenschutz (BfS, or Federal Office for Radiological Protection) After a left-wing government had come into power in 1990 in the Land, the exploration of the salt dome was delayed and even stopped The Federal Republic claimed compensation from the Land of Niedersachsen for the financial losses connected with these delays The courts ruled in favour of the plaintiff as follows the way of handling the exploration procedures, in particular the delaying of the necessary licences etc , was found unlawful The State was ordered to compensateate the Federal Republic for its financial damages

The case shows that government liability is applicable not only in a State-citizen relationship, but also between the Federal States and the Lander Moreover, it strengthens the lawful enforcement of official duties, in particular where administrative remedies have no immediate effect

14 BGH UPR 1997 187 *et seq*

B Material Alterations

The second most important development is related to the material alteration of existing nuclear power plants While no new plants are being built at the moment, the existing ones have to be retrofitted in order to comply with the relevant state of the art, or at least to ensure that no harmful effects on the environment are caused Naturally, the existing power plants are the main target for those authorities that want to abandon nuclear energy On the one hand, they can argue that without a material alteration the plant in question is not operated in accordance with state-of-the-art standards and therefore has to be shut down On the other hand, in the case where an operator applies for a permit to carry out such an alteration, the authority could – illegally – refuse to grant the necessary licence, if essential safety standards cannot be met then, the authorities are entitled to serve an administrative order on the operator and close down business operations Although the operator can challenge the refusal of a licence applied for, this process may take several years and in the meantime, his power plant may be regarded as a security risk It is obvious that here again there exists a strong link to the above-mentioned government liability

The topic of "material alteration" has gained momentum after a recent decision of the highest administrative court (Bundesverwaltungsgericht, or BVerwG) In order to understand the importance of the case, it is necessary to provide a short overview of the relevant legal prerequisites

I Requirements

Pursuant to Art 7 Sec 1 Nuclear Energy Law (Atomgesetz, or AtG) any material alteration to the plant itself or its operation needs special authorisation This licence is granted if the necessary precautionary measures are taken in accordance with state-of-the-art standards Under German nuclear energy law, "state of the art" does not only focus on technical realisation but also includes up-to-date scientific knowledge that has not been proved in reality Bearing this in mind it is obvious that the standards for alterations are rather high If the operator is not able to put existing scientific knowledge into practice, his application has to be dismissed It is, therefore, heavily contested as to how to define the relevant state of scientific knowledge

II. Krummel

Up until last year, the prevailing opinion applied this requirement only to those parts of the plant that were to be altered The licensing procedure for a specific alteration did not extend to a revision of the entire power plant If, for example, a defect of a facility was found on the occasion of a substantial variation in other parts of the plant, this defect was no reason to refuse the licence However in its ruling of 21 August 1996 the Federal Administrative Court decided otherwise[15] In a case that attracted a lot of attention afterwards[16], the Bundesverwaltungsgericht held that within each alteration procedure the entire plant has to be considered, if and to the extent to which the alteration may influence other parts of the plant That means, for example, that in the event the operator changes the core of the power plant, all other parts have to be reviewed, too The extent of this review depends on the possible effects the alteration may have If these impacts can be separated, there is no need for further measures, if the alteration can have effects on various parts or even the entire plant – as is the case when replacing the core or changing the radiation load – all affected parts have to be reviewed to find out if they (still) meet the standards set by state-of-the-art standards Therefore, not only the

15 BVerwG decision of August 21 1996 - 11 C 9 95 - NVwZ 1997 161 *et seq*

16 See Rebentisch DVBl 1997 810 *et seq* v Danwitz RdE 1997 55 *et seq* Sendler UPR 1997 161 *et seq* Kutscheidt NVwZ 1997 111 *et seq* Steinberg/Roller DVBl 1997 57 *et seq*

altered part itself has to be checked, but – depending on the circumstances of each single case – other parts as well Hence, the object and the extent of scrutiny can differ

The Federal Administrative Court has been heavily criticised since this decision, as it does not comply with the prevailing opinion and court rulings on other laws, for example the Emission Control Act The reason for this new approach may be the fact that the competency within the Federal Administrative Court shifted from the 7th to 11th senate In any event, the new understanding of the prerequisites for granting a licence for material alterations has led to an even tougher enforcement by the competent authorities In particular, in those Lander where the political leadership decided to abandon nuclear energy, the decision was welcomed and is actually used as a means to tighten the licensing requirements, in fact, it has become easier for them to find reasons for stoppages or even shutdowns This development may lead to the unwillingness of operators to apply for the relevant authorisations and to their neglect of efforts to ensure the safety of their nuclear power plants It remains to be seen what repercussions this ruling is going to have in the future

C. Outlook

Unfortunately, government liability will gain more and more significance in the future of nuclear energy in Germany As a political energy consensus does not seem to be in sight, some State authorities wishing to abandon nuclear energy will continue to attempt by all, even illegal, means to prevent or at least obstruct the operation of nuclear power plants Government liability law in its two functions – compensation and prevention – therefore seems to be one of the last bastions against an "enforcement of law by abandoning nuclear energy"

However, there are more and more opinions, in view of the most recent decision of the BGH on Mulheim-Karlich, which warn of an overstraining of the compensation arising out of a breach of government duty An imminent claim will, according to the warning opinions, cause the officials to be even less willing to make any decisions, particularly in complex major projects Such concerns, however, are unjustified On the one hand, it has to be taken into consideration that the unduly long waiting period to issue a license constitutes a breach of an official duty (namely to act promptly)[17] On the other hand, it must be taken into account that it is not a mere unlawful conduct, only a culpable one, that gives rise to a possible government liability An authority which commits unlawful acts in a culpable manner does not need to be considered If it has, however, made an error in a difficult or unclear legal situation, as a rule this will not constitute a culpable act

It is, as a matter of fact, a deplorable situation that an operator not only has to fight to defend a nuclear license against third parties, but that he also has to ensure the proper enforcement of law by those State authorities bound to an anti-nuclear policy When an operator has to co-operate with an opposing authority for years in the same or in similar projects, he will tend to enforce a government liability claim only as a last resort He will therefore reluctantly be ready to swallow the bitter pill of not fighting for a liability claim, as success in such a claim would, consequently, constitute a mixed blessing for him Nevertheless, the reported judgements are a clear signal for these authorities that they cannot simply follow their political beliefs, irrespective of contradictory laws In this respect, the Mulheim-Karlich and Gorleben cases have far more importance than just decisions in those particular lawsuits Hopefully, they will affect the way authorities handle material alterations of power plants in the future

17 Cf footnote 3 above

CASE LAW AND ADMINISTRATIVE DECISIONS

CASE LAW

United States

Decision of the Court of Appeals for the Federal Circuit on Cleanup of Enrichment Facilities (1997)*

The appeal in *Yankee Atomic Electric Company v United States,* United States Court of Appeals for the Federal Circuit, 112 F 3d 1569 (1997), concerned the question of whether, in light of prior completed contracts specifying the price to be paid for uranium enrichment services, the United States Government might impose a special assessment upon domestic utilities to aid in funding the clean-up costs associated with the federal facilities that provided those enrichment services The United States Department of Energy had appealed from the decision of the United States Court of Federal Claims in *Yankee Atomic Electric Co v United States*, 33 Fed Cl 580 (1995), that the assessment imposed upon Yankee Atomic, pursuant to the Energy Policy Act of 1992, to fund clean-up costs constituted an unlawful exaction because it violated the United States' earlier contractual agreements to supply enriched uranium at fixed prices On May 6, 1997, the United States Court of Appeals for the Federal Circuit reversed the decision of the lower court and held that the assessment was lawful and, on August 15, 1997, denied Yankee Atomic's petition for rehearing

Yankee Atomic's operations required an enriched form of uranium produced by separating useful isotopes of uranium from other isotopes Beginning in 1963, Yankee Atomic purchased, through a series of contracts, the necessary uranium enrichment or separation services which were performed at enrichment plants operated initially by the Atomic Energy Commission, later by its successor the Energy Research and Development Administration, and finally the Department of Energy The contracts varied somewhat, however each stated that the price to be paid by Yankee Atomic would be based on "established Commission pricing policy", defined as the price in effect at the time the service was rendered There was no dispute that the United States Government fulfilled its contractual obligation to provide the enrichment services and that Yankee Atomic fulfilled its obligation to pay the price in effect at that time

In the late 1980's the United States Congress created a for-profit governmental corporation, the United States Enrichment Corporation, so that the Government's uranium enrichment services would remain competitive with those provided by other parties Congress also became aware at that time of the clean-up costs associated with decontaminating and decommissioning the federal facilities used

* This note has been kindly prepared by Sophia Angelini Attorney Adviser in the Office of General Counsel for Civilian Nuclear Programmes U S Department of Energy The facts contained and ideas expressed in this article are the responsibility of the author alone

for the enrichment services The total cost of this clean-up, estimated by the Department of Energy as amounting to over $20 billion over 40 years or about $500 million per year (indexed to inflation), had not been accounted for in the United States' past uranium enrichment contracts

The Energy Policy Act of 1992 established the Uranium Enrichment Decontamination and Decommissioning Fund to accumulate, over a period of 15 years, money necessary to clean up the old uranium enrichment plants Thus, the Energy Policy Act provided for annual deposits into the Fund of $480 million from two sources 1) up to $150 million to be collected as a special assessment from domestic utility companies, and 2) the balance, at least $330 million to come from public funds appropriated by Congress

Following passage of the Energy Policy Act, the Department of Energy assessed Yankee Atomic s share of the annual special assessment and Yankee Atomic responded that it should be exempted from the assessment because its facilities had shut down before passage of the Act Yankee Atomic paid approximately $3 million pursuant to three annual assessments and filed its lawsuit in the United States Court of Federal Claims in order to recover those payments The Court of Federal Claims viewed the special assessment as a retroactive increase in the price previously charged by the Government for its uranium enrichment services, and thus held that such a retroactive price increase would constitute an unlawful exaction in light of the prior contracts between the United States and Yankee Atomic

The United States Government argued that a special assessment for decontamination and decommissioning was entirely distinct from the prior contracts between the Department of Energy and utility companies such as Yankee Atomic which concerned uranium enrichment The Government contended that the assessment under the Energy Policy Act could not constitute a breach of the earlier contracts unless those contracts contained an express provision that precluded the Government from imposing an assessment to fund decontamination and decommissioning Yankee Atomic argued that the special assessment was directly related to the earlier contracts and that the fixed-price nature of the contracts expressly limited its obligation to the price already paid, and shifted the risk of any additional costs (including decontamination and decommissioning) to the Government

Citing the United States Supreme Court's decision in *Winstar v United States* 116 S Ct 2432 (1996), The United States Court of Appeals for the Federal Circuit reviewed the sovereign acts doctrine" designed to distinguish between the Government's twin characters or roles as contractor and sovereign and noted that

> *"When the Government enters into a contract, its rights and duties therein are governed generally by the law applicable to contracts between private individuals The Government-as-contractor cannot exercise the power of its twin the Government-as-sovereign for the purpose of altering modifying, obstructing or violating the particular contracts into which it had entered with private parties Such action would give the Government-as-contractor powers that private contracting Parties lack On the other hand the Government-as-sovereign must remain free to exercise its powers "*

The United States Court of Appeals for the Federal Circuit stated that the sovereign acts doctrine attempts to balance the Government's need for freedom to legislate with its obligation to honor its contracts by asking whether the sovereign act is properly attributable to the Government as contractor and requiring *a case-specific inquiry that focuses on the scope of the legislation in an effort to determine whether on balance that legislation was designed to target prior governmental*

contracts" Thus the Court proceeded to examine the scope of the Energy Policy Act to determine whether the Act was designed with the purpose of affecting or altering the Government's prior contracts The Court found that Congress' main purpose was to spread the costs of a problem that it realized only after the uranium enrichment contracts had been performed The Court concluded that the relevant provisions of the Energy Policy Act constituted a general exercise of Congress' taxing power for the purpose of addressing a societal problem rather than an Act that retroactively increases the price charged to contracting parties for uranium enrichment services

The Court also considered the "unmistakability" doctrine which according to *Winstar " turns on whether enforcement of the contractual obligation would block the exercise of a sovereign power of the Government "* The Court found that the fixed-price terms of the uranium enrichment contracts were directed at the prices for providing enriched uranium to Yankee Atomic and not to any decontamination and decommissioning costs that might subsequently arise The Court concluded that the contracts between Yankee Atomic and the Government did not include an "unmistakable promise" that precluded the Government from later imposing an assessment upon all utilities that employed the Department of Energy's uranium enrichment services

> *"In conclusion, the provision of the Energy Policy Act which imposes the special assessment is a sovereign act because it is designed to spread the costs associated with the decontamination and decommissioning over all domestic utilities that used the [Department of Energy's] uranium enrichment services, rather than targeting only those utilities that had contracts with the Government Moreover, the contracts between Yankee Atomic and the Government did not contain an unmistakable promise which precluded the Government from exercising this sovereign power Finally, Yankee Atomic is not exempt from the assessment by virtue of the fact that it ceased operations before the Act's passage Accordingly, the judgment of the Court of Federal Claims is reversed"*

European Court of Human Rights

Balmer-Schafroth and Others v Switzerland (1997)*

This article examines the judgment of 26 August 1997 of the European Court of Human Rights in Balmer-Schafroth and Others against Switzerland, concerning the decision by the Swiss Federal Council to extend the operating licence of the Muhleberg nuclear power plant in the Canton of Bern (see *Nuclear Law Bulletin* No 51)

The Facts

Mrs Balmer-Schafroth and her co-applicants, hereafter referred to as "the appellants", live in communes located within containment area No 1, i e within a 4 to 5 kilometre radius of the Muhleberg nuclear power plant

* This note has been kindly prepared by W Bühlmann Head of the Legal Division of the Federal Office of Energy Berne Switzerland

On 9 November 1990, the company operating the said power plant asked the Swiss Federal Council, hereafter referred to as "the government", to extend its operating licence for an unlimited period and to increase by 10 per cent its authorised production This request was published in the Official Journal, together with a notice inviting persons meeting the necessary conditions to lodge an appeal

In all more than 28 000 appeals were sent to the Federal Energy Office, 21 000 of which were from Germany and Austria In their appeal of 4 March 1991, to which were attached several expert opinions the appellants invited the Federal Council to refuse the request for an extension of the operating licence and to order the immediate and definitive closure of the nuclear power plant They alleged that the power plant did not meet the most recent safety standards because of serious and irreparable faults in construction, which meant that it involved a higher than normal risk of accident

On 14 December 1992, the Federal Council dismissed all the appeals as unfounded and, subject to various specified guarantees, granted the company permission to continue operation until 31 December 2002 and to increase its production by 10 per cent

The Federal Council first held that the appellants residing in containment area No 1 were entitled to take part in the procedure, unlike those living further from the power plant, particularly in Germany and Austria It then stated the reasons which, under the Atomic Energy Act, warranted refusal of an operating licence or the imposition of conditions, and held that any applicant meeting all the legal conditions was entitled to an operating licence (*"autorisation de police*) It noted further that while power plants built twenty years previously certainly no longer met current technical standards, they could nevertheless be maintained and modernised so as to continue functioning with total safety To ascertain whether this was indeed the case here, the Federal Council examined one by one the objections stated in the appeals, before declaring them unfounded As to the allegation that the right to life, protected by the Constitution, had been infringed the Federal Council pointed out that the case law of the Federal Tribunal was that only deliberate infringements could be sanctioned This was not the case with the operation of a nuclear power plant, at least for as long as it was carried out in compliance with technical and operational measures designed to prevent such infringements and that these could reasonably be thought to offer a protection level comparable to that existing in other generally accepted technical installations

Under the Federal Act on the Peaceful Uses of Atomic Energy, a licence from the Confederation is required for the construction and operation of a nuclear installation, as well as for any change in the purpose, nature or size of the installation The Act provides that licences must be refused or made subject to conditions or appropriate charges if this is necessary, notably to protect persons, other people's property or important rights The Federal Council or the body appointed by it rules on licence applications There is no appeal against licensing decisions Under the case law of the Federal Tribunal, the question of the safety of a nuclear power plant can only be examined by the Confederation as part of the procedure for granting licences

The Federal Judiciary Organisation Act provides that the Federal Tribunal is the last court of appeal in administrative law against decisions by the federal authorities However, appeals against the granting of a licence to start up technical installations are not admissible

In their appeal of 14 June 1993 to the European Commission of Human Rights, the appellants alleged a violation of Article 6, paragraph 1, of the European Convention on Human Rights (ECHR) claiming that they had not had access to a "tribunal" within the meaning of this provision and that the

procedure followed by the Federal Council could not be deemed fair They also complained that Article 13 of the ECHR had been violated in that they had had no recourse to an effective remedy

On 18 October 1995, the European Commission of Human Rights upheld the appeal In its report of 18 April 1996, it held (by 16 votes to 12) that there had been a violation of Article 6, paragraph 1, and that Article 13 had no specific application in this case (by 27 votes to 1)

In concluding its submission, the Government invited the Court to hold that Switzerland had not violated the European Convention on Human Rights on the grounds which had given rise to the appeal lodged by Mrs Balmer-Schafroth and co-applicants In their submission, the appellants asked the Court to hold that Articles 6 and 13 of the ECHR had been violated and that Switzerland should remedy this violation by means of a revision

The Law

In an initial preliminary objection, the Government claimed that the appellants were not "victims", arguing that the repercussions of the violations they complained of were too distant to affect their personal situation directly According to the case law, the term "victim" in Article 25 of the ECHR means a person directly concerned by the act or omission in dispute, and a failure to meet the Convention's requirements can be found to exist even in the absence of prejudice In this case, the fact that the appeal which the appellants wished the Tribunal to hear had been declared admissible by the Federal Council meant that they could be considered as victims The preliminary objection in question was therefore dismissed

The appellants alleged a violation of Article 6, paragraph 1 of the ECHR, which reads as follows *In the determination of his civil rights and obligations or of any criminal charge against him, everyone is entitled to a fair and public hearing within a reasonable time by an independent and impartial tribunal established by law* " Since the Federal Council had sole jurisdiction to examine the application for an extension of the operating licence of the Muhleberg power plant, it was not possible for the arguments against such extension to be judged by a tribunal The European Commission of Human Rights in essence supported this argument whereas the Government contested it

The Government lodged a preliminary objection that internal remedies had not been exhausted It claimed that the appellants had failed to lodge certain appeals which would have allowed a tribunal to reach a decision in compliance with Article 6, paragraph 1 of the ECHR The Court did not feel it necessary to rule on this question since it considered that Article 6, paragraph 1 of the ECHR did not apply in this case

The Government argued that Article 6, paragraph 1 of the ECHR did not apply in this case Inasmuch as the appellants complained of damage to their physical well-being, this was not a matter of civil rights and obligations, as dealt with in this Article

The appellants pointed out that they had the status of party before the Federal Council and, as such, the same rights as the operating company The patrimonial interests of the company were at stake in the proceedings, which therefore clearly fell within Article 6, paragraph 1 of the ECHR

According to the Court's case law, for Article 6, paragraph 1 of the ECHR to apply, there must be a "dispute" about a "right" which it can reasonably be claimed is recognised in internal law The dispute must be real and serious and may concern the existence itself of a right, its scope, or the ways

in which it may be exercised The outcome of the procedure must directly determine the right in question The Court has always held that a tenuous link or distant repercussions were not enough to bring Article 6, paragraph 1 of the ECHR into play

The Court first of all noted that the appeal of 4 March 1991 showed that the appellants were opposed to the application for an extension of the operating licence because of the risks that this presented, according to them, for the life and health of the surrounding population, which included themselves At no time in the proceedings did they claim to have suffered prejudice, whether economic or other, for which they intended to claim compensation In substance the right invoked before the Federal Council was that of gaining adequate protection of their physical well-being against the risks arising from the use of nuclear energy

The Court held that this right was recognised under Swiss law, as could be seen notably from the Atomic Energy Act – to which both the appellants and the Federal Council expressly referred – and from the constitutional right to life, a point developed by the Federal Council in its decision

For the Government, however, there had been no real and serious dispute about the right in question First of all, an examination of the Federal Council's decision clearly showed that the nature of the litigation was highly technical rather than legal Secondly, even supposing that judges had enough knowledge and time to study the question, the fact remained that the moral and political responsibility for the decision to be taken fell to the political authority and to it alone just as, for example, in the case of the nuclear moratorium accepted on 23 September 1990 by the Swiss Assembly That is why this procedure took place before the Federal Council If instead any decision with potential effects on the pecuniary interests of individuals were to be taken in the last resort by a tribunal, the political and democratic debate would lose all significance

According to the appellants, judicial control of technical questions formed part of the courts' normal tasks carried out every day in matters of construction, the environment or sites for production of a hazardous nature In such cases, it was for the judge to seek the help of an impartial expert to assess whether a given risk appeared inevitable or whether, on the contrary, it could either be avoided or at least reduced by means of appropriate technical measures

The Court noted that the appeal of 4 March 1991 was directed against the application for extension of the operating licence of the Muhleberg power plant While, as was argued by the Government, the decision to be taken on this matter had necessarily to be based on findings of great technical complexity – which, in itself, did not prevent application of Article 6 of the ECHR – it served only to allow the Federal Council to verify compliance with the conditions which the law attached to the granting of the requested extension This, moreover, was how the Federal Council had performed its duty Thus, in point 2 of its decision of 14 December 1992, dealing with the conditions for granting the licence in question, the Federal Council stated the reasons which, under the Atomic Energy Act, warranted refusal of an operating licence or making it subject to conditions It had then said that any applicant meeting all the legal conditions was entitled to be granted the operating licence requested In point 4 of its decision, relating to extension of the power plant's operation, it announced that it would examine the soundness of the objections and requirements formulated in the appeals at the same time as compliance with the material conditions which the extension application had to meet Inasmuch as the Federal Council's decision dealt with compliance with legal conditions it was more of a judicial act than a general policy decision such as the nuclear moratorium of 1990

As for the real and serious nature of the dispute, there was no doubt about this given the above considerations and the fact that the Federal Council declared the appeal admissible

It therefore remained to determine whether the outcome of the litigation was directly decisive with regard to the right the appellants claimed, and in particular whether the link between the Federal Council's decision and the right of the appellants to protection of their physical well-being was sufficiently close, and not too tenuous or distant, to bring into play Article 6, paragraph 1 of the ECHR

On this point, the Court said that the appellants had invited the Federal Council to refuse the application for an extension of the operating licence on the grounds that, according to them, the Muhleberg power plant had serious and irreparable construction faults, that it did not meet the most recent safety norms and that it involved a higher than normal risk of accident They endeavoured to prove the alleged technical faults and the need to reduce, by all possible means, the resulting danger to the population and the environment in general However, they did not succeed in establishing a direct link between the operating conditions of the power plant and their right to protection of their physical well-being, since they had not shown that, owing to the operation of the Muhleberg power plant, they were personally exposed to a danger that was not only serious but also precise and above all imminent Failing such proof, the effects on the population of any measures taken by the Federal Council in this case thus remained hypothetical As a result, neither the dangers nor the remedies presented a degree of probability which made the outcome of the litigation directly decisive, within the meaning of the Court's case law, for the right invoked by the appellants The Court held that the link between the Federal Council's decision and the right invoked by the appellants was too tenuous and distant This being so, Article 6, paragraph 1, of the ECHR was not applicable in this case

According to the appellants, the alleged lack of access to a tribunal was also contrary to Article 13 of the ECHR, which reads as follows *"Everyone whose rights and freedoms are set forth in this Convention are violated shall have an effective remedy before a national authority notwithstanding that the violation has been committed by persons acting in an official capacity"*

Having found that Article 6 of the ECHR was not applicable in this case, the Court came to the same conclusion as regards Article 13

The Decision

For these reasons, the Court unanimously dismissed the Government's preliminary objection that the appellants had not the status of victims The Court decided, unanimously, that there was no need to rule on the Government's preliminary objection that internal appeals had not been exhausted The Court then decided, by 12 votes to 8, that Article 6, paragraph 1 of the ECHR was not applicable in this case and, lastly, by 12 votes to 8, that Article 13 of the ECHR was not applicable in this case either

ADMINISTRATIVE DECISIONS

Japan

Report on Power Reactor and Nuclear Fuel Development Corporation (1997)

In April 1997 a Committee was established to analyse the cause of two serious accidents within installations belonging to Power Reactor and Nuclear Fuel Development Corporation (PNC) The Committee was also charged with developing a draft plan for the future of the Corporation On 1 August 1997 the Committee submitted a final report to the Government

The report stated that the essential cause of the accidents was a "lack of management", leading to "improper safety management and crisis management", "lack of transparency" and overenlargement of projects" It recommends that a new organisation with strong management be established to replace PNC To ensure such strong management, the report recommends clearly defined decision making power, clearly defined project goals, timely evaluation of such goals, continuing self reform by the organisation and periodic external evaluation of the management system

Amongst the recommendations, the report states that the activities to be carried out by the new organisation should, in the main, be limited as follows

- the development of the Fast Breeder Reactor (FBR) and related nuclear fuel cycle s technological development, and

- research and development for the treatment and disposal of high level radioactive waste

The report envisages that the new organisation will withdraw from the three activities listed below, all of which are currently PNC's main activities

- uranium exploration activities in foreign countries,

- the uranium enrichment project, and

- the development of the Advanced Thermal Reactor (ATR)

There is a recommendation that the headquarters be placed in the area where its nuclear installations are located, to show its commitment to the area

The Government will propose a Bill, based on this report, to the Diet next year and the new organisation is expected to be established in the autumn of next year

Switzerland

Leibstadt Nuclear Power Plant No Increase in Power for the Moment (1997)

On the basis of the evaluation carried out by the Principal Nuclear Safety Division (DSN), the Federal Department for Transport, Communications and Energy decided not to recommend that the Federal Council, in the near future, authorise an increase in the power of the Leibstadt nuclear power plant (See *Nuclear Law Bulletin* No 51) According to the DSN, the technical conditions have not been met for the moment

The power plant recently had fuel rods inspected This revealed patches of corrosion on certain cladding significantly bigger than normal The rods examined had spent between three and five years inside the core The cause of this phenomenon, which affects, in particular, rods in service for at least five years, has to be clarified In its expert report, the DSN, like the Federal Commission for the Safety of Nuclear Installations in its opinion, makes the progressive authorisation to increase power subject to different conditions These include good fuel assembly conditions, which are lacking for the moment due to the high corrosion of some cladding As a result, the competent Department decided not to recommend that the Federal Council authorise an increase in the power of the plant until these technical failings have been corrected

NATIONAL LEGISLATIVE AND REGULATORY ACTIVITIES

Albania

Radiation Protection

Law on Ionising Radiation Protection (1995) and Draft Decrees to Regulate Ionising Radiation Sources

Albania has no nuclear reactors Its application of ionising radiation sources is, therefore, largely limited to medical, industrial and research functions Until 1995, these activities were regulated by a Government Decree which had first been approved in 1971 An *ad hoc* commission prepared a draft Law on Ionising Radiation Protection to bring the legislative infrastructure of the country into line with the relevant IAEA Basic Safety Standards In September 1995, the draft Law was submitted to the Albanian Parliament and was passed on 9 November 1995 as Law No 8025 on Ionising Radiation Protection

The Law provides for radiation protection in respect of all activities performed with radioactive materials and radiation devices, thus providing for the safety of workers, the general population and the environment against the harmful effects of ionising radiation Under this new Law, the highest national authority on radiation protection matters is the Radiation Protection Commission (RPC), which is within the Ministry of Health and Environment The RPC is assigned the task of overseeing the enforcement of the provisions of the Law and is headed by the Minister for Health and Environment The decisions of the RPC are to be carried out by the Office of Radiation Protection

As a basic requirement, all persons performing activities involving radiation sources or radioactive materials must obtain a licence from the RPC All persons with a licence must comply with the provisions of the Law, as well as with decrees issued for its implementation The Office of Radiation Protection inspects radiation installations and prepares reports for the RPC, which serve as the basis for the issuing, suspension and revocation of licences by the RPC

A breach of the requirement to obtain a licence or a failure by the licensee to comply with the Law or related decrees, if it is not the subject of criminal prosecution, is punishable as an administrative contravention with penalties of from 10 000 to 100 000 leke (US$100 to US$1 000)

The RPC has prepared two draft implementing Decrees for approval by the Government One is for Licensing and Inspection of Ionising Radiation Sources Activities, and the other for Safe Handling of Radioactive Material and other Ionising Radiation Sources These drafts have not yet been examined by the Albanian Government

The text of the Law is reproduced in the Chapter "Texts" of this edition of the *Nuclear Law Bulletin*

Armenia

General Legislation

Draft Law on Peaceful Uses of Atomic Energy (1997)

The Armenian Nuclear Regulatory Authority has prepared a draft Law on the Peaceful Uses of Atomic Energy It was submitted to Parliament in June 1997, but has not yet been passed The objectives of the draft Law are

- to define policy on the peaceful uses of nuclear power, given Armenia's international non-proliferation obligations,
- to ensure the protection of people, property and the environment against the harmful effects of ionising radiation,
- to ensure the fulfilment of commitments under international agreements to which Armenia is a Party, and
- to prevent the unauthorised export, import, transportation, use and disposal of nuclear and radioactive materials, radioactive waste, special materials, equipment and technology

The draft Law provides that nuclear power facilities, nuclear materials, radioactive waste and specialised equipment and technology utilised within Armenia are State owned However, the draft Act does contemplate extended utilisation of nuclear energy by the private sector The Regulatory Authority whose broad powers are set out in the legislation, is responsible for licensing nuclear activities as well as licensing officials who perform activities which are deemed important from a safety point of view

Under the draft Law there is provision for the establishment of obligatory safety norms and rules by the Regulatory Authority To support this safety culture a State system of accountancy and control is established, both for sources of ionising radiation and for radioactive waste

The draft Law addresses the rights of individuals to obtain information about the safety of nuclear facilities and the right to compensation for nuclear damage, although details of the latter are left to other domestic legislation It does stipulate, however, that the licensee of a nuclear related activity is liable for nuclear damage caused to people, property and the environment when the damage has been proved to be caused by an accident at the licensee's facility, and that the licensee is required to have financial security for its liability It also states that the maximum limit of licensee liability cannot exceed that defined in the Vienna Convention on Civil Liability, to which Armenia is a Party

Armenia has one nuclear power station, consisting of two reactors, only one of which is in operation

Austria

Transport of Radioactive Materials

Ordinance on Shipments of Radioactive Waste (1997)

Ordinance No 44/97, relating to the supervision and control of shipments of radioactive waste into, out of and through the national territory, came into force on 1 March 1997 It was enacted pursuant to the Radiation Protection Act No 227/69, in order to implement the provisions of Council Directive 92/3/EURATOM of 3 February 1992 on the supervision and control of shipments of radioactive waste between Member States and into and out of the Community

The Ordinance is divided into five sections, and is accompanied by four annexes The first section consists of general provisions and definitions, and specifies that this Ordinance applies to the shipment of radioactive waste into, out of and through the national territory whenever the quantities and concentrations exceed the levels laid down in Annex 2 Sections 2 and 3 govern shipments between Austria and another EU Member State and shipments into or from a non-EU State, respectively Section 4 deals with reshipment operations, whereby an EU Member State to which waste or irradiated nuclear fuel has been exported for processing or reprocessing retains its right to return the waste after treatment to its country of origin Section 5 governs the entry into force of the Ordinance

Annex 1 to this Ordinance lays out standard documents for applications for authorisation to ship radioactive waste, for granting the authorisation, and for acknowledgement of receipt of such a shipment Annex 2 provides the list of quantity and concentration levels for radioactive waste as mentioned above, and Annex 3 lists the Member States which have notified the Commission, according to the terms of the Directive, that they do not accept the automatic approval procedure under Article 6 of the Directive The last Annex provides a list of States party to the Fourth ACP-EEC Convention (between African, Caribbean and Pacific countries and the EEC) which are not members of the EU, to which shipments may not be authorised

Belarus

General Legislation

Draft Law on Uses of Nuclear Energy and Radiation Safety (1997)

A draft Law on Uses of Nuclear Energy and Radiation Safety was prepared in April 1997, and is presently in the process of approval by ministries and agencies concerned It is expected to be submitted to the Chamber of Representatives in October 1997 and the reading of the draft is planned for the first quarter of 1998 The draft Law sets out the principles for regulating the peaceful uses of nuclear energy and provides for the adoption of subsidiary legislation, such as regulations and rules, in order to meet the objectives of the draft Law

The draft Law addresses three main aspects First, there is a requirement to guarantee the safety of nuclear installations, radiation sources, radioactive substances and the handling of nuclear materials, that is, to take all necessary measures to prevent accidents that may cause injury or damage in respect of workers, members of the public and the environment Secondly, there is a requirement to guarantee

adequate compensation for nuclear damage Thirdly, there is a requirement to meet the international obligations of Belarus in the field of nuclear law

In respect of the first of these areas, the regulation of nuclear safety for activities involving the use of nuclear energy, the provisions of the draft Law are based on the following basic principles

- any such activity requires prior licensing,
- a licensed activity is subject to control by inspections,
- the powers of the regulatory, licensing and inspection body are established by law, that body is responsible for taking all necessary regulatory actions, and it cannot exercise any management functions in respect of nuclear or radiation facilities, and
- there is a strict division between safety regulation functions and safety implementation functions

In relation to the second aspect addressed in the draft legislation, compensation, the draft Law contains provisions that closely follow the Vienna Convention on Civil Liability for Nuclear Damage It defines 'nuclear damage" as including damage to persons due to a nuclear accident and also loss resulting from property damage It reflects the principle of the "channelling of liability" and imposes strict liability upon the operator for nuclear damage resulting from the an accident at his nuclear facility storage site or during transport of nuclear materials Intentional conduct by a victim which causes the damage will provide the operator with the right of redress against the victim, provided the operator proves such conduct The maximum amount of liability and mandatory insurance will be set by the Supreme Soviet, and the Cabinet of Ministers will guarantee payment of compensation in the event of insufficient funds, insolvency or exoneration of the operator from liability

As regards the third main field covered by the draft Law, to satisfy international obligations the draft Law makes reference to international agreements to which Belarus is a Party and stipulates that the provisions contained in such agreements shall take precedence over national legislation

The draft Law establishes, furthermore, the legal personality of entities which conduct nuclear activities and the procedures for construction of nuclear facilities and storage facilities, as well as transportation of nuclear and radioactive materials It imposes a strict requirement to ensure the physical protection of nuclear materials, installations, radioactive substances, storage facilities and radiation sources and limits their use to peaceful purposes

Radiation Protection

Draft Law on Radiation Protection of the Public (1997)

The draft Law sets forth fundamental regulations for radiation protection of the public in respect of the use of ionising radiation sources, radioactive waste management and the mitigation of consequences of radiation accidents It lays down the conditions for ensuring the safeguarding of human life and health and for the protection of the environment against the harmful effects of ionising radiation The draft Law was approved by the Chamber of Representatives on 13 May 1997 After a subsequent review by the

Council of the Republic (higher chamber of the Parliament), it was returned to the drafters for some further amendments It is expected to be adopted in 1998

This draft Law complements the draft Law on Uses of Nuclear Energy and Radiation Safety, discussed above In the preparation of the two draft Laws, account was taken of the provisions of international agreements on the use of nuclear energy, to which Belarus is or intends to become a Party (Non-Proliferation Treaty, Convention on the Physical Protection of Nuclear Material, Convention on Early Notification of a Nuclear Accident, Convention on Assistance in case of a Nuclear Accident or Radiological Emergency and the Vienna Convention on Civil Liability for Nuclear Damage)

Belgium

Radiation Protection

Royal Order on the Protection of Workers Against the Hazards of Ionising Radiation (1997)

On 25 April 1997, a Royal Order on the protection of workers against radiation was adopted in order to partly implement Council Directive 90/641/Euratom of 4 December 1990 on the operational protection of outside workers exposed to the risk of ionising radiation during their activities in restricted areas (See *Nuclear Law Bulletin* No 47) This Order was published in the *Moniteur Belge* of 12 July 1997

The Order defines the duties of employers, of outside contractors and of the operator Employers are responsible for taking appropriate measures so that workers exposed to risk are compulsorily subject to medical supervision They are, therefore, obliged to carry out a medical examination of these workers at the time of recruitment as well as periodic examinations thereafter

In order for outside contractors and independent outside workers to carry out their activities, they must first register with the Industrial Health and Medicine Department Outside contractors are defined as individuals or legal entities, apart from the operator and the members of its staff, who carry out any form of operation in a restricted area The outside contractor is required to ensure the radiological protection of these workers, either directly or by contractual arrangements with the operator

The Order provides that the operator is responsible for operational aspects of the radiological protection of outside workers which are directly related to the nature of the restricted area and of the work to be carried out

Also described in this Order are the functions of the in-house medical service and the physical protection division Furthermore, the Order provides for the creation each year of an exposure and decontamination chart for all workers exposed during their work, and it recommends the setting up of a centralised national network and a personal radiation control document for each outside worker

The Minister of Employment and Labour is responsible for the implementation of this Order Supervision of the terms of the Order is the responsibility of medical inspectors of the Industrial Health and Medicine Department, and also of engineers from the Technical Safety Service of the Industrial Safety Department

This Order partly repeals the General Regulations concerning safety at work as amended, which were approved by the Orders of the Regent of 11 February 1946 and 27 September 1947

Brazil

Organisation and Structure

Decree and Order Relating to the Application of the Protection System for the Nuclear Power Programme – SIPRON (1997)

The Protection System for the Brazilian Nuclear Power Programme (SIPRON) was established in 1980 (See *Nuclear Law Bulletin* Nos 27, 50 and 53) The conditions under which the System is applied have been revised by Decree No 2 210 of 22 April 1997 and by Order No 37, also of 22 April 1997

Chapter I of the Decree, relating to general provisions, recites the objectives of SIPRON and enumerates a series of technical definitions (nuclear installation, source of radiation, radioactive materials, accident, etc) Chapter II describes the structure of the System This is comprised of a central unit, several sector co-ordination units, sector implementation units, as well as operational and support units Chapter III deals with the components of the System and describes the functions of certain key units outlined in the preceding chapter, including, inter alia the Secretary for Strategic Affairs of the Presidency of the Republic (SAE), the Co-ordinating Commission for the Protection of the Brazilian Nuclear Programme (COPRON), the National Nuclear Energy Commission (CNEN), etc Chapter IV concerns emergency situations, Chapter V provides for contracts entered into by SIPRON, and Chapter VI contains transitional and final provisions

The Decree, which entered into force on the date of its publication in the Official Journal of Brazil (23 April 1997), abrogates and replaces Decree No 623 of 4 August 1992 (See *Nuclear Law Bulletin* No 50)

It is complemented by Order No 37 of 22 April 1997, made by the Secretary for Strategic Affairs This Order describes the procedure to be followed to facilitate communications in the nuclear field whether in a normal situation or a situation of radiological emergency This procedure applies to all the relevant units of SIPRON The Order in question entered into force on the date of its publication in the Official Journal of Brazil, which was 24 April 1997

Radiation Protection

Order Relating to the General Regulation of Radiation Emergencies (1997)

The Order of 27 March 1997 deals with the establishment and functions of bodies responsible for responding to radiation emergencies affecting Brazilian territory The Order identifies four bodies which must intervene in emergencies the National Centre for the Management of a Nuclear Emergency the State Centre for the Management of a Nuclear Emergency, the Centre for Co-ordination and Supervision of Nuclear Emergencies, and the Information Centre for Nuclear Emergencies There is close co-ordination between these bodies The Centres operate at different levels the first at the national level, the second at the State level (in a federal system) and the last two at the municipal level

The Order describes the methods of operation and the areas of responsibility for each of the bodies and ensures their co-ordination, with the aim of achieving a quick and efficient response It also states that situations not covered by the Order fall within the competence of SIPRON

This Order came into force on 31 March 1997, the date of its publication in the Official Journal of Brazil

Canada

General Legislation

Nuclear Safety and Control Act (1997)

On 20 March 1997, the Nuclear Safety and Control Act received Royal Assent, the last stage through which this legislation had to pass before it could be proclaimed into force This new and comprehensive legislation replaces the now 50 year old Atomic Energy Control Act as the means by which the Canadian nuclear industry will be regulated in the future (see *Nuclear Law Bulletin* Nos 14, 21, 26, 29, 30, 32, 33, 37, 44 and 49) The Act is thus designed to address problems created by a statute which had not kept pace with the growth and maturity of the nuclear industry

In particular, the Act dissolves the Atomic Energy Control Board (see *Nuclear Law Bulletin* Nos 46, 49, 50 and 52), the oldest independent nuclear regulatory agency in the world, and establishes in its place a new Canadian Nuclear Safety Commission The change of name not only reflects the regulatory agency's continuing focus on safety matters, but also emphasises that it is completely separate from Atomic Energy of Canada Limited, Canada's national nuclear research and development agency which promotes the peaceful uses of nuclear energy In order to provide a broader range of expertise and to accommodate better regional representation, the number of members on the Commission has been increased to seven, by comparison with the Board's previous five

The statutory mandate of the new Commission is clearly expressed to cover the establishment and enforcement of standards in the areas of health, safety, security and protection of the environment in connection with nuclear activities The Commission is also empowered to require financial guarantees from licensees for decommissioning facilities, thereby eliminating the risk of such liabilities having to be borne by the public such as might occur in the case of a licensee's insolvency It is also authorised to order remedial action in hazardous situations and to require that those responsible for the hazard bear the cost of such action The new legislation declares the Commission to be a court of record, empowering it to conduct formal hearings, hear witnesses, take evidence and control its own proceedings Finally, the Commission may engage in more active co-operation with the provinces in terms of regulatory control, by incorporating relevant provincial legislation by reference and by retaining provincial agencies to perform work on behalf of the Commission for an agreed upon fee

The new Act contains clear and formal provisions for appeals from actions taken and decisions made by the Commission and by its staff members It enhances and more clearly defines the powers of inspectors while at the same time recognising the rights of those subject to inspection It also increases the maximum fine for violations of the Act or its regulations from C$ 10 000 to

C$ 1 000 000, bringing the penalties into line with current practices under other Canadian regulatory statutes

The Nuclear Safety and Control Act will not be proclaimed into force until a series of regulations have been made which will set out the detailed requirements that are to apply to various nuclear activities Given the length of time it will take to carry out consultations with both industry and the public in the course of the regulation-making process, it is expected that these regulations will not be made, and thus the Act will not come into force until some time in 1998

The complete text of the Act is published in the Supplement of the present *Bulletin*

People's Republic of China

Regulations on Nuclear Trade

Regulation for the Control of Nuclear Exports (1997)

Regulation No 230 was enacted on 1 August 1997, in order to strengthen the control of nuclear exports For the purposes of the Regulation, the term "nuclear exports" means exports of nuclear material, nuclear equipment, non-nuclear material for nuclear power plants and related nuclear technology

This Regulation clarifies that nuclear exports should only be for peaceful uses and that the country which has imported equipment, material and technology related to nuclear energy from China should not transfer it to other countries without the approval of the Chinese Government It also states that China will not co-operate in the nuclear field with countries that do not accept IAEA safeguards

In support of these principles the Regulation sets down strict administrative procedures to be observed in respect of nuclear exports

Chinese Taipei

Third Party Liability

Revision of the Law on Compensation for Nuclear Damage (1997)

The 1971 Law on Compensation for Nuclear Damage was amended on 14 May 1997 This is the first revision to the legislation since 1977, and four major changes were made

First, the ceiling for the liability of operators of nuclear installations was raised from NT$ (New Taiwan $) 0 21 billion to NT$ 4.2 billion (approximately US$155 million)

Secondly, the definition of "nuclear damage" was amended so that for the purposes of the Law it means only loss of life, personal injury or damage to property which arises out of or results from the radioactive, toxic, explosive or other hazardous properties of nuclear fuel or radioactive products or waste in, or of nuclear material coming from or sent to, a nuclear installation

The third major change to the legislation requires the operator of a nuclear installation to show proof of insurance or financial security as a condition for operating an installation or the transport of nuclear material

Finally, provision is made for the role of the investigative committee which is to be established by the Atomic Energy Commission after a nuclear incident occurs

Czech Republic

General Legislation

Decrees Implementing the Atomic Act (1997)

The Atomic Act of 24 January 1997 entered into force on 1 July 1997 It abrogates a series of Czech legislative enactments in the nuclear field and provides for the adoption of seventeen new Decrees (See *Nuclear Law Bulletin* No 59) The text of the Atomic Act will be published in the Supplement to the next *Nuclear Law Bulletin*

At the present time, of the seventeen Decrees, ten have been adopted and seven are in the course of preparation The Decrees made by the State Office for Nuclear Safety which have already been adopted are as follows

- Decree on nuclear safety and radiation protection during the siting of nuclear facilities and workplaces using very significant ionising radiation sources,
- Decree on accounting and control of nuclear materials,
- Decree on quality assurance for activities connected with the utilisation of nuclear energy or involving exposure to radiation,
- Decree on conditions for radiation protection,
- Decree on radiological emergencies and on emergency plans,
- Decree on the transportation of nuclear materials and radioactive sources,
- Decree on packaging requirements for the transportation and storage of nuclear materials, radioactive sources and other products,
- Decree on the physical protection of nuclear materials and nuclear facilities,
- Decree on the professional qualifications of workers in the matter of nuclear safety and radiation protection, and
- Decree laying down the list of dual-use and other items in the nuclear field

The ten Decrees appear in the *Collection of the Czech Laws,* Nos 50, 51, 52, 60, 75 and 76

Estonia

Radiation Protection

Radiation Act (1997)

The Radiation Act was passed by the Estonian Parliament on 23 April 1997 and promulgated by the President on 8 May 1997 It is the principal legal instrument in the field of radiation protection for workers, the public and the environment The Act is based on the concepts, principles, terminology and dose limits stipulated in the Basic Safety Standards or BSS (IAEA Safety Series No 115-1) and the EC Directive 96/29/Euratom

The Radiation Act defines the institutional framework for, and establishes the rules applicable to the use of ionising radiation, the detention of radiation sources, the transport of radioactive materials radioactive waste disposal and other activities which cause or may cause harm to health or to the environment It also contains some general provisions on radioactive waste management, import and export of such wastes and the prohibition against importing radioactive waste for disposal purposes It should be noted, however, that this Act deals solely with radiation protection, all other nuclear activities are to be covered by other specific laws

The Act provides for a system of licensing covering all activities using ionising radiation, subject however, to certain exemptions which meet the criteria set out in Section 6 of the Act Section 7 of the Act provides that the Minister for the Environment shall establish by ordinance the procedure for the issuance of radiation activity licences That Section also authorises the Estonian Radiation Protection Centre (ERPC) to issue the licences, and requires the licences to specify

- the measures guaranteeing radiation safety at the site and in the vicinity of the activity
- the required marking of radiation sources and the premises housing them,
- the conditions for excluding access to radiation sources by unauthorised personnel,
- workplace radiation level monitoring and the signal system for special danger
- measures for the security of dangerous radiation areas by means of radiation protection devices and meters,
- organisation of medical check-ups within the workplace, and
- the necessity for intervention plans in the event of an emergency

The ERPC is empowered under the Act to inspect sources of radiation exposure and to register dose and source data It is generally responsible for enforcing the provisions of the Act, although the details of the medical checks for radiation workers are governed by rules established by the Minister for Social Affairs

Chapter 3 of the Radiation Act contains detailed provisions on dose limits for the following categories of exposure to ionising radiation

- occupational exposure,
- natural environmental exposure (from cosmic radiation or from natural radioactive sources, such as exposure in caves, mines and subterranean facilities or by high-flying aircraft crews),
- residential exposure,
- medical exposure, and
- exposure caused by emergencies

The Act provides that Government and nominated Ministers be empowered to enact implementing regulations on exemption levels, requirements to ensure observance of the stipulated dose limits, qualification procedures for radiation workers, medical checks of radiation workers, medical applications of ionising radiation, packaging and safety procedures for radiation sources and rules for handling radioactive waste

Finally, Chapter 6 contains provisions for enforcement and penalties Section 35, which sets forth the penalties for violations, states that the applicable procedures for the imposition and execution of penalties are those provided by the Administrative Offences Code and the Code of Execution Procedure

France

Organisation and Structure

Decree on the Powers of the Minister for Economic Affairs, Finance and Industry (1997)

Decree No 97-710 of 11 June 1997 lays out the powers of the Minister for Economic Affairs, Finance and Industry in the field of nuclear energy This text provides that the Minister is responsible for the definition and implementation of the energy and resources policy He is also, in conjunction with the Minister for the Environment, in charge of the development and implementation of nuclear safety policy, including the transport of radioactive and fissile materials for non-military purposes As a result of this joint power, they each have authority over the Directorate for the Safety of Nuclear Installations (DSIN)

Furthermore, the Decree specifies, by a cross-reference to Decree No 93-1272 of 1 December 1993 on the organisation of the central administration of the Ministry for Industry, that the General Directorate for Energy and Natural Resources (DGEMP) continues its role as supervisory authority of the Atomic Energy Commission (CEA) and the *COGEMA* (see *Nuclear Law Bulletin* No 53)

Radiation Protection

Orders on Training Doctors in Charge of the Medical Supervision of Outside Workers (1997)

Two Orders of 28 May 1997 concerning in-house doctors in charge of the medical supervision of "outside" (contract) personnel were adopted and published in the Official Gazette of the French Republic of 1 June 1997 (See *Nuclear Law Bulletin* No 59)

The first Order deals with the content of the specialised training for in-house doctors in charge of the medical supervision of outside personnel working in basic nuclear installations The supplementary training, which is compulsory for these doctors, must include the subjects listed in the annex to this Order This specialised training is provided by a body which is registered to provide in-house training The various bodies which wish to provide such training should apply to the Regional Directorate for Labour, Employment and Vocational Training for authorisation

The second Order governs the authorisation of workplace medical services in charge of the medical supervision of outside personnel working in basic nuclear installations It provides a list of elements which are to be included in the request for authorisation to provide workplace medical services of this nature Each time this authorisation needs to be renewed, the request for renewal must contain a certificate of completion of in-house training, in accordance with the terms of the preceding Order of 28 May 1997 on the content of the specific training

Radioactive Waste Management

Circular on the Administrative Procedure for Sites Polluted by Radioactive Materials (1997)

The Ministers for the Environment, for Industry and for Health issued a Circular addressed to the Prefects on 16 May 1997, in order to define the procedure to follow for sites polluted by radioactive materials The Circular describes the steps which should be taken by the administrative authorities either to compel the persons responsible to put an end to the pollution, or to proceed themselves with the necessary measures where the persons responsible are insolvent or cannot be identified

The main bodies involved in carrying out these measures are the Prefects, the Board for Protection against Ionising Radiation and the National Radioactive Waste Management Agency

Germany

Radiation Protection

Amendment of the Radiation Protection Ordinance (1997)

The Radiation Protection Ordinance of 30 June 1989, as last amended by the Ordinance of 25 July 1996 (see *Nuclear Law Bulletin* No 59), has been amended by the Fourth Ordinance to Amend the Radiation Protection Ordinance of 18 August 1997 (*BGBl* 1997 I, p 2113) The amendment aims to implement the Council Directive 89/618/EURATOM of 27 November 1989 on information to the general public in the event of a radiological emergency The amendment modifies Sections 31, 38, 87 and 88 of the Radiation Protection Ordinance and adds a new Annex XII to it

Protection of Women during Pregnancy and Maternity (1997)

The general Act to Protect Working Female Persons during Pregnancy and Maternity (*Mutterschutzgesetz*) of 18 April 1968, as last amended in 1996, was published in a consolidated version in *BGBl* 1997 I, p 22, 1997 I, p 293 (corrigendum) The Act, *inter alia*, prohibits the employment of women during pregnancy in dangerous areas involving exposure to radiation

An additional measure aimed at protecting mothers is the Mother Protection Directive Ordinance of 15 April 1997 which implements Council Directive 92/85/EC of 19 October 1992 to improve the protection of women during pregnancy and maternity

Transport of Radioactive Materials

Amendment of the Dangerous Goods Exception Ordinance (1997)

The Dangerous Goods Exception Ordinance of 23 June 1993, as last amended in 1996 (see *Nuclear Law Bulletin* No 59), has again been amended by the Fourth Ordinance to Amend the Dangerous Goods Exception Ordinance of 22 June 1997 (*BGBl* 1997 I, p 1509) The Ordinance, according to its revised Section 1, para 1, applies to all kinds of transport of dangerous goods and lists in a comprehensive annex the respective exceptions from the regime of dangerous goods transportation (annex volume to *BGBl* I, No 41 of 27 June 1997)

Ordinance on the Transport of Dangerous Goods by Road and in Enterprises (1997)

By the Ordinance of 27 May 1997 on the Control of Transport of Dangerous Goods by Road and in Enterprises (*BGBl* 1997 I, p 1306), Council Directive 95/50/EC of 6 October 1995, on uniform procedures for checks on the transport of dangerous goods by road, has been implemented at domestic level

Regulations on Nuclear Trade

Amendments of the Foreign Trade Ordinance (1996 and 1997)

The 39th Ordinance to Amend the Foreign Trade Ordinance of 22 November 1993, as last amended in 1995, changes Section 70 of the Ordinance (*Bundesanzeiger* 1997 p 6721) The amendment is consequential to EC Council Regulation No 2271/96/EC which protects against the effects of the extraterritorial application of legislation adopted by a third country, and actions based thereon or resulting therefrom

The "Export List" in Annex AL to the Foreign Trade Ordinance (see *Nuclear Law Bulletin* Nos 57, 59) has been amended by the 91st and 92nd Ordinances to Amend the Export List of 18 December 1996 and 18 April 1997 respectively (*Bundesanzeiger* 1997 pp 1545 and 5393) The "Import List" (see *Nuclear Law Bulletins* Nos 56 and 57) has been revised by the 134th and 135th Ordinances to Amend the Import List – Annex to the Foreign Trade Ordinance of 20 March 1997 and 3 July 1997 respectively (*Bundesanzeiger* 1997 p 4601, 9033)

Hungary

General Legislation

Implementing Regulations under the 1996 Atomic Energy Act (1997)

On 10 December 1996 the Hungarian Parliament adopted the new Atomic Energy Act No CXVI, which replaced the Atomic Energy Act of 1980 (see *Nuclear Law Bulletin* No 59) Many of the details of the regulatory scheme were left to be provided for in implementing regulations A number of these have now been issued They are as follows

- Decree on the Duties and Scope of Authority of the Hungarian Atomic Energy Commission (HAEC) and on the Scope of Duty and Authority, and Jurisdiction for Imposing Penalties of the Hungarian Atomic Energy Authority (HAEA) This took effect as of 1 June 1997 (Decree No 87/1997(V 28)Korm *) and defines in detail the statutes of the HAEC and HAEA

- Decree on the Procedures of the HAEA in Nuclear Safety Regulatory Matters, which defines the responsibilities of the Nuclear Safety Directorate of the HAEA (Decree No 108/1997(VI 25)Korm)

- Decree under which the Department of Nuclear and Radioactive Materials of the HAEA is made responsible for the Central Registry of radioactive material (Decree No 25/1997(VI 18)Korm) Similarly, under Government Decree No 39/1997 that Department of the HAEA is responsible for the State System of Accountancy and Control of nuclear material (Decree No 39/1997(VII 1)Korm)

- Decree requiring the prior approval of the Department of Nuclear and Radioactive Materials of the HAEA in the general licensing procedure for internationally controlled goods and technologies carried out by the Export Control Office of the Ministry of Industry and Trade (Decree No 121/1997(VII 17)Korm) This is to ensure compliance with Hungary s international obligations as a party to the Treaty on the Prevention of the Proliferation of Nuclear Weapons

In addition, there have been a number of Ordinances issued recently by the responsible Ministers Ordinance No 13 of 3 September 1997 of the Minister of Transport, Communication and Water Management contains the rules for the safe transport by rail of spent nuclear fuel (13/1997(IX 3)KHVM), and Ordinance No 14 of 3 September 1997 of the same Minister specifies the conditions applicable to all modes of transport of radioactive substances (14/1997(IX 3)KHVM) An Ordinance of the Minister for Internal Affairs (47/1997(VIII 26)BM) provides for tasks of the Police in connection with the application of atomic energy

The implementation of the new Act through regulations issued under Decrees and Ordinances is continuing, and further regulations are presently under preparation Until these new regulations are issued the regulations under the 1980 Atomic Energy Act continue to apply The text of the new Act is reproduced in the Supplement to this edition of the Bulletin

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* In Hungarian "Korm " is the abbreviation for 'Government

Italy

Radiation Protection

Decrees Relating to Medical Applications of Ionising Radiation (1997)

On 21 February 1997, the Minister for Health made three Decrees relating to the training of medical staff in the field of radiodiagnosis They complete the series of implementing decrees required by Decree No 230/95, relating to the protection of workers and the public against ionising radiation (See *Nuclear Law Bulletin* Nos 56 and 59)

The three new Decrees deal with the following issues

- directives for the acquisition and verification of knowledge relating to radioprotection, by medical staff responsible for radiodiagnosis, radiotherapy and nuclear medicine (including orthodontics),

- professional qualifications required for the practice of radiodiagnosis, radiotherapy and nuclear medicine, and

- methods for the acquisition of sufficient knowledge in relation to radiodiagnosis in the context of obtaining university degrees in the fields of medicine, surgery and orthodontics (including courses for specialisation)

These Decrees were published in the Italian Official Journal of 29 March 1997

Japan

Environmental Protection

The Environmental Impact Law (1997)

The Environmental Impact Law No 81/1997 was enacted on 9 June 1997 It established a general procedure for an environmental impact assessment of large scale projects which could have a significant impact on the environment Until this legislation was enacted, the environmental assessment rules which were adopted in 1984 applied as informal administrative rules These rules are now made more stringent and legally binding as a result of the new Law

The Law requires mandatory environmental impact assessments for 13 types of projects, including the construction of power plants The Ministry of International Trade and Industry (MITI), which oversees the construction of power plants, requested that it be excluded from the scope of the Law It argued that the construction of power plants is tied very closely to the national energy policy and should be regulated by its own rules A compromise was achieved by the addition of a special provision which gives MITI an opportunity to express its opinion during the process of making the environmental impact assessment

Lithuania

General Legislation

Law on Nuclear Energy (1996)

The Law on Nuclear Energy was adopted on 14 November 1996 and entered into force on 1 January 1997 A brief description of the legislation was given in the previous edition of the *Bulletin* (See *Nuclear Law Bulletin* No 59) The text of the Law is reproduced in the Supplement to this edition of the Bulletin

Luxembourg

Radiation Protection

Regulations on Protection of the Public Against Radiation (1996)

The Grand-Ducal Regulations of 22 February 1996 amend and supplement the Regulations of 29 October 1990 on protection of the public against the hazards of ionising radiation, as amended in 1994 (see *Nuclear Law Bulletin* Nos 48 and 55) This revision affects Chapters 6 and 12 of the 1990 Regulations as amended

As regards Chapter 6, the new provisions stipulate that the National Dosimetry Service, which is attached to the Radiation Protection Division of the Health Directorate, manages the information database containing particulars concerning the identity of the worker Also a personal radiation control document is to be issued to each cross-border outside worker

Chapter 12, which deals with operational protection of outside workers, provides that the outside contractor shall notify the head of a restricted area facility of the address, medical details date of last medical examination and results of individual radiation monitoring of the outside worker The head of the restricted area facility which operates with outside personnel is required, after each operation to ensure the transfer of the individual's dosimeter and any other information regarding exposure of the outside worker to the National Dosimetry Service

Mexico

Radiation Protection

Decree Amending the General Health Law (1997)

A Decree of 15 April 1997 amending the General Health Law was published in the *Diario Oficial* on 7 May 1997 (See *Nuclear Law Bulletin* Nos 42 and 49) The Decree deals with several amendments to the provisions of the Law governing the use of toxic and dangerous medications In particular, Section 125 of the Law now provides that in the case of radioactive sources for medical or diagnostic use, the Ministry of Health will issue the necessary licences in co-ordination with the

National Commission of Nuclear Security and Safeguards (CNSNS) The amendments also cover other more general matters

The Decree entered into force 60 days after the date of its publication

Poland

General Legislation

Amendments to the 1986 Atomic Energy Act (1994-1996)

A number of amendments have been made over recent years to the Atomic Energy Act of 10 April 1986 ("the Act"), which governs all nuclear activities in Poland An amendment to the Act was passed by Parliament on 24 June 1994 (Law Gazette No 90, Item 418), which added a new Section 13a to the Act This new section provides for the possibility of obtaining assistance from the State budget for any expenditure required in the interests of the safe use of nuclear energy The Council of Ministers is authorised to define by way of decree the types and scope of activities eligible, as well as detailed rules and procedures for financing them The decree implementing this amendment was issued on 6 December 1994 (Law Gazette No 161, Item 661)

The same amending Act also introduced new Sections 27(a) and 27(b) into the principal legislation Those provisions relate to the establishment of a National Radioactive Waste Repository by way of ordinance of the President of the National Atomic Energy Agency (NAEA) The Repository is for the final storage of radioactive waste from Poland The local administration unit on whose territory the National Radioactive Waste Repository is located is entitled to an annual payment, paid from the budget of the National Atomic Energy Agency The new provisions provide a formula for the calculation of the annual payment The Ordinance implementing Sections 27(a) was issued by the President of the NAEA on 2 September 1994

In 1995, two important amendments were made to the Act by an amending Parliamentary Act of 21 July 1995 (Law Gazette No 104, Item 515) The first amendment provides for harsher penalties for failure to comply with the rules established for nuclear safety and radiation protection Under section 62, as amended, any person who, without the necessary licence, manufactures, converts, trades, transports, possesses or uses nuclear materials, sources of ionising radiation or radioactive wastes, or abandons them, shall be liable to a prison sentence of between one and ten years The second amendment adds a new paragraph to Section 4 of the Act, under which the President of the NAEA may determine those cases in which activities involving the use of ionising radiation sources will not require licences

The Act was changed twice during 1996 On 2 February 1996 (Law Gazette No 24, Item 110) Section 10 of the Act was deleted and Section 9(1) was modified Section 9(1) was modified to permit workers, in the case of accidents, to refuse to obey an order requiring them to participate in tasks which could cause them to receive more than the permitted dose of radiation under that section Section 10, which was deleted, previously provided that, in determining allowed radiological doses, there was no upper limit set for the highest dose for volunteers in actions directed against a radiological accident The Act no longer permits such exposure and is in line with international standards The second piece of amending legislation was passed on 8 August 1996 (Law Gazette

No 106, Item 496), when Section 63 was amended to empower the Minister for Defence, the Minister for the Interior and Administration, the Office for National Security and certain other officials, in agreement with the President of the NAEA, to determine the principles and rules for applying the Act to enterprises and institutes under their control which are engaged in the use of atomic energy

Organisation and Structure

Reorganisation of the Radiation and Nuclear Safety Inspectorate Function (1996)

Pursuant to Ordinance No 3 of 4 July 1996 of the President of the National Atomic Energy Agency (NAEA), the former Nuclear Inspectorate for Radiation and Nuclear Safety was abolished and its functions and employees transferred to the NAEA as two new Departments of the Agency These two departments are, respectively, the Department of Radiation and Nuclear Safety (which was formed in combination with the previous Department of Radiation Protection and Civil Defence), and the Department of Control of Applications of Ionising Radiation Sources The Ordinance giving rise to this transfer of the inspectorate function into the NAEA came into force on 1 January 1997

Russian Federation

General Legislation

New Regulations on Nuclear and Radiation Safety (1997)

During the past six months a significant number of new regulations were adopted by the Government of the Russian Federation in relation to the Federal Law on the utilisation of nuclear energy (See *Nuclear Law Bulletin* Nos 57 and 58) They are largely, but not exclusively, directed towards enhancing safety in the utilisation of atomic energy They are as follows

1 The Regulation of 1 March 1997, No 233, on the list of medical counter indicators and their functions, and the conduct of medical assessments and psychophysiological examinations of employees who work at facilities which utilise atomic energy This Regulation confirmed the list of medical counter indicators, their functions and corresponding conditions for medical examinations

2 The Regulation of 3 March 1997, No 240, on confirmation of the list of employees who work at facilities utilising atomic energy, who must receive approval from the Federal Supervisory Authority of Russia on nuclear and radiological safety (Gosatomnadzor) The list of employees is annexed to the Regulation

3 The Regulation of 7 March 1997, No 264, on confirmation of the Rules for the physical protection of nuclear materials, nuclear facilities and sites for the preservation of nuclear materials

4 The Regulation of 12 March 1997, No 289, on the definition of territories adjacent to dangerous radiological and nuclear installations and facilities, on the formation and utilisation of centralised resources for financing measures for the protection of the public residing in such territories, and on financing the development of a social infrastructure for

these territories in accordance with the Federal Law on financing of particular dangerous radiological and nuclear installations and facilities (See *Nuclear Law Bulletin* No 59)

5 The Regulation of 14 March 1997, No 306, confirmed the Rules for the adoption of decisions on the siting and construction of nuclear installations and facilities using sources of radiation

6 The Regulation of 5 April 1997, No 392, confirmed the Statute of the Ministry of Atomic Energy as regards the management of the utilisation of atomic energy

7 The Regulation of 16 June 1997, No 718, on the procedure for the establishment of a unified system of State audit and accounting for individual exposures to doses of radiation

8 The Regulation of 20 June 1997, No 761, on the confirmation of Rules for the formation, operation and financing of regional emergency divisions of operating organisations, to deal with accidents occurring during the transport of nuclear materials or radioactive substances

9 The Regulation of 14 July 1997, No 865, on the confirmation of the Statute on the licensing of activities in the domain of atomic energy utilisation The List of activities in the domain of atomic energy utilisation and their licensing by the Gosatomnadzor were confirmed

10 The Regulation of 15 August 1997, No 1039, confirmed the Rules requiring notification of both national executive bodies and local administrative agencies of the launch of a cosmic installation bearing nuclear energy sources, and the provision of assistance to the public in case of an accidental early return of such installation to Earth

Slovakia

General Legislation

Draft Law on the Peaceful Use of Nuclear Energy (1997)

A draft Law on the Peaceful Use of Nuclear Energy is currently in the process of passage through the legislative system and is expected to be adopted towards the end of 1997 It will replace Act No 28/1984 on State Supervision of the Safety of Nuclear Installations, which was adopted prior to the independence of the Slovak Republic, and which governs the construction and operation of nuclear installations as well as the related licensing system The draft Law substantially revises this regime, aiming to improve the following areas licensing, safeguards, disposal of waste, quality assurance, emergency planning, security of nuclear installations, decommissioning, safety reviews and liability for nuclear damage The scheme also aims to provide a clear distinction in the responsibilities of various ministries and to reflect the country's obligations under international agreements

Three regulations are to come into force at the same time as the Law These cover

- emergency planning in the case of an accident at a nuclear installation or during the transportation of nuclear materials or radioactive waste,

- a list of specific materials and equipment (in relation to non-proliferation) and

- conditions for the transportation of nuclear material and radioactive waste

Further matters addressed in the draft Act are the inclusion of the Vienna Convention on Civil Liability for Nuclear Damage, provisions for financing the management of radioactive waste with an unknown owner (to be financed by the State fund for decommissioning) and a number of clarifications to bring the draft Law into conformity with EU legislation

A further seven decrees and regulations in support of the draft Law will be submitted for Government approval later in 1998 These will update existing decrees and regulations and impose detailed administrative and technical requirements in relation to the design, construction, operation decommissioning and physical protection of nuclear installations, quality assurance nuclear material safeguards and training of personnel

Complimentary to the draft legislation are the following two pieces of legislation which have already entered into force

- Act No 290/1996 on Safety and Health of the Population, which covers radiation protection and

- Act No 254/1994 and Decree No 14/1995 to establish a State Fund for decommissioning of nuclear power plants and the management of spent fuel and radioactive waste

Switzerland

Regime of Nuclear Installations

Modification of the Ordinance on Definitions and Licensing in the Atomic Field (1997)

On 10 September 1997, the Swiss Federal Council modified the 1978 Ordinance on definitions and licences in the field of atomic energy (See *Nuclear Law Bulletin* Nos 22 and 24) The present modification entered into force on 1 October 1997 This modification provides for a new division of powers between Federal bodies which grant licences

In the area of imports, exports and transit of nuclear fuel and radioactive waste, the Federal Energy Office is the body competent to grant licences In matters involving nuclear reactors and other installations, equipment and materials connected therewith, as well as nuclear technology it is the Federal Office of External Economic Affairs which is the body empowered to grant licences This Office must nevertheless obtain the prior agreement of the Federal Energy Office

This Ordinance also states that particularly important requests in the political or economic spheres are subject to a joint decision of the political directorate of the Federal Department of Foreign Affairs Federal Department of External Economic Affairs, and the Federal Energy Office If no agreement is reached the matter is referred to the Federal Council

Tunisia

Transport of Radioactive Materials

Law on the Transport of Dangerous Substances by Road (1997)

Law No 97-37 of 2 June 1997 governs the transport of dangerous substances by road, and includes within its terms the transport of radioactive materials The Law lays down general principles in this field, and refers to implementing decrees for more technical provisions First, it provides that the responsible authorities are the Minister for the Interior, the Minister for Transport, the Minister of Supply, the Minister for the Environment and the Minister for Vocational Training It then describes the conditions for the transport of dangerous substances (nature of the substances being transported, packaging, labelling, loading, unloading, equipment and fitting of vehicles and conditions relating to the movement of such materials) Finally, the Law lays down the duties which the sender and the transporter of the materials must fulfill This Law was published in the *Official Journal of the Republic of Tunisia* on 6 June 1997, and will enter into force on 1 January 1998

Ukraine

Organisation and Structure

Creation of the Chernobyl Centre for Nuclear Safety, Radioactive Waste and Radioecological Research (1996)

By Decree of 26 April 1996, the President of Ukraine created the Chernobyl Centre for Nuclear Safety, Radioactive Waste and Radioecological Research The Charter of this Centre was approved by the Cabinet of Ministers of Ukraine by Resolution No 1177 of 28 September 1996

The mandate of the Centre is to promote international research in the nuclear domain in order to optimise the effective use of international assistance rendered to Ukraine in the wake of the Chernobyl accident in 1986, to facilitate the gathering and transfer of information, technology and experience on an international level and to provide a forum for scientific knowledge relating to the causes and consequences of the Chernobyl disaster

The main areas of study of the Centre are decontamination and decommissioning of nuclear facilities, radioactive waste and spent fuel management, rehabilitation for environmentally contaminated areas, mitigation of the ecological and radiological consequences of the Chernobyl accident, research in the medical, biological and radiological fields, safety assessment and improvement at nuclear facilities, and emergency and mitigation measures

Main tasks of the Centre include the co-ordination and promotion of international scientific assistance and resources, in both financial and material form, and the necessary identification of priority needs which ensues It is also responsible for the promotion of links between different countries with a view to joint research and development, and it facilitates the use of the Chernobyl exclusion zone by the international scientific community It encourages the development of adequate scientific support to the nuclear safety regime in Ukraine and also of an information system to deal with nuclear and radioecological safety The main aim of the Centre therefore is to co-ordinate and

promote international research and development in this area, with a view ultimately to facilitating its use and application

The Centre is presided over by a Co-ordinating Director designated by the President of Ukraine Its activities are overseen by a Supervisory Board whose membership is approved by the Cabinet of Ministers and which includes representatives of the Ministry of Environmental Protection and Nuclear Safety, Ministry of Emergency Situations, the Ministry of Science and Technology, the State Committee for Nuclear Energy Utilisation and the National Academy of Sciences Rules for this Supervisory Board were approved by the Cabinet Ministers in Resolution No 36 of 20 January 1997

INTERNATIONAL REGULATORY ACTIVITIES

International Atomic Energy Agency

Resolutions Adopted by the IAEA General Conference (1997)

The 41st Session of the IAEA General Conference was held in Vienna from 29 September to 3 October 1997 with delegations from 106 Member States and representatives of various international organisations in attendance Resolutions were adopted in the following areas

Strengthening the IAEA's Safeguards System

This Resolution refers to the importance of further strengthening the safeguards system, and requests that all States having IAEA safeguards agreements should accept the additional measures provided for in the Model Protocol of May 1997, which strengthen the IAEA's capability to verify the exclusively peaceful nature of States' nuclear programmes

Strengthening the IAEA Technical Co-operation Activities

This Resolution addresses the issue of the Agency's programmes for the improvement of the scientific and technological capabilities of developing countries, including both the peaceful applications of nuclear methods and techniques and the production of electricity It emphasises that these programmes should contribute to achieving sustainable development in these countries

Nuclear Inspections in Iraq

The General Conference called upon Iraq to co-operate with the IAEA's Action Team in its mission for full disclosure of nuclear-weapon-related equipment, material and information It stressed Iraq's obligation to disclose any information which it might be withholding from the Agency, and to allow the Action Team immediate, unconditional and unrestricted rights of access, in accordance with United Nations Security Council Resolution 707 The Conference reiterated the right of the Agency to investigate further any aspects of Iraq's past nuclear weapons capability, in particular as regards any further relevant information that Iraq may still be withholding from the Agency

Safeguards in the Democratic People's Republic of Korea (DPRK)

This Resolution expresses the General Conference's concern over the DPRK's continuing non-compliance with its IAEA safeguards agreement It calls upon the DPRK to comply fully with it, and to take all steps the Agency may deem necessary to preserve all information relevant to verifying the accuracy and completeness of the DPRK's initial report on the inventory of nuclear material subject to safeguards until the DPRK comes into full compliance with the agreement

Safeguards in the Middle East

The purpose of this Resolution was to request the Agency to continue consultations with the States in the Middle East in order to facilitate the early application of full-scope IAEA safeguards to all nuclear activities in the region as relevant to the preparation of model agreements and as a necessary step towards the establishment of a nuclear-weapon-free zone (NWFZ) in the region

Illicit trafficking in Nuclear Materials

In this Resolution, the Conference commended the Agency's activities in the fields of prevention, response, training and information exchange in support of efforts against illicit trafficking in nuclear materials, and supported continuing work in this area over the coming year

Nuclear, Radiation and Waste Safety

The Conference adopted several Resolutions to strengthen international co-operation in these fields One Resolution, "On the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management", appeals to all States to sign and subsequently ratify accept or approve it, so that it may enter into force as soon as possible A second Resolution encourages all States to sign and accede to the "Convention on Nuclear Safety" In a third Resolution "On the Safety of Transport of Radioactive Materials", the IAEA is requested to prepare for its Board of Governors a report on legally binding and non-binding international instruments and regulations concerning the safe transport of radioactive materials and their implementation A fourth resolution on international co-operation in nuclear, radiation and waste safety indicates its support for the Shelter Implementation Plan for the Chernobyl Sarcopagus

European Union

The 97/43/EURATOM Directive on Health Protection of Individuals Against the Dangers of Ionising Radiation in Relation to Medical Exposures*

Introduction

The Council of the European Union adopted on 30 June 1997 Directive 97/43/EURATOM on health protection of individuals against the dangers of ionising radiation in relation to medical exposures This Directive replaces Directive 84/466/Euratom

The use of ionising radiation has led to considerable medical advances in terms of diagnosis therapy and prevention Since the end of the last century and the introduction of X-rays for diagnostic purposes – the earliest application of ionising radiation in medicine – increasing use of radiology and the expansion of applications of ionising radiation have meant that medical exposure constitutes the principal source of exposure to artificial ionising radiation sources for citizens of the European Union People in industrialised countries are currently subjected to an average of one X-ray or nuclear medicine examination per year

* This note was kindly prepared by Jean-Michel Courades and Diederik Teunen of the Radiation Protection Unit Directorate General Environment Nuclear Safety and Civil Protection European Commission

In 1984, the Council adopted Directive 84/466/EURATOM laying down basic measures for the radiation protection of persons undergoing medical examination or treatment[1] The Council thereby acknowledged that medical practices utilising ionising radiation were developing rapidly and that they were, from a radiation protection point of view, of regulatory concern The 1984 Directive laid down basic measures with the objective of improving the radiation protection of patients without jeopardising the benefits, whether early recognition, diagnosis or therapy

Recent and important developments in radiation protection in general are the basis of the 1990 Recommendations of the International Commission on Radiological Protection (ICRP)[2] and of the International Basic Safety Standards for Protection Against Ionising Radiation and for the Safety of Radiation Sources, sponsored by six international organisations[3], issued in December 1994 These two documents also deal with radiation protection in the field of medical exposures However, the subject is not addressed specifically within Council Directive 96/29/EURATOM[4] of 13 May 1996 laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation According to this Directive, derogations from the dose limits for the public already applied to patients have been extended to new categories of individuals individuals helping in the support and comfort of patients (other than as part of their occupation) and volunteers participating in medical and biomedical research programmes

The requirements of the 1984 Directive needed to be reformulated to take account of these developments, and to ensure consistency with current opinion in the field of radiation protection in relation to medical exposures

Important Modifications Introduced

Whilst reaffirming the validity of the objectives pursued under the 1984 Directive, the 1997 Directive introduces the following main amendments and clarifications

- to define more clearly the scope of the Directive regarding the exposure of individuals as part of medico-legal, insurance or legal procedures, and to enlarge the Directive's scope to include volunteers in research and individuals helping in the support and comfort of patients,

- to strengthen the provisions regarding application of the principles of "justification" and "optimisation" in the field of medical exposures,

- to ensure that, in addition to the requirement that ionising radiation in medical procedures is always used under the responsibility of a practitioner (a requirement already laid down in the 1984 Directive), practical aspects of the medical procedure can be delegated to other individuals entitled to act in this respect,

- to develop quality control requirements for installations and to introduce programmes which guarantee quality, including assessments of the doses received by the patient,

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1 *O J* L 265 of 05 10 1984

2 *Recommendations of the International Commission on Radiological Protection* Publication N° 60 Pergamon Press Oxford and New York (1992)

3 *International Basic Safety Standards for Protection Against Ionizing Radiation and for the Safety of Radiation Sources* Interim Edition Safety Series N° 115 International Atomic Energy Agency Vienna, 1994

4 *O J* L 159 of 29 06 1996

- to introduce additional requirements applicable to paediatric exposures, health screening programmes, practices involving high doses, the exposure of pregnant and breast-feeding women and the exposure of caregivers and volunteers,

- to introduce the concept of potential exposures, and

- to introduce procedures for clinical auditing

Scope

The Directive applies to the following medical exposures

a) the exposure of patients as part of their own medical diagnosis or treatment,

b) the exposure of individuals as part of occupational health surveillance

c) the exposure of individuals as part of health screening programmes,

d) the exposure of healthy individuals or patients voluntarily participating in medical or biomedical, diagnostic or therapeutic, research programmes, and

e) the exposure of individuals as part of medico-legal procedures

The Directive also applies to exposure of individuals knowingly and willingly helping (other than as part of their occupation) in the support and comfort of individuals undergoing medical exposure

The protection of workers exposed to ionising radiation, including medical and paramedical staff and of members of the public is not affected by the Directive on medical exposures and is ensured by the 1996 Basic Safety Standards Directive mentioned above Health and safety requirements regarding the design, manufacture and marketing of medical devices, including radiation protection aspects, are covered by Council Directive 93/42/EEC of 14 June 1993 concerning medical devices

Objectives of the Directive

The Directive has two major objectives

1 to aim at optimum diagnostic efficacy at a reasonable dose for the patient and

2 to reduce the number of unnecessary and inappropriate exposures

These objectives are pursued by four main types of provisions

i) provisions relating to the duties, responsibilities and qualifications of the staff of medical facilities,

ii) provisions relating to equipment,

iii) provisions relating to procedural requirements, and

iv) provisions relating to special practices

Articles 3 and 4 of the Directive specify two basic principles of radiation protection for medical exposures justification and optimisation

The principles of "macro-justification" related to medical practice and "micro-justification" related to individual exposure were already present in the 1984 Directive New elements regarding justification of a medical exposure are that

a) existing types of practices involving medical exposure may be reviewed whenever new, important evidence about their efficacy or consequences is acquired, and

b) if a type of practice involving a medical exposure is not justified in general, a specific individual exposure of this type could be justified in special circumstances, to be evaluated on a case-by-case basis

The prescriber as well as the practitioner are involved in the justification process They shall seek, where practicable, to obtain previous diagnostic information or medical records relevant to the planned exposure and consider these data to avoid unnecessary exposures

The use of diagnostic reference levels, to be promoted by Member States by means of guidance, is offered as a practical tool to implement the optimisation principle according to which all doses shall be kept as low as reasonably achievable This principle does not apply to radiotherapy

The optimisation process further includes the development of quality assurance programmes including quality control and the assessment and evaluation of patient doses by the practitioner

Qualifications and Responsibilities

It is a long established principle in medicine that a medical doctor, dentist or other health professional has a clinical responsibility for the medical act he is performing The same principle applies to medical exposures to ionising radiation

Practical aspects for the procedure or parts of it may be delegated to one or more individuals entitled to act in this respect in a recognised field of specialisation However, it should be stated clearly that the practitioner is responsible for the decision to expose the patient and continues to bear clinical responsibility for the conditions of exposure and the interpretation of the results

All medical staff involved must have had theoretical and practical training in radiation protection and the applied techniques used in radiotherapy, diagnostic radiology or nuclear medicine In addition they must be able to continuously update their knowledge To this end, Member States must ensure that this requirement be enshrined in law, and that curricula for these courses be established and organised for students, with supplementary courses on new techniques for those who are already in practice Diplomas and qualifications must be recognised by the authorities

Equipment

The requirement to avoid unnecessary proliferation of radiological equipment indirectly aims at reducing the number of unjustified exposures

The competent authorities must adopt specific criteria of acceptability in order to indicate when remedial action is necessary including if appropriate, taking the equipment out of service

Acceptance testing is carried out before first use on humans, for equipment in use performance testing is carried out on a regular basis and after any major maintenance procedure quality assurance programmes, including quality control measures and patient dose or administered activity assessments are implemented by the holder of the radiological installation

In direct fluoroscopy, the doses are generally several orders of magnitude higher than those in radiography One of the Directive's provisions requires Member States to prohibit the use of fluoroscopic examinations without the use of image intensification Fluoroscopy without dose rate control shall be limited to exceptional circumstances

New radiodiagnostic equipment shall have a device indicating the quantity of radiation produced with the aim of informing the practitioner of the exposure being given to the patient

Special Practices

Because of the sensitivity of children to ionising radiation, special provisions have been introduced where radiation is used on children or can have an effect on them This means that appropriate radiological equipment, practical techniques and ancillary equipment must be used in this case

In the case of breastfeeding women, in nuclear medicine applications, special attention shall be given to the justification and the optimisation principles It is the full responsibility of the prescriber and practitioner to find out whether or not a woman of childbearing age is pregnant In the case where pregnancy cannot be excluded, special attention shall be given to the justification and the optimisation of the exposure

Appropriate radiological equipment and techniques shall be used for medical exposures which are part of health screening programmes or involve high doses to the patient, such as interventional radiology, computer tomography or radiotherapy

Procedures

Written protocols for every type of standard radiological practice shall be established for each item of equipment with the aim of having a reference document available to all members of the staff

A medical physics expert shall be closely involved in radiotherapeutic practices and available in standardised therapeutical nuclear medicine and diagnostic nuclear medicine

In other areas, the expert in medical physics may give advice, focusing on optimisation and radiation protection aspects

Clinical audits (as parts of the quality assurance programme) are carried out in accordance with national procedures

Appropriate local reviews are undertaken whenever diagnostic reference levels are consistently exceeded In this case, corrective actions are taken where appropriate

Conclusion

The provisions of Directive 97/43/EURATOM extend the scope and considerably strengthen the 1984 Directive, drawing on the experience of implementing the original, as well as on the scientific and technical progress made in the field of radiation protection

This Directive should form the legal basis for an improved system of radiation protection requirements in medical applications of radiation This Directive is to be transposed before 13 May 2000 into regulatory texts in each Member State of the European Union, at which date Directive 84/466/EURATOM will be repealed

Directive on the Assessment of the Effects of Certain Public and Private Projects on the Environment (1997)

On 3 March 1997 the Council of the European Union adopted Directive 97/11/EC which amends Directive 85/337/EC on the assessment of the effects of certain public and private projects on the environment This Directive integrates in particular the commitments made by the Community in relation to the Convention on Environmental Impact Assessment in a Transboundary Context, which it signed on 25 February 1991

With regard to the scope of the Directive, Annexes 1 and 2 provide lists of projects which are subject to compulsory assessment and projects which may be assessed on a case-by-case basis, respectively The original Annex 1 in Directive 85/337/EC provided that nuclear power stations and other nuclear reactors (except research installations for the production and conversion of fissionable and fertile materials, whose maximum power does not exceed 1 kilowatt continuous thermal load) are subject to compulsory assessment Now included in this list are the dismantling or decommissioning of nuclear power stations and other nuclear reactors Also, installations for the reprocessing of irradiated nuclear fuel, which previously were only subject to assessment if the Member States considered that they were likely to have significant effects on the environment (included in Annex 2), are now subject to compulsory assessment (included in Annex 1) Furthermore, Annex 1 now includes installations designed

- for the production or enrichment of nuclear fuel,
- for the processing of irradiated nuclear fuel or high-level waste,
- for the final disposal of irradiated nuclear fuel,
- solely for the final disposal of radioactive waste, and
- solely for the storage (planned for more than 10 years) of irradiated nuclear fuels or radioactive waste in a different site than the production site

Annex 2 provides a list of projects which may be subject to assessment, either on a case-by-case basis or according to thresholds or criteria set by Member States This list includes drilling for the storage of nuclear waste material and installations for the processing and storage of radioactive waste (unless included in Annex 1) The criteria, which were previously left to the discretion of Member States are now determined according to the terms of Annex 3, which includes selection criteria based upon the characteristics of projects, their location and the potential impact upon the environment thereby limiting the Member States' discretion in this area

The Directive also extends the list of information which the developer must submit to the competent authorities The Directive of 1985 provided that the developer must submit a description of the project, a description of the aspects of the environment likely to be affected and the likely significant effects on these aspects, and a description of preventative measures envisaged According to the modification introduced by the Directive of 1997, this information must now include an outline of the main alternatives studied by the developer and an indication of the main reasons for this choice taking into account the environmental effects The previous Directive had provided for the inclusion of such information only "where appropriate" The new Directive also provides for the possibility for the developer to request the competent authority to give an opinion on the information which he must submit for his application for development consent However, the fact that the authority has given such an opinion does not preclude it from subsequently requesting further information Member States may provide that such an opinion is compulsory, regardless of whether the developer so requests

The Directive of 1985 provided that the public should be informed before commencement of the project According to the modification introduced by the Directive of 1997, this information must now be made available to the public within a time limit enabling the public to express its opinion *before the development consent is granted*

In the field of transboundary assessment, under the 1985 Directive the competent Member State was simply obliged to transmit the information on a project likely to have significant effects on the environment in another Member State, at the same time as it made the information available to its own nationals The new text is wider in scope, as it allows the affected State to participate in the impact assessment procedure and also allows its nationals to express an opinion on the project

This Directive was published in the *Official Journal of the European Communities* 14 March 1997, No L 73/5, and will enter into force on 14 March 1999

Council of Europe

Recommendation of the Parliamentary Assembly on the Safety of Nuclear Installations in the Countries of Central and Eastern Europe (1997)

The Parliamentary Assembly of the Council of Europe adopted the above-named Recommendation No 1311 on 28 January 1997 In this Recommendation, the Assembly noted its concern about nuclear safety in potentially dangerous power plants in Central and Eastern European countries After referring to Recommendation No 1209 on nuclear power plants in Central and Eastern Europe, adopted in 1993 (see *Nuclear Law Bulletin* No 51), the Assembly emphasised the fact that the practical arrangements for nuclear energy production are not merely of national concern, but have an essentially international dimension

Accordingly, the Assembly called upon the Committee of Ministers of the Council of Europe to invite the governments of the Member States to step up international co-operation on improving nuclear safety in the countries of Central and Eastern Europe It suggested that this co-operation should, in particular, include the following measures

Promotion of a safety culture increased co-operation between power plant operators in Western Europe and their counterparts in Central and Eastern Europe, including twinnings between plants and training in western centres, transfer of skills by technical assistance and research programmes run by western technical safety organisations

Encourage accession to the Convention on Nuclear Safety. to promote its ratification and implementation by all countries with nuclear power plants

Improved transparency increased international transparency in all areas of nuclear activity, through effective control of plants and a higher level of public awareness with regard to nuclear incidents

Increased assistance technical assistance should give priority to nuclear safety assessments and inspections and also to the restructuring of the energy supply in an environmentally acceptable and sustainable manner The Assembly also suggests that financial assistance be granted to the Nuclear Safety Account of the European Bank for Reconstruction and Development (EBRD) for specific projects and also for public nuclear safety research programmes

Emergency plans. reinforced measures to deal with a possible radiological emergency should be drawn up by both the national authorities and the international organisations concerned

Improved waste management reliable, feasible and acceptable solutions for the management of nuclear waste in the short, long and very long term should be adopted

The Assembly also called on the Committee of Ministers to invite the governments of the Central and Eastern European countries to take the following measures

Improvement of legal framework: particularly with regard to international standards in the fields of nuclear safety and third party liability in the event of nuclear accidents

Independence of safety authorities the setting-up of authorities responsible for monitoring nuclear safety at the national level, with sufficiently broad decision-making powers

Improvement of safety culture· recognising the priority of safety considerations within nuclear plants, organising further training courses for power plant staff, providing medical supervision and appropriate radiological protection, ensuring that new reactors meet IAEA safety standards as a rule

The Assembly calls upon the Committee of Ministers to forward this text to the governments of the states concerned which are not members of the Council of Europe, and also to all international bodies concerned, so that practical action is taken to implement the principles expressed in this Recommendation

BILATERAL AGREEMENTS

Bulgaria – Romania

Agreement on Early Notification of a Nuclear Accident and on the Exchange of Information (1997)

This Agreement, which was signed on 28 May 1997, is subject to ratification and under its terms will enter into force 30 days after exchange of instruments of ratification

In brief, under the Agreement the Parties are required to notify each other immediately in the event of a nuclear accident at their facilities or in connection with carrying out certain activities and to provide information in accordance with Article 5 of the IAEA Convention on Early Notification of a Nuclear Accident of 26 September 1986 The Parties are also required to notify each other without delay if significantly high levels of radiation are recorded on their territories or in their territorial waters when these levels are not caused by facilities or activities in the territory of one of the Parties and could be of significance for the other country in terms of radiological safety

The Parties are also required to transmit to each other information concerning the operating conditions of their nuclear facilities, as well as other technical information relating to these facilities, which may be used in the event of an accident for evaluating the consequences in the country receiving the information and for devising measures necessary for the protection of the population and the environment

Bulgaria – Turkey

Agreement on Early Notification of a Nuclear Accident and on the Exchange of Information (1997)

This Agreement was signed by the respective parties on 28 July 1997 and is almost identical in substance to the Agreement between Bulgaria and Romania described above Like the other Agreement, it is subject to ratification and shall enter into force 30 days after exchange of instruments of ratification

Czech Republic – Ukraine

Agreement for Co-operation in the Field of Nuclear Energy and Nuclear Industry (1997)

The Agreement was signed on 30 June 1997 and entered into force on that date for an initial period of ten years, to be extended for additional periods of two years unless otherwise decided by either Party

It provides for co-operation in relation to the use, development and application of nuclear energy for peaceful purposes and for co-operation with the nuclear industry Such co-operation may include

- the design, construction, commissioning and operation of nuclear power plants nuclear fuel cycle installations and nuclear mechanical engineering facilities,
- maintenance, repair and upgrading of nuclear power plant equipment to extend the operating life of nuclear power plants,
- exchange of databases on reliability of systems and equipment,
- design of reactor core loadings,
- manufacture of nuclear fuel,
- mining and milling of uranium ore,
- nuclear waste management,
- accounting and control of nuclear materials and physical protection of nuclear materials and nuclear facilities,
- radiation protection, nuclear safety and emergency preparedness,
- training of personnel, and
- establishment of joint ventures for manufacturing of equipment and spare parts for nuclear power plants and nuclear fuel cycle

It is provided that nuclear material, equipment and technology subject to the Agreement may not be used to manufacture or otherwise acquire nuclear weapons and other explosive devices This commitment is to be verified in accordance with the safeguards agreements concluded by both Parties with the IAEA under the Non-Proliferation Treaty

The Agreement provides that co-operation between enterprises and organisations will be implemented on the basis of contracts and other agreements made in accordance with this Agreement

Germany – Russian Federation

Agreement on Mutual Assistance in the Event of Catastrophes and Severe Accidents (1992)

This Agreement of 16 December 1992 between the Government of Germany and the Government of the Russian Federation entered into force on 11 July 1995, as provided for in its Article 15 The scope of the Agreement covers all kinds of catastrophes and severe accidents including those which originate from nuclear or radiological activities

United Kingdom – Ukraine

Arrangement for the Exchange of Information on Nuclear Installation Safety Regulation (1997)

This arrangement was signed by the Health and Safety Executive of the United Kingdom and the Ministry for Environmental Protection and Nuclear Safety of Ukraine on 6 February 1997, and came into effect on the same day It aims to encourage the exchange of information between these two countries on the regulation of safety at nuclear installations

Under this arrangement, the parties will exchange safety-related information concerning the nuclear installations for which they are responsible This information concerns the regulation of the siting, construction, commissioning, operation and decommissioning of nuclear installations It includes, in particular, exchanges of legislative and regulatory instruments, technical reports, safety assessments, reports of incidents, information on public reactions to incidents and on remedial actions undertaken

Either party may withhold information if that party considers that the disclosure of the information would be injurious to its public or commercial interests, or the information relates to a matter outside its field of responsibility

This arrangement will continue to have effect for five years and may be extended by mutual decision of the parties It may at any time be terminated by either party by giving at least three months notice in writing to the other

MULTILATERAL AGREEMENTS

Diplomatic Conference Convened to Adopt a Protocol to Amend the Vienna Convention and a Convention on Supplementary Compensation for Nuclear Damage (1997)

A Diplomatic Conference was convened at the headquarters of the IAEA in Vienna from 8 to 12 September 1997 for the purpose of adopting a draft Protocol to amend the 1963 Vienna Convention on Civil Liability for Nuclear Damage and a new draft Convention on Supplementary Compensation for Nuclear Damage The Governments of over eighty States were represented at the Conference and they met during the entire week Late on Friday afternoon, both instruments were adopted in accordance with the Rules of Procedure applicable to the conduct of the Conference

The Conference was opened by Mr David Waller, acting Director General of the IAEA, who, in his opening remarks, emphasised that nuclear liability underscores "the importance of maintaining a level of safety such that events triggering liability will never occur" This was followed by the election of Conference Officers, with Mr Mišák of Slovakia being elected Conference President, Judge Melchior of Denmark being elected Chairman of the Committee of the Whole and Professor Gioia from Italy being elected as Chairman of the Drafting Committee

The Committee of the Whole first considered the draft Protocol to Amend the Vienna Convention and then, later, the draft Convention on Supplementary Compensation for Nuclear Damage Certain

amendments to one or both of these instruments had already been proposed by one or more National Delegations prior to the opening of the Conference, and several other amendments were submitted within the deadlines for same which had been set by the Committee of the Whole In all some 32 amendments were proposed with only ten being adopted during the Conference

Some of the proposals adopted during the Conference attempted to resolve issues upon which a consensus had not truly been reached by the conclusion of the negotiations within the Standing Committee on Nuclear Liability (SCNL), even though no opposition had been taken to the final texts adopted by that Committee This was true, for example, of the proposal to insert a reference to the law of the competent court" into the definition of "reasonable measures" in both instruments which it was believed, would address the concerns expressed by the Delegation of Ukraine concerning its potential liability to victims in neighbouring countries for the cost of preventive measures taken in the event of a grave and imminent threat of nuclear damage

Another proposal adopted during the Conference was designed to resolve certain complex legal issues concerning jurisdiction which had not been fully dealt with during the SCNL negotiations This was the case with the proposal to delete certain provisions from Article XIII of the Convention on Supplementary Compensation for Nuclear Damage, in the expectation that it would better address the potential jurisdictional conflicts that could arise when not all States Party to the Paris or Vienna Conventions are also States Party to the Convention on Supplementary Compensation

A further proposal was adopted to resolve an additional jurisdictional issue, this time applying to both instruments and concerning jurisdiction over incidents in a State's exclusive economic zone This proposal provided for the allocation of jurisdiction to hear claims for compensation to the State in whose exclusive economic zone the nuclear incident has occurred or, if there is no such zone then in an area corresponding to the limits of such a zone if one had been established by that State all in accordance with the international law of the sea, including the United Nations Convention of 1982 on the law of the Sea

Another amendment which received the support of the Conference was a proposal to remove the cap on contributions to the fund established under the Convention on Supplementary Compensation for Nuclear Damage when the State that would otherwise benefit from the cap is itself the Installation State whose operator is liable The cap provision applies, at least at present to only the United States and to France

Among the more significant amendments which were not adopted at the Conference was a proposal to increase the level of installed nuclear capacity (megawatt thermal) required for the Convention on Supplementary Compensation for Nuclear Damage to enter into force, in the hope that a higher threshold would lead to a larger fund

Also rejected was a proposal to eliminate the discriminatory aspect of the fund established under the Convention on Supplementary Compensation for Nuclear Damage as regards trans-boundary nuclear damage, as was a proposal that States without nuclear reactors should not have to contribute to the fund established under that Convention In addition, insufficient support was received for a proposal that both the revised Vienna Convention and the Convention on Supplementary Compensation should apply to installations used for non-peaceful purposes

The Conference progressed throughout the week in a remarkably smooth manner, due both to the skill of the Conference Officers and to the spirit of compromise which prevailed throughout the

proceedings, given that Conference States had to address numerous issues which were both extremely complex from a legal perspective and extremely sensitive from a political perspective The fact that it was necessary to have a vote on the adoption of the two instruments was due more to the tenacity of one participating State than to a lack of flexibility on the part of Conference States generally It should come as no surprise, therefore, that the instruments which were adopted do not adequately address the concerns of all States represented at the Conference However, they probably do represent the best possible balancing of interests that could be achieved in a consensus amongst States with such widely divergent concerns

There are, of course, those who are disappointed with these two new instruments, those who believe that the increase in the amounts of compensation available for nuclear damage do not correspond to the real costs of a serious nuclear accident Others are discouraged by the fact that the definition of "nuclear damage" under both instruments, although significantly expanded, would still not seem to require Contracting States to compensate heads of damage other than personal injury, loss of life and damage to property Regret has also been expressed over the exclusion of incidents at military installations whose victims will suffer the same damage as for incidents at non-military installations

The Protocol to amend the Vienna Convention on Civil Liability for Nuclear Damage and the Convention on Supplementary Compensation for Nuclear Damage were opened for signature at IAEA headquarters on 29 September 1997, coinciding with the IAEA's Annual General Conference As of October 1997, the Protocol had been signed by eight States, namely Hungary, Indonesia, Lebanon, Lithuania, Morocco, Poland, Romania and Ukraine The following eight States had also signed the Convention on Supplementary Compensation Australia, Indonesia, Lebanon, Lithuania, Morocco, Romania and the United States of America Both are subject to ratification, acceptance, approval or accession In the case of the Protocol, it shall enter into force three months after its ratification, acceptance or approval by five States In the case of the Convention on Supplementary Compensation for Nuclear Damage, it shall enter into force 90 days after its ratification, acceptance or approval by five States with a minimum of 400 000 units of installed nuclear capacity Those States which have on their territory a nuclear installation as defined in the Convention on Nuclear Safety of 17 June 1994 may only join this new Convention if they are already a Contracting Party to the Convention on Nuclear Safety

The success of this latest effort to modernise the international nuclear liability regime will, of course, depend on the extent to which nuclear States adhere to the revised Vienna Convention and to the Convention on Supplementary Compensation for Nuclear Damage Their participation will, in turn, determine the attractiveness of the modernised regime to non-nuclear States It should also be kept in mind that the 1988 Joint Protocol relating to the application of the Vienna Convention and the Paris Convention applies to the Vienna Convention as amended for those Contracting Parties for whom the amendments are in force, thus making the regime better for victims, but perhaps more complex to administer While it will naturally take some time for countries to demonstrate their support for these new instruments, there is little doubt that, by virtue of their adoption, a significant and innovative contribution has been made to the development of international nuclear law

These two texts will be the subject of a more detailed article in the next edition of the *Nuclear Law Bulletin*

Vienna Convention on Civil Liability for Nuclear Damage

The Vienna Convention of 21 May 1963 on Civil Liability for Nuclear Damage entered into force on 12 November 1977 The following table gives the status of signatures, ratifications accessions successions to the Convention as at end October 1997

State	Date of Signature	Date of Deposit of Instrument	
Argentina	10 Oct 1966	25 Apr 1967	(ratif)
Armenia		24 Aug 1993	(access)
Belarus	27 May 1997		
Bolivia		10 Apr 1968	(access)
Brazil		26 Mar 1993	(access)
Bulgaria		24 Aug 1994	(access)
Cameroon		6 Mar 1964	(access)
Chile[1]	18 Aug 1988	23 Nov 1989	(ratif)
Colombia	21 May 1963		
Croatia		29 Sept 1992	(succ notif)
Cuba	10 Dec 1964	25 Oct 1965	(ratif)
Czech Republic		24 Mar 1994	(access)
Egypt	19 Aug 1965	5 Nov 1965	(ratif)
Estonia		9 May 1994	(access)
Hungary		28 July 1989	(access)
Israel	19 Aug 1997		
Latvia		15 Mar 1995	(access)
Lebanon		17 Apr 1997	(ratif)
Lithuania		15 Sept 1992	(access)
The former Yugoslav Republic of Macedonia		8 Apr 1994	(succ)
Mexico		25 Apr 1989	(access)
Morocco	30 Nov 1984		
Niger		24 July 1979	(access)
Peru		26 Aug 1980	(access)
Philippines	21 May 1963	15 Nov 1965	(ratif)
Poland		23 Jan 1990	(access)
Romania		29 Dec 1992	(access)
Russian Federation	8 May 1996		
Slovak Republic		7 Mar 1995	(access)
Slovenia		7 July 1992	(succ notif)
Spain	6 Sept 1963		
Trinidad & Tobago		31 Jan 1966	(access)
Ukraine		20 Sept 1996	(access)
United Kingdom	11 Nov 1964		
Yugoslavia (Serbia and Montenegro)	21 May 1963	12 Aug 1977	(ratif)

1 Indicates reservation/declaration

2 On 28 April 1992 the Director General received a Note from the Permanent Mission of the Socialist Federal Republic of Yugoslavia informing him that *inter alia* the Federal Republic of Yugoslavia (Serbia and Montenegro) *shall continue to fulfill all the rights conferred to and obligations assumed by the Social Federal Republic of Yugoslavia in international relations including participation in international treaties ratified or acceded to by Yugoslavia*

Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention

The Joint Protocol of 21 September 1988 relating to the Application of the Vienna Convention and the Paris Convention entered into force on 27 April 1992 The following table gives the status of signatures, ratifications, acceptances, approvals and accessions to the Joint Protocol as at end October 1997

State	Date of Signature	Date of Deposit of Instrument	
Argentina*	21 Sept 1988		
Belgium**	21 Sept 1988		
Bulgaria*		24 Aug 1994	(access)
Cameroon*	7 Dec 1988	28 Oct 1991	(ratif)
Chile*	21 Sept 1988	23 Nov 1989	(ratif)
Croatia*		10 May 1994	(access)
Czech Republic*		24 Mar 1994	(access)
Denmark**[3]	21 Sept 1988	26 May 1989	(ratif)
Egypt*	21 Sept 1988	10 Aug 1989	(ratif)
Estonia*		9 May 1994	(access)
Finland**	21 Sept 1988	3 Oct 1994	(accept)
France**	21 June 1989		
Germany**	21 Sept 1988		
Greece**	21 Sept 1988		
Hungary*	20 Sept 1989	26 Mar 1990	(approv)
Italy**	21 Sept 1988	31 July 1991	(ratif)
Latvia*		15 Mar 1995	(access)
Lithuania*		20 Sept 1993	(access)
Morocco*[5]	21 Sept 1988		
Netherlands**[4]	21 Sept 1988	1 Aug 1991	(accept)
Norway**	21 Sept 1988	11 Mar 1991	(ratif)
Philippines*	21 Sept 1988		
Poland*		23 Jan 1990	(access)
Portugal**	21 Sept 1988		
Romania*		29 Dec 1992	(access)
Slovak Republic*		7 Mar 1995	(access)
Slovenia*		27 Jan 1995	(access)
Spain**	21 Sept 1988		
Sweden**	21 Sept 1988	27 Jan 1992	(ratif)
Switzerland**[5]	21 Sept 1988		
Turkey**	21 Sept 1988		
United Kingdom**	21 Sept 1988		

* Vienna Convention State
** Paris Convention State
3 Does not include the Faroe Islands
4 For the Kingdom in Europe
5 Signatory only of the Convention

Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (1997)

This Convention was adopted on 5 September 1997 at the conclusion of a Diplomatic Conference convened for this purpose at the headquarters of the IAEA It was opened for signature on 29 September 1997 during the 40th regular session of the Agency's General Conference in Vienna As of 31 October 1997, 24 States had signed the Joint Convention Brazil, Czech Republic, Finland, France, Germany, Hungary, Indonesia, Ireland, Luxembourg, Morocco, Norway, Kazakhstan, Republic of Korea, Lebanon, Lithuania, Poland, Romania, Slovakia, Slovenia, Sweden, Switzerland, Ukraine, United Kingdom and the United States of America.

The Convention will enter into force on the ninetieth day after the twenty-fifth instrument of ratification, acceptance or approval is deposited with the IAEA, including the instruments of 15 States that each have an operational nuclear power plant

A review of the negotiations carried out by the Group of (technical and legal) experts, as well as an analysis of the main provisions of the Convention, are the subjects of an article which can be found in the chapter "Articles" in the present *Bulletin*

European Union – KEDO

Participation by the European Union in the Korean Peninsula Energy Development Organisation (KEDO) (1997)*

In 1993, the Democratic People's Republic of Korea (DPRK) announced its withdrawal from the Treaty on Non-Proliferation of Nuclear Weapons (NPT) and considered that its nuclear installations and its nuclear material, including plutonium, were no longer subject to international safeguards by the IAEA

On the one hand, the European Union and the international community have been strongly supporting the IAEA's efforts for the full implementation of its safeguards agreement with the DPRK and to this end made efforts to convince the DPRK to comply fully with its obligations under that agreement On the other hand, as a solution to this nuclear non-proliferation crisis, the United States and the DPRK signed the Agreed Framework in October 1994, which provided for the DPRK to restore the NPT and safeguards in return for the construction of two safe and reliable Light Water Reactors in the DPRK and supplies of interim energy alternatives (the text of the Agreement has been reproduced in *Nuclear Law Bulletin* No 54, see also *Nuclear Law Bulletin* No 56)

In order to carry out the tasks of construction of the reactors and supply of alternative energy, KEDO was established in March 1995 Participation by the EU in KEDO was decided at the level of heads of state and government of the Member States of the EU in December 1995 In February 1996, the Council of Ministers of the EU decided on an immediate and once-off payment of 5 million ECUs to KEDO as part of a so-called Joint Action under the Common Foreign and Security Policy (CFSP) under the

* *This note was kindly prepared by Ralph Lennartz of DG XVII of the European Commission*

Maastricht Treaty, thereby demonstrating its support for the IAEA efforts and the implementation of the Agreed Framework.

However, the Union felt that it should participate further in KEDO and the European Commission was, accordingly, given a mandate on 2 October 1996 to negotiate the accession of the European Atomic Energy Community (Euratom) to KEDO and to extend the CFSP action The basis of the proposal for an accession agreement was that in return for a financial contribution of 75 million ECUs to be made over five years, Euratom should obtain the same rights and obligations as the original members of KEDO

On 20 December 1996, *ad referendum* agreement was reached on an Accession Agreement and parallel necessary amendments to the KEDO Establishment agreement In May 1997, *ad referendum* agreement was also reached on four side letters to the Accession Agreement, dealing with the specific subjects of nuclear liability, industrial aspects, the representation of Euratom on the Executive Board of KEDO and on financing arrangements The agreement was approved by the EU Council of Ministers and signed on behalf of Euratom in July 1997 It was signed on behalf of KEDO on 19 September 1997

The intended contribution of 75 million ECUs over a period of five years was recognised by KEDO as being a substantial and sustained contribution for Euratom membership of the Executive Board It broadly matches the United States annual contribution

Euratom has obtained the same rights and obligations as the original members Decisions will be taken by consensus of the members or failing that, by majority voting, each member having one vote Euratom will be represented by one representative, but the representation may rotate between a person from the European Commission and another from the Presidency of the Council of the EU, depending upon whether an issue comes under Euratom competencies or under CFSP competencies The European Commission will be the single point of contact for official communications in connection with Executive Board activities

The Agreement and the side letter on liability set out the necessary provisions for assurances and protection so that neither Euratom nor its Member States will be held liable for any nuclear or conventional damage caused by acts or omissions of KEDO KEDO will not be the operator of the Light Water Reactors, nor will it deliver any nuclear fuel unless the necessary liability requirements have been met

The Agreement and the side letter on industrial opportunities provide a good basis for fair and equitable opportunities for industry in Euratom to participate in the KEDO project Regular information will be available to Euratom to show the number and value of contracts awarded to Euratom undertakings and to other Members of KEDO and third states Personnel and contractors from Euratom, working for KEDO in the DPRK, will have the nuclear liability assurances referred to previously, as well as diplomatic privileges and immunities in the DPRK. Euratom's financial contribution, its Board membership and its staffing in KEDO should thus provide the necessary support for Euratom industry to benefit, as far as possible, from the available opportunities The European Commission will organise a meeting between KEDO, its prime contractor (Kepco) and European nuclear industry to further evaluate this aspect

ALBANIA

LAW N0. 8025 OF 9 NOVEMBER 1995 ON IONISING RADIATION PROTECTION*

According to Article 16 of Parliamentary Act No 7491 of 29 April 1991 On Principal Constitutional Provisions, and on proposal of the Council of Ministers,

THE PEOPLE'S ASSEMBLY OF THE REPUBLIC OF ALBANIA DECIDED

Chapter I
GENERAL PROVISIONS

Article 1

This Law sets out the terms and conditions for radiation protection for all activities performed with radioactive materials and radiation devices and provides safety of workers professionally exposed as well as the protection of the public and the environment as a whole from the consequential harm of ionising radiation

Article 2

For the purpose of the Law

a) "Ionising radiation" means electromagnetic or corpuscular radiation, which is capable of producing ions, directly or indirectly, during its passage through matter

b) "Radioactive materials" means any material, which spontaneously emits ionising radiations

c) "Radiation device" means a device which is used for producing ionising radiation

d) "Radiation works" means all activities which are performed with the use of radioactive materials and/or radiation devices

* Unofficial translation prepared by the Albanian authorities

e) "Nuclear installation" means a facility where radioactive materials and/or radiation devices are used or stored

f) "Radioactive waste" means all spent radioactive sources or materials contaminated with radioactive materials, which no longer serve a useful purpose

g) "Nuclear safety" means the set of conditions which provides for the normal procedures for ionising radiation, prevention of accidents involving radiation or mitigation of the consequences on workers, the public and the environment

h) "Competent authority" means the authority vested in the Radiation Protection Commission for the purpose of enforcing the provisions defined by this Law

i) "Office of Radiation Protection" means the unit established by this Law to carry out the decisions of the Radiation Protection Commission

j) "Licence" means a document which authorises a legal person to use radioactive materials and/or radiation devices

Article 3

The provisions of this Law apply to every legal or physical person who

a) possesses, transfers, receives, uses, manufactures or installs any radiation source,

b) performs geological research, mining, milling, enrichment, selling, transfer, import-export, lending and storage of radioactive materials, and

c) manages radioactive waste, foods and other products which are contaminated with radioactive materials

Article 4

Every legal and physical person, Albanian or foreign, who performs an activity which is listed in Article 3 of this Law, is obliged to obtain a licence from the competent authority The procedure for obtaining a licence will be defined by an appropriate regulation

Article 5

Every legal and physical person who has received a licence is obliged to enforce the provisions of this Law as well as of all other decrees issued for its implementation

Chapter II
RADIATION PROTECTION STRUCTURAL ORGANISATION

Article 6

Within the Ministry of Health and Environment, there is established the Radiation Protection Commission as the competent authority to oversee and ensure the enforcement of provisions of this Law as well as of the other provisions in the radiation protection area The Commission is headed by the Minister for Health and Environment and at least 50 per cent of its members shall be radiation protection specialists The nomination of the Commission members is done by the Chairman for a term of four years The remuneration of Commission members is determined by the Minister for Health and Environment The Commission shall execute its decisions through the Office for Radiation Protection The Chairman of the Office of Radiation Protection shall also be the Secretary of the Commission The Office shall be under the authority of the Commission

Article 7

The Radiation Protection Commission has the following rights and duties

a) to issue regulations, guidelines and codes of practice for radiation protection and nuclear safety, which are obligatory for all legal and physical persons,

b) to oversee the enforcement of the provisions relating to radiation protection,

c) to issue licences for all persons who perform the activities described in Article 3 of this Law,

d) to perform the technical supervision of all national and local authorities responsible for immediate enforcement of the measures necessary for the mitigation of the effects of nuclear accidents,

e) to make recommendations and proposals for the improvement of the mandatory radiation protection legislation,

f) to approve the Basic Safety Standards for radiation protection,

g) to co-operate with national and international organisations in respect of radiation protection issues,

h) to ensure the commitment of national research institutions to the resolution of national issues in the area of radiation protection,

i) to define the structure of the Office of Radiation Protection and to be responsible for the appointment of the Office Chairman, and

j) to co-operate with the State Labour Inspectorate

Article 8

The Office of Radiation Protection Commission has the following rights and duties

a) to submit to the Commission for approval the regulations for radiation protection activities,

b) to oversee the enforcement of legislation in the radiation protection area,

c) to perform the inspection of nuclear installations,

d) to collect information and perform the necessary analysis and measurements for radiation protection control,

e) to prepare the files for issuing, suspending and revoking licences and to submit such files to the Commission for approval, and

f) to prepare the materials for Commission meetings, as well as the reports for approval

Chapter III
FINAL PROVISIONS

Article 9

The Radiation Protection Commission approves the following regulations on

a) procedures for the licensing of activities foreseen in Article 3 of this Law,

b) public and environment radiation safety,

c) protection of professionally exposed workers,

d) standards and practical rules for activities with radiation sources,

e) safe handling of radioactive materials, radiation devices and nuclear installations and

f) the activities of the Office of Radiation Protection

Article 10

Violation of the provisions of Articles 4 and 5 of this Law, when it is not the subject of penal prosecution, is punishable as an administrative contravention with a penalty of from Leke 10 000 to Leke 100 000 (from US$100 to US$1 000) Penalties shall be imposed by special control bodies, nominated by the Radiation Protection Commission

Appeals against the decisions of the special control bodies and the execution of decisions shall be governed by Law No 7697 of 7 April 1993 On Administrative Contravention

Article 11

All provisions which are inconsistent with this Law are invalid

Article 12

This Law enters into force 15 days after publication in the *Official Journal*

BIBLIOGRAPHY AND NEWS BRIEFS

BIBLIOGRAPHY

International Atomic Energy Agency

***History of the International Atomic Energy Agency: The First Forty Years*, IAEA, Vienna, 1997, 550 pages.**

***The International Atomic Energy Agency: Personal Reflections*, IAEA, Vienna, 1997, 320 pages.**

To mark the fortieth anniversary of its founding, the IAEA has issued a set of two books a history and a collection of personal reflections

The history, entitled *History of the International Atomic Energy Agency The First Forty Years,* was undertaken in conjunction with the Monterey Institute of International Studies, California, which commissioned David Fischer as author David Fisher took part in the negotiations on the Statute of the IAEA in Washington in the mid-1950s

The book covers the history of the IAEA since President Eisenhower proposed its creation to the General Assembly of the United Nations in December 1953 While the main emphasis is on the development of the world's first international system of on-site inspection – nuclear safeguards – and the IAEA's work related to nuclear power and nuclear safety, the history also deals with the lesser-known aspect of the transfer of nuclear techniques to developing countries

The author assesses the main achievements and setbacks of the IAEA and what can be learnt from them He discusses how far the organisation has met its original aims Special topics covered include the role of the IAEA, even during the Cold War, as an instrument for East-West co-operation in applying nuclear safeguards, the impact of the Three Mile Island and Chernobyl accidents on the nuclear power industry, the discovery of the clandestine nuclear activities in Iraq, and the breach by the Democratic People's Republic of Korea of its safeguards agreement The book also considers whether the statutory function of the IAEA to promote the use of nuclear power impinges on its growing responsibilities for nuclear safety and for preventing the spread of nuclear weapons

The reflections in the second book, entitled *The International Atomic Energy Agency Personal Reflections,* are written by a group of distinguished scientists and diplomats who were involved in the establishment or subsequent work of the IAEA It represents a collection of less formal "essays" which offer a complementary and personal view on some of the topics considered in the full history

The books were issued in September 1997 to mark the anniversary of the first meeting of the IAEA's General Conference They are available separately or as a set

NEWS BRIEFS

OECD Nuclear Energy Agency

Advanced Training Seminar on Nuclear Law (1997)

An Advanced Seminar on the "Convergence of Legislation in Central and Eastern European Countries with EU and International Nuclear Law" was held in Dubrovnik, Croatia, from 25 to 29 August 1997 It was part of the NEA's continuing programme of co-operation with and assistance to the countries of Central and Eastern Europe, and was co-sponsored by the IAEA and the European Commission The programme addressed in-depth issues both on EU legislation and international nuclear law, such as the Nuclear Safety Convention and the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management In examining the convergence of legislation in Central and Eastern European countries with EU and international nuclear law, particular attention was paid to radiation safety within EU legislation and to the implementation of international legal instruments

Participants at the Seminar were from Albania, Bosnia, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Republic of Macedonia, Romania, Slovak Republic and Slovenia. In addition to representatives from the sponsoring organisations, several experts from national authorities in Western countries participated in the Seminar as lecturers

A compilation of papers for the Seminar is available from the NEA

Regional Seminar Introduction to Nuclear Law (1997)

This Seminar, held in Almaty, Kazakhstan, from 26 to 28 May 1997 was organised by the NEA and the Atomic Energy Agency of Kazakhstan and was co-sponsored by the IAEA and the European Commission It brought together experts from Armenia, Kazakhstan, Kyrgyzstan, and Uzbekistan, with lectures being given by representatives of the international organisations, France, Germany, Belarus and Ukraine

Unlike the NEA's Advanced Training Seminars on Nuclear Law, this particular Seminar was of a more regional character and was intended to provide basic information on the general structure and legal concepts governing the peaceful uses of nuclear energy Accordingly, the programme covered a wide range of topics, such as radiation protection, nuclear safety and licensing, waste management, nuclear liability, non-proliferation and physical protection

A compilation of papers from the Seminar is available from the NEA

Seminar on Nuclear Liability and Insurance in Russia (1997)

As reported in *Nuclear Law Bulletin* No 59, an international Seminar on Nuclear Liability and Insurance Issues in Russia took place in Moscow in mid-April 1997

A compilation of papers from the Seminar is available from the NEA

International Nuclear Law Association

Nuclear Inter Jura 1997

The International Nuclear Law Association (INLA) held its 13th Congress from 15 to 19 September 1997 in Tours, France (See *Nuclear Law Bulletin* No 58) The week was a great success, with participants enjoying both the formal programme and the opportunity to meet with their colleagues

The next meeting to be convened by INLA will be of the German Branch, which meets in Baden Baden, Germany, on 24 and 25 September 1998 The general theme of this regional meeting will be "The objectives of atomic energy law" from the perspective of preventing damage, a means of peacekeeping and a means of economic development

The 14th Congress of INLA will be held in Washington D C from 24 to 29 October 1999 The Congress will include four days of nuclear law presentations covering licensing and safety, radiological protection, decommissioning, waste and spent fuel, international trade, liability, insurance and conventions, and radionuclides Further details will be announced closer to the date

LIST OF CORRESPONDENTS TO THE NUCLEAR LAW BULLETIN

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Chapter 9

AN ACT TO ESTABLISH THE CANADIAN NUCLEAR SAFETY COMMISSION AND TO MAKE CONSEQUENTIAL AMENDMENTS TO OTHER ACTS

(assented to 20 March 1997)

Preamble

Whereas it is essential in the national and international interests to regulate the development, production and use of nuclear energy and the production, possession and use of nuclear substances, prescribed equipment and prescribed information;

And Whereas it is essential in the national interest that consistent national and international standards be applied to the development, production and use of nuclear energy;

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

Short Title

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

Interpretation

2. The definitions in this section apply in this Act.

"analyst" means a person designated as an analyst under section 28.

"Commission" means the Canadian Nuclear Safety Commission established by section 8.

"designated officer" means a person designated as a designated officer under section 37.

"dosimetry service" means a prescribed facility for the measurement and monitoring of doses of radiation.

"inspector" means a person designated as an inspector under section 29.

"licence" means a licence issued under section 24.

"Minister" means the Minister of Natural Resources or such member of the Queen's Privy Council for Canada as the Governor in Council may designate as the Minister for the purposes of this Act.

"nuclear energy" means any form of energy released in the course of nuclear fission or nuclear fusion or of any other nuclear transmutation.

"nuclear energy worker" means a person who is required, in the course of the person's business or occupation in connection with a nuclear substance or nuclear facility, to perform duties in such circumstances that there is a reasonable probability that the person may receive a dose of radiation that is greater than the prescribed limit for the general public.

"nuclear facility" means any of the following facilities, namely,

a) a nuclear fission or fusion reactor or subcritical nuclear assembly,

b) a particle accelerator,

c) a uranium or thorium mine or mill,

d) a plant for the processing, reprocessing or separation of an isotope of uranium, thorium or plutonium,

e) a plant for the manufacture of a product from uranium, thorium or plutonium,

f) a plant for the processing or use, in a quantity greater than 1015 Bq per calendar year, of nuclear substances other than uranium, thorium or plutonium,

g) a facility for the disposal of a nuclear substance generated at another nuclear facility,

h) a vehicle that is equipped with a nuclear reactor, and

i) any other facility that is prescribed for the development, production or use of nuclear energy or the production, possession or use of a nuclear substance, prescribed equipment or prescribed information, and includes, where applicable, the land on which the facility is located, a building that forms part of, or equipment used in conjunction with, the facility and any system for the management, storage or disposal of a nuclear substance.

"nuclear substance" means

a) deuterium, thorium, uranium or an element with an atomic number greater than 92;

b) a derivative or compound of deuterium, thorium, uranium or of an element with an atomic number greater than 92;

c) a radioactive nuclide;

d) a substance that is prescribed as being capable of releasing nuclear energy or as being required for the production or use of nuclear energy;

e) a radioactive by-product of the development, production or use of nuclear energy;

f) a radioactive substance or radioactive thing that was used for the development or production, or in connection with the use, of nuclear energy.

"prescribed" means prescribed by regulation of the Commission.

"radiation" means the emission by a nuclear substance, the production using a nuclear substance, or the production at a nuclear facility of, an atomic or subatomic particle or electromagnetic wave with sufficient energy for ionization.

"record" has the meaning assigned to that word by section 3 of the *Access to Information Act*.

"vehicle" means any means of air, water or land transport, and includes railway equipment within the meaning assigned to that expression by subsection 4(1) of the *Railway Safety Act*.

Purpose of Act

3. The purpose of this Act is to provide for

a) the limitation, to a reasonable level and in a manner that is consistent with Canada's international obligations, of the risks to national security, the health and safety of persons and the environment that are associated with the development, production and use of nuclear energy and the production, possession and use of nuclear substances, prescribed equipment and prescribed information; and

b) the implementation in Canada of measures to which Canada has agreed respecting international control of the development, production and use of nuclear energy, including the non-proliferation of nuclear weapons and nuclear explosive devices.

Application

4. Subject to any order made pursuant to section 5, this Act is binding on Her Majesty in right of Canada or a province.

5. The Governor in Council may, by order, exclude the Department of National Defence or the Canadian Forces from the application of this Act or any regulations made pursuant to this Act, to the extent and under the conditions specified in the order.

6. This Act does not apply to a nuclear-powered or nuclear-capable naval vessel of a foreign state that is invited into Canada by Her Majesty in right of Canada.

7. The Commission may, in accordance with the regulations, exempt any activity, person, class of person or quantity of a nuclear substance, temporarily or permanently, from the application of this Act or the regulations or any provision thereof.

Canadian Nuclear Safety Commission

Establishment of Commission

8. (1) There is hereby established a body corporate to be known as the Canadian Nuclear Safety Commission.

(2) The Commission is for all its purposes an agent of Her Majesty and may exercise its powers only as an agent of Her Majesty.

Objects

9. The objects of the Commission are

a) to regulate the development, production and use of nuclear energy and the production, possession and use of nuclear substances, prescribed equipment and prescribed information in order to

i. prevent unreasonable risk, to the environment and to the health and safety of persons, associated with that development, production, possession or use,

ii. prevent unreasonable risk to national security associated with that development, production, possession or use, and

iii. achieve conformity with measures of control and international obligations to which Canada has agreed; and

b) to disseminate objective scientific, technical and regulatory information to the public concerning the activities of the Commission and the effects, on the environment and on the health and safety of persons, of the development, production, possession and use referred to in paragraph (a).

Members

10. (1) The Commission consists of not more than seven permanent members to be appointed by the Governor in Council.

(2) Notwithstanding subsection (1), the Governor in Council may appoint temporary members of the Commission whenever, in the opinion of the Governor in Council, it is necessary to do so.

(3) The Governor in Council shall designate one of the permanent members to hold office as President.

(4) The President is a full-time member of the Commission and the other members may be appointed as full-time or part-time members.

(5) Each permanent member holds office during good behaviour for a term not exceeding five years and may be removed at any time by the Governor in Council for cause.

(6) Each temporary member holds office during good behaviour for a term not exceeding six months.

(7) A member is eligible to be re-appointed to the Commission in the same or another capacity.

11. (1) A member shall not, directly or indirectly, engage in any activity, have any interest in a business or accept or engage in any office or employment that is inconsistent with the member's duties.

(2) A member who becomes aware that the member is in a conflict of interest contrary to subsection (1) shall, within one hundred and twenty days, terminate the conflict or resign from the Commission.

President

12. (1) The President is the chief executive officer of the Commission and has supervision over and direction of the work of the members and officers and employees of the Commission, including the apportionment of work among the members and, where the Commission sits in a panel, the assignment of a member or members to the panel and of a member to preside over the panel.

(2) If the President is absent or incapacitated or if the office of President is vacant, such other member as may be designated by the Commission has all the powers and functions of the President during the absence, incapacity or vacancy, but no person may so act for a period exceeding ninety days without the approval of the Governor in Council.

(3) The President may delegate any of the powers delegated to the President pursuant to subsection 16(2) or 17(2) to any officer or employee of the Commission.

(4) Subject to the regulations made pursuant to paragraph 44(1)(*d*), the President shall make such reports to the Minister as the Minister may require concerning the general administration and management of the affairs of the Commission and such of these reports as the Minister may direct shall form part of the report referred to in section 72.

Remuneration and Expenses

13. Each member and each former member to whom subsection 23(2) applies shall be paid such remuneration and allowances as are fixed by the Governor in Council and is entitled to be paid reasonable travel and living expenses incurred in the course of the member's or former member's duties under this Act while absent from, in the case of a full-time member or former member, their ordinary place of work and, in the case of a part-time member or former member, their ordinary place of residence.

Meetings

14. (1) The Commission may meet for the conduct of its affairs at such times and in such places as are established by by-law of the Commission.

(2) A member may, subject to the by-laws of the Commission, participate in a meeting of the Commission by means of a telephone or other communication device that permits all persons participating in the meeting to hear one another, and a member who participates in a meeting by those means is deemed, for the purposes of this Act, to be present at the meeting.

By-Laws

15. The Commission may make by-laws respecting the management and conduct of its affairs and to meet its objects and carry out its duties under this Act and may, without limiting the generality of the foregoing, make by-laws

a) respecting the calling of meetings of the Commission;

b) respecting generally the carrying on of the work of the Commission, including establishing the number of members that constitutes a quorum of the Commission or of a panel of the Commission; and

c) determining the procedures to be followed in proceedings other than those for which rules are otherwise prescribed.

Officers, Employees and Contractors

16. (1) The Commission may, notwithstanding any other Act of Parliament, appoint and employ such professional, scientific, technical or other officers or employees as it considers necessary for the purposes of this Act and may, with the approval of the Treasury Board, establish the terms and conditions, including remuneration, of their employment.

(2) The Commission may delegate to the President any of the powers conferred on it by subsection (1).

(3) The members, officers and employees of the Commission are deemed to be employees for the purposes of the *Government Employees Compensation Act* and to be employed in the public service of Canada for the purposes of any regulations made pursuant to section 9 of the *Aeronautics Act*.

17. (1) The Commission may enter into contracts for the services of any persons having technical or specialized knowledge of any matter relating to the work of the Commission, to advise and assist the Commission in the exercise or performance of any of its powers, duties or functions under this Act, and those persons shall receive such payment for their services and such expenses as are fixed by the Commission with the approval of the Treasury Board.

(2) The Commission may delegate to the President any of the powers conferred on it by subsection (1).

Civil Liability

18. (1) No civil proceedings may be brought against any member or other person or authority acting on behalf or under the direction of the Commission for anything done, reported or said in good faith in the course of the exercise or performance or purported exercise or performance of any power,

duty or function of the Commission under this Act or for any alleged neglect or default in the execution in good faith of any such power, duty or function.

(2) No civil proceedings may be brought against any person or authority referred to in subsection 44(8) or (9) for anything done, reported or said in good faith in the course of the exercise or performance or purported exercise or performance of any power, duty or function of the Commission under this Act or for any alleged neglect or default in the execution in good faith of any such power, duty or function.

(3) Nothing in this section relieves the Commission of liability in respect of a tort or extracontractual civil liability to which the Commission would otherwise be subject.

Directives

19. (1) The Governor in Council may, by order, issue to the Commission directives of general application on broad policy matters with respect to the objects of the Commission.

(2) An order made under this section is binding on the Commission.

(3) A copy of each order made under this section shall be

a) published in the *Canada Gazette*; and

b) laid before each House of Parliament.

Powers

20. (1) The Commission is a court of record.

(2) The Commission has, with respect to the appearance, summoning and examination of witnesses, the production and inspection of records, the enforcement of its orders and other matters necessary or proper for the due exercise of its jurisdiction, all such powers, rights and privileges as are necessary to carry out the duties of the Commission or to enforce any order, including, without limiting the generality of the foregoing, the power to

a) issue a summons requiring a person

i. to appear at the time and place stated in the summons to give evidence concerning any matter relevant to any subject-matter before the Commission, and

ii. to produce, either before or at a hearing, such records and things as the Commission considers appropriate to the full investigation and consideration of matters within its jurisdiction; and

b) administer oaths and examine any person under oath.

(3) All proceedings before the Commission shall be dealt with as informally and expeditiously as the circumstances and considerations of fairness permit, but, in any case, within the prescribed period of time.

(4) The Commission is not bound by the legal rules of evidence and in particular may

a) receive and accept such evidence and information on oath, by affidavit or otherwise, as in its discretion it considers appropriate; and

b) refuse to accept any evidence that the Commission does not consider relevant or trustworthy.

(5) Before conducting a proceeding, the Commission may

a) stay or dismiss an application where the applicant is not in compliance with a term or condition of a licence or of any order made under this Act;

b) determine the issues in respect of which it will receive evidence or hear argument; and

c) exclude from consideration any matter on which it has rendered a decision.

(6) The Commission may take such measures as it considers necessary to maintain order during proceedings before it and in particular may limit the participation in the proceedings of, or eject from the proceedings, any person who disrupts the proceedings and, where the person is ejected, continue the proceedings in the person's absence.

(7) A peace officer shall provide such assistance as the Commission or a member of the Commission may request for the purpose of maintaining order during proceedings before the Commission.

(8) Any decision or order of the Commission may, for the purpose of enforcement, be made a rule, order or decree of the Federal Court or of a superior court of a province and may be enforced in like manner as a rule, order or decree of that court.

(9) To make a decision or order of the Commission a rule, order or decree of the Federal Court or a superior court, the usual practice and procedure of the court in those matters may be followed, or the President may provide to the court a certified copy of the decision or order under the seal of the Commission and thereupon the decision or order becomes a rule, order or decree of the court.

21. (1) The Commission may, in order to attain its objects,

a) enter into arrangements, including an arrangement to provide training, with any person, any department or agency of the Government of Canada or of a province, any regulatory agency or department of a foreign government or any international agency;

b) establish and maintain programs to provide the Commission with scientific, technical and other advice and information;

c) establish, and fix the terms of reference of, advisory, standing and other committees;

d) establish and maintain offices and laboratories;

e) disseminate objective scientific, technical and regulatory information to the public concerning the activities of the Commission and the effects, on the environment or on the health or safety of persons, of the development, production or use of nuclear energy or the production, possession or use of a nuclear substance, prescribed equipment or prescribed information;

f) provide, under an appropriate security classification, to any department or agency of a foreign government or international agency with which Canada or the Commission has entered into an arrangement for the provision of such information, information relating to the development, production or use of nuclear energy or the production, possession or use of a nuclear substance, prescribed equipment or prescribed information including, after obtaining such assurances as it considers necessary to protect any commercial interest, protected commercial information;

g) charge such fees as may be prescribed for any information, product or service it provides under this Act;

h) certify and decertify prescribed equipment for the purposes of this Act;

i) certify and decertify persons referred to in paragraph 44(1)(*k*) as qualified to carry out their duties under this Act or the duties of their employment, as the case may be; and

j) authorize the return to work of persons whose dose of radiation has exceeded the prescribed radiation dose limits.

(2) The Commission may, under the prescribed circumstances, refund all or part of any fee referred to in paragraph (1)(*g*).

Panels

22. (1) The President may establish a panel of the Commission consisting of one or more members and, subject to subsection (3), the panel may, as directed by the President, exercise or perform any or all of the powers, duties and functions of the Commission.

(2) An act of a panel is deemed to be an act of the Commission.

(3) A panel may not make by-laws or regulations or review a decision or order of the Commission.

Decision-Making

23. (1) The President or the presiding member shall not vote at a meeting of the Commission or a panel of the Commission, as the case may be, except that the President or presiding member has and shall cast the deciding vote in case of an equal division.

(2) A person who has ceased to be a member may, with the authorization of the President and for such period as the President may fix, take part in the disposition of any matter in which that person became engaged while holding office as a member, and a person so authorized shall, for that purpose, be deemed to be a member of the Commission.

(3) Where any member has taken part in a matter and for any reason is unable to take part in the disposition of the matter, the remaining members who took part in the matter may, with the authorization of the President, make the disposition notwithstanding that the quorum may have been lost.

(4) Where a panel consists of one member and the member is at any time unable to dispose of a matter that is before the panel, the President may authorize another member to consider and dispose of the matter.

Licences

24. (1) The Commission may establish classes of licences authorizing the licensee to carry on any activity described in any of paragraphs 26(*a*) to (*f*) that is specified in the licence for the period that is specified in the licence.

(2) The Commission may issue, renew, suspend in whole or in part, amend, revoke or replace a licence on receipt of an application

a) in the prescribed form;

b) containing the prescribed information and undertakings and accompanied by the prescribed documents; and

c) accompanied by the prescribed fee.

(3) The Commission may, under the prescribed circumstances, refund all or part of any fee referred to in paragraph (2)(*c*).

(4) No licence may be issued, renewed, amended or replaced unless, in the opinion of the Commission, the applicant

a) is qualified to carry on the activity that the licence will authorize the licensee to carry on; and

b) will, in carrying on that activity, make adequate provision for the protection of the environment, the health and safety of persons and the maintenance of national security and measures required to implement international obligations to which Canada has agreed.

(5) A licence may contain any term or condition that the Commission considers necessary for the purposes of this Act, including a condition that the applicant provide a financial guarantee in a form that is acceptable to the Commission.

(6) The Commission may authorize the application of the proceeds of any financial guarantee referred to in subsection (5) in such manner as it considers appropriate for the purposes of this Act.

(7) The Commission shall grant to any person who provided a financial guarantee under subsection (5) a refund of any of the proceeds of the guarantee that have not been spent and may give the person, in addition to the refund, interest at the prescribed rate in respect of each month or fraction of a month between the time the financial guarantee is provided and the time the refund is granted, calculated on the amount of the refund.

(8) A licence may not be transferred.

25. The Commission may, on its own motion, renew, suspend in whole or in part, amend, revoke or replace a licence under the prescribed conditions.

26. Subject to the regulations, no person shall, except in accordance with a licence,

a) possess, transfer, import, export, use or abandon a nuclear substance, prescribed equipment or prescribed information;

b) mine, produce, refine, convert, enrich, process, reprocess, package, transport, manage, store or dispose of a nuclear substance;

c) produce or service prescribed equipment;

d) operate a dosimetry service for the purposes of this Act;

e) prepare a site for, construct, operate, modify, decommission or abandon a nuclear facility; or

f) construct, operate, decommission or abandon a nuclear-powered vehicle or bring a nuclear-powered vehicle into Canada.

Records and Reports

27. Every licensee and every prescribed person shall

a) keep the prescribed records, including a record of the dose of radiation received by or committed to each person who performs duties in connection with any activity that is authorized by this Act or who is present at a place where that activity is carried on, retain those records for the prescribed time and disclose them under the prescribed circumstances; and

b) make the prescribed reports and file them in the prescribed manner, including a report on

i. any theft or loss of a nuclear substance, prescribed equipment or prescribed information that is used in carrying on any activity that is authorized by this Act, and

ii. any contravention of this Act in relation to an activity that is authorized by this Act and any measure that has been taken in respect of the contravention.

Analysts and Inspectors

28. The Commission may designate as an analyst for the purposes of this Act any person whom the Commission considers qualified.

29. (1) The Commission may designate as an inspector for the purposes of this Act any person whom the Commission considers qualified and any person so designated shall be provided with a certificate in the prescribed form certifying the person's designation.

(2) The certificate must list any category of place or vehicle that the inspector has been designated to inspect, any condition that must be satisfied by the inspector in conducting an inspection and any restriction on the powers conferred on the inspector, and on entering or inspecting a place or vehicle the inspector shall, if requested, show the certificate to the person in charge of the place or vehicle.

30. (1) In order to verify compliance with this Act, the regulations, an order or decision made under this Act or a condition of a licence, an inspector may, at any reasonable time and in accordance with the inspector's certificate, enter and inspect

a) a nuclear facility;

b) a nuclear-powered vehicle or a vehicle that the inspector believes on reasonable grounds is transporting a nuclear reactor, nuclear substance, prescribed equipment or prescribed information; and

c) a vehicle or place in which the inspector believes on reasonable grounds there is a nuclear substance, prescribed equipment, prescribed information or a record that is required by this Act, the regulations, an order or decision made under this Act, or a condition of a licence.

(2) In the case of an inspection of a dwelling-house

a) the inspector shall give reasonable notice to the licensee that an inspection is to be carried out;

b) the inspection shall be conducted between the hours of 7:00 a.m. and 9:00 p.m., local time, where the licensee and the inspector cannot agree on a time for the inspection; and

c) the inspection shall be limited to the parts of the dwelling-house in which the nuclear substance, prescribed equipment, prescribed information or record is kept.

(3) An inspector may, at any time, enter and inspect a vehicle or place in which the inspector believes on reasonable grounds that

a) there is contamination by a nuclear substance;

b) a nuclear substance is being used, handled, stored or transported in a manner that may cause an unreasonable risk to the environment or to the health or safety of persons; or

c) a nuclear facility is being operated in a manner or is in a state that may cause an unreasonable risk to the environment or to the health or safety of persons.

31. For the purposes of ensuring compliance with this Act and the regulations, an inspector may exercise the powers of search and seizure provided for in section 487 of the *Criminal Code* without a warrant if the conditions for obtaining a warrant exist but, by reason of exigent circumstances, it would not be feasible to obtain a warrant.

32. The measures that an inspector may take, in exercising authority under this Act, include

a) using any equipment or causing any equipment to be used;

b) taking any measurement;

c) carrying out any test on a vehicle or in relation to anything in a vehicle or place that the inspector has been designated to inspect;

d) examining any vehicle or place and making or causing to be made a record of anything in any vehicle or place that the inspector has been designated to inspect and removing anything from such a vehicle or place for a reasonable period for the purpose of making a record of it;

e) opening or requesting the opening of any receptacle;

f) taking and disposing of any sample;

g) examining any records that are required to be kept or reports that are required to be made under this Act, or any books, records, electronic data or other documents that the inspector believes on reasonable grounds relate to such records or reports; or

h) questioning any person in charge of, found in or having a connection with, any vehicle or place that the inspector has entered, inspected or searched or from which any thing is seized by an inspector.

33. While exercising any authority under this Act, an inspector may be accompanied by any other person chosen by the inspector.

34. Any thing seized by an inspector in the course of exercising authority under this Act or under a warrant issued under the *Criminal Code* shall be disposed of or returned to the owner or person in charge of it

a) on the order of a court, after all proceedings before the court in respect of an offence under this Act or the regulations in relation to the thing are finally concluded; or

b) on the order of the Federal Court, at any time on application by the Commission or the owner or person in charge.

35. (1) An inspector may order that a licensee take any measure that the inspector considers necessary to protect the environment or the health or safety of persons or to maintain national security or compliance with international obligations to which Canada has agreed.

(2) Where an inspector enters or inspects any vehicle or place

a) in the circumstances described in paragraph 30(3)(a), the inspector may order that any person evacuate, close, seal, label or take any measures that the inspector considers necessary to decontaminate, the place or vehicle;

b) in the circumstances described in paragraph 30(3)(b), the inspector may order that any person use, handle, store or transport the nuclear substance in a manner that will not cause an unreasonable risk to the environment or to the health or safety of persons;

c) in either of the circumstances described in paragraph 30(3)(c), the inspector may order that any person operate the nuclear facility in a manner or put it in a state that will not cause an unreasonable risk to the environment or to the health or safety of persons; or

d) in the circumstances described in section 31, the inspector may order that any person take any measure that the inspector considers necessary to protect the environment or the health or safety of persons or to maintain national security or compliance with international obligations to which Canada has agreed.

(3) An inspector shall refer any order made under this section to the Commission for review and the Commission shall confirm, amend, revoke or replace the order.

36. Every owner of a place or vehicle that is entered, inspected or searched or from which any thing is seized by an inspector, every person in charge of or found in such a place and every person with control of or found in such a vehicle shall give the inspector all reasonable assistance to enable the inspector to carry out the inspector's duties and functions under this Act.

Designated Officers

37. (1) The Commission may designate, by name, title of office or class of persons, any person whom the Commission considers qualified as a designated officer and any officer so designated shall be provided with a certificate setting out the duties that the designated officer is authorized to carry out.

(2) The Commission may authorize a designated officer to

a) certify and decertify prescribed equipment for the purposes of this Act;

b) certify and decertify persons referred to in paragraph 44(1)(k) as qualified to carry out their duties under this Act or the duties of their employment, as the case may be;

c) issue, on receipt of an application referred to in subsection 24(2), a licence of a class established by the Commission;

d) renew, suspend in whole or in part, amend, revoke or replace, on receipt of an application referred to in subsection 24(2), a licence referred to in paragraph (c);

e) designate any person whom the designated officer considers qualified as an analyst under section 28 or as an inspector under subsection 29(1);

f) make any order that an inspector may make under subsection 35(1) or (2);

g) confirm, amend, revoke or replace any order made by an inspector; or

h) authorize the return to work of persons whose dose of radiation has exceeded the prescribed radiation dose limits.

(3) In carrying out any of the duties referred to in subsection (2), a designated officer shall, if requested, produce the designated officer's certificate of designation.

(4) A designated officer who refuses to issue, renew, suspend, amend, revoke or replace a licence shall notify the applicant of the refusal.

(5) A designated officer shall report to the Commission on

a) a refusal by the designated officer to issue, renew, suspend, amend, revoke or replace a licence;

b) the issuance by the designated officer of a licence that contains the condition that the applicant provide a financial guarantee referred to in subsection 24(5);

c) a renewal of a licence where the terms or conditions of the licence are amended, or a suspension, amendment, revocation or replacement of a licence, other than an amendment of terms or conditions or a suspension, amendment, revocation or replacement made on the application, or with the consent, of the licensee; and

d) a confirmation, amendment, revocation or replacement of an order under paragraph (2)(g).

(6) A designated officer shall refer any order made under paragraph (2)(f) to the Commission for review and the Commission shall confirm, amend, revoke or replace the order.

Procedures for Decisions and Orders

38. Every order of an inspector and every order of a designated officer under paragraph 37(2)(f) shall be made, and every measure under paragraph 37(2)(c), (d) or (g) shall be taken, in accordance with the prescribed rules of procedure.

39. (1) A designated officer shall provide a reasonable opportunity to be heard to

a) the applicant, before refusing to issue a licence under paragraph 37(2)(c);

b) the licensee, before renewing, suspending, amending, revoking or replacing a licence, or refusing to renew, suspend, amend, revoke or replace a licence, under paragraph 37(2)(d); and

c) any person named in or subject to the order, before confirming, amending, revoking or replacing an order under paragraph 37(2)(g).

(2) Subsection (1) does not apply in respect of a renewal, suspension, amendment, revocation or replacement of a licence on the application of the licensee.

40. (1) Subject to subsection (2), the Commission shall provide an opportunity to be heard in accordance with the prescribed rules of procedure to

a) the applicant, before refusing to issue a licence under section 24;

b) the licensee, before renewing, suspending, amending, revoking or replacing a licence, or refusing to renew, suspend, amend, revoke or replace a licence, under section 25;

c) any person named in or subject to the order, before confirming, amending, revoking or replacing an order of an inspector under subsection 35(3);

d) any person named in or subject to the order, before confirming, amending, revoking or replacing an order of a designated officer under subsection 37(6);

e) the applicant, before confirming a decision not to issue, and the licensee, before confirming a decision not to renew, amend, revoke or replace, a licence under paragraph 43(4)(a);

f) the licensee, before confirming, varying or cancelling a term or condition of a licence under paragraph 43(4)(b);

g) the licensee, before taking any measure under any of paragraphs 43(4)(c) to (f);

h) any person named in or subject to the order, before taking any measure under any of paragraphs 43(4)(g) to (j); and

i) any person named in or subject to the order, before making any other order under this Act.

(2) Subsection (1) does not apply

a) in respect of a renewal, suspension, amendment, revocation or replacement of a licence on the application of the licensee; or

b) in respect of an order under subsection 47(1).

(3) Notwithstanding any other provision of this Act, where the Commission is satisfied that it is in the public interest to do so, the Commission may, on its own initiative, conduct proceedings in accordance with the prescribed rules of procedure to determine any matter or thing relating to the purpose of this Act.

(4) On completion of proceedings in respect of which subsection (1) applies and proceedings under subsection (3), the Commission shall give notice of its decision to

a) the applicant, where the proceedings were in relation to an application for a licence;

b) the licensee, where the proceedings were in relation to a licence; or

c) any person named in, or subject to, the order, where the proceedings were in relation to an order.

(5) The Commission shall, subject to any bylaws made under section 15 and any regulations made under section 44, hold a public hearing with respect to

a) the proposed exercise by the Commission, or by a panel established under section 22, of the power under subsection 24(2) to issue, renew, suspend, amend, revoke or replace a licence; and

b) any other matter within its jurisdiction under this Act, if the Commission is satisfied that it would be in the public interest to do so.

(6) Subsection (5) does not apply in respect of any matter in relation to which subsection 14(2) applies.

41. Every person named in, or subject to, an order of the Commission, an inspector or a designated officer shall, whether or not the person has had an opportunity to make representations with respect to the order, comply with the order within the time specified in it or, if no time is specified, immediately.

42. (1) Where the Commission, an inspector or a designated officer makes an order in relation to a nuclear substance, prescribed equipment, prescribed information or a nuclear facility, the person who is in possession of the nuclear substance, prescribed equipment or prescribed information or the owner or person in charge of the nuclear facility at the time the order is made is, without proof of fault or negligence, liable to pay any costs that any other person incurs in complying with the order.

(2) Nothing in subsection (1) shall be construed to restrict the owner's or person's right of recourse against or indemnity from any other person in respect of the liability.

(3) Nothing in this section shall be construed to affect the liability of an operator under the *Nuclear Liability Act*.

Redetermination and Appeal of Decisions and Orders

43. (1) An appeal may be made to the Commission by any person who is directly affected by

a) a refusal of a designated officer to issue, renew, suspend, amend, revoke or replace a licence;

b) any term or condition of a licence issued by a designated officer;

c) a renewal, suspension, amendment, revocation or replacement, by a designated officer, of a licence; or

d) a confirmation, amendment, revocation or replacement, by a designated officer, of an order of an inspector.

(2) The Commission shall rehear and redetermine, on the application of

a) the applicant, a decision of the Commission not to issue a licence;

b) the licensee, a decision of the Commission not to renew, suspend, amend, revoke or replace a licence;

c) the licensee, any term or condition of a licence issued, renewed, suspended or amended by the Commission;

d) the licensee, a suspension, amendment, revocation or replacement, by the Commission, of a licence;

e) any person named in, or subject to, an order of the Commission, the order; or

f) any person named in, or subject to, an order of an inspector or a designated officer, a confirmation, amendment, revocation or replacement, by the Commission, of the order.

(3) The Commission may, on its own initiative, redetermine any decision or order made by it or by an inspector or designated officer or any term or condition of a licence.

(4) On considering an appeal or a redetermination, the Commission may hear new evidence or rehear such evidence as it considers necessary and may, in the case of

a) a decision not to issue, renew, amend, revoke or replace a licence, confirm the decision or issue, renew, amend, revoke or replace the licence;

b) any term or condition of a licence, confirm, vary or cancel the term or condition;

c) an amendment of a licence, confirm, vary or cancel the amendment;

d) a suspension of a licence, confirm, vary the conditions of or cancel the suspension;

e) a revocation of a licence, confirm or cancel the revocation and, where it cancels the revocation, impose any term or condition that it considers necessary for the purposes of this Act;

f) a replacement of a licence, confirm, vary, cancel or replace the replacement;

g) an order or a replacement of an order, confirm, amend, revoke or replace the order or the replacement;

h) a confirmation of an order, reconfirm the order or cancel the confirmation and amend, revoke or replace the order;

i) an amendment of an order, confirm the amendment or cancel the amendment and confirm, amend, revoke or replace the order; or

j) a revocation of an order, confirm the revocation or cancel the revocation and confirm, amend or replace the order.

Regulations

44. (1) The Commission may, with the approval of the Governor in Council, make regulations

a) respecting the development, production and use of nuclear energy;

b) respecting the mining, production, refinement, conversion, enrichment, processing, reprocessing, possession, import, export, use, packaging, transport, management, storage, disposal and abandonment of a nuclear substance;

c) respecting the design, inspection during production or installation, production, possession, storage, import, export, use, decommissioning, abandonment and disposal of prescribed equipment;

d) respecting the production, possession, transfer, storage, import, export, use and disclosure, and restricting the disclosure, of prescribed information;

e) respecting the location, design, construction, installation, operation, maintenance, modification, decommissioning, abandonment and disposal of a nuclear facility or part of a nuclear facility;

f) respecting the protection of the environment and the health and safety of persons from any risks associated with the activities referred to in paragraphs (a), (b), (c) and (e);

g) respecting doses of radiation, including

i. establishing classes of persons and prescribing, in respect of each class, the radiation dose limits to which members of that class may be exposed,

ii. prescribing the circumstances under which any or all members of a class of persons may be exposed to a dose of radiation exceeding any of the limits prescribed for that class of persons, and

iii. establishing measures to protect persons from exposure to radiation;

h) respecting the protection of nuclear energy workers, including prescribing

i. the duties that may be performed by a person employed in a nuclear facility or other place in which a nuclear substance is produced, used, possessed, packaged, transported,

stored or disposed of and the manner and circumstances in which the person's terms and conditions of employment may be varied,

ii. the information that a person so employed is required to provide to their employer or to a dosimetry service in order to measure and monitor the dose of radiation to which the person is exposed,

iii. medical examinations or tests and the circumstances under which they are to be conducted on persons so employed, and

iv. the measures that must be undertaken by employers of persons so employed and licensees of such a nuclear facility or other place;

i) prescribing the fees that may be charged for the provision, by the Commission, of information, products and services;

j) prescribing the fees or the method of calculating the fees that may be charged for a licence or class of licence;

k) respecting the qualifications for, and the training and examination of, analysts, inspectors, nuclear energy workers and other persons employed in a nuclear facility or other place where a nuclear substance or prescribed equipment is produced, used, possessed, packaged, transported, stored or disposed of, and prescribing the fees for the examination of analysts, inspectors, nuclear energy workers and such other persons;

l) respecting the procedures and prescribing the fees for the certification and decertification of persons referred to in paragraph (k);

m) respecting measures to ensure the maintenance of national security and compliance with Canada's international obligations in the development, production and use of nuclear energy and the production, use, possession, packaging, transport, storage and disposal of nuclear substances, prescribed equipment and prescribed information;

n) respecting measures to implement Canada's international obligations regarding the development, production and use of nuclear energy, including prescribing the manner in which and conditions under which access to a nuclear facility, nuclear substance or prescribed information shall be granted to prescribed persons;

o) establishing requirements to be complied with by any person who possesses, uses, packages, transports, stores or disposes of a nuclear substance or prescribed equipment or who locates, designs, constructs, installs, operates, maintains, modifies, decommissions or abandons a nuclear facility or nuclear-powered vehicle;

p) respecting the form of certificates of inspectors and designated officers;

q) respecting the procedure for certification and decertification of prescribed equipment;

r) establishing classes of nuclear facilities;

s) respecting the operation of a dosimetry service;

t) respecting the form of notices required by this Act and the manner in which they are to be given;

u) respecting the exemption of any activity, person, class of person or quantity of a nuclear substance, temporarily or permanently, from the application of this Act or the regulations or any provision thereof;

v) prescribing anything that by this Act is to be prescribed; and

w) generally as the Commission considers necessary for carrying out the purposes of this Act and to assist the Commission in attaining its objects.

(2) The fee referred to in paragraph (1)(i) may not exceed a reasonable estimate of the cost of providing the information, product or service.

(3) The fee referred to in paragraph (1)(j) for a licence or class of licence may not exceed a reasonable estimate of the cost of the Commission's regulatory activities related to that licence or class of licence.

(4) Regulations made under paragraph (1)(o) incorporating a standard by reference may incorporate the standard as amended to a certain date or from time to time.

(5) The Governor in Council may make regulations generally as the Governor in Council considers necessary for carrying out the purposes of this Act.

(6) Any regulation made under subsection (1) or (5) incorporating by reference in whole or in part an Act of the legislature of a province or an instrument made under such an Act may incorporate the Act or instrument as amended to a certain date or from time to time.

(7) Regulations referred to in subsection (6) may apply

a) generally, in respect of all works and undertakings described in section 71;

b) in respect of a particular work or undertaking or class or classes of work or undertaking referred to in that section; or

c) in respect of any class or classes of persons who are employed in connection with a work or undertaking described in paragraph (a) or (b).

(8) A regulation made under subsection (1) incorporating an Act or instrument shall, with the consent of the appropriate provincial minister, be administered and enforced by the person or authority that is responsible for the administration of the Act or instrument.

(9) A regulation made under subsection (5) incorporating an Act or instrument shall, with the consent of the appropriate provincial minister, be administered and enforced by the person or authority that is responsible for the administration of the Act or instrument.

(10) Notwithstanding section 51, every person who contravenes a regulation made under subsection (1) or (5) by contravening a provision of an Act of the legislature of a province that, or an instrument made under such Act that, is incorporated by the regulation is guilty of an offence against this Act and is liable to the same punishment as is imposed by or under any Act of that legislature for the contravention of that provision.

(11) The prosecution of a contravention described in subsection (10) shall be commenced by the Attorney General of the province in which the offence was committed.

(12) A copy of each regulation that the Commission proposes to make under paragraph (1)(i) or (j) shall be published in the *Canada Gazette* and a reasonable opportunity shall be given to persons to make representations to the Commission with respect thereto.

Exceptional Powers

45. Every person who, on reasonable grounds, believes that

a) a place or vehicle is contaminated, in excess of the prescribed limit, by a radioactive nuclear substance, or

b) an event has occurred that is likely to result in the exposure of persons or the environment to a dose of radiation in excess of the prescribed limits,

shall immediately notify the Commission or an appropriate authority of the location and circumstances of the contamination or event.

46. (1) Where the Commission believes, on reasonable grounds, that there is contamination in excess of the prescribed limit by a radioactive nuclear substance at any place, the Commission may conduct a public hearing in accordance with the prescribed rules of procedure to determine whether such contamination has occurred.

(2) Where, after conducting a hearing, the Commission is satisfied that there is contamination referred to in subsection (1), the Commission shall file a notice of contamination in the land registry office or other office where title to land is recorded for the area in which the place is located, or in any other prescribed public office.

(3) Where, after conducting a hearing, the Commission is satisfied that there is contamination referred to in subsection (1), the Commission may, in addition to filing a notice under subsection (2), order that the owner or occupant of, or any other person with a right to or interest in, the affected land or place take the prescribed measures to reduce the level of contamination.

(4) Where the Commission believes on reasonable grounds that there is no longer contamination referred to in subsection (1) at a place with respect to which a notice has been filed under subsection (2), the Commission shall conduct a public hearing in accordance with the prescribed rules of procedure to determine whether such contamination is no longer present.

(5) Where, after conducting a hearing under subsection (4), the Commission is satisfied that the contamination is no longer present, the Commission shall file a notice of cancellation wherever a notice of contamination in relation to the place was filed.

(6) A notice of contamination or cancellation is to be filed following a hearing under this section and, before such filing, the Commission shall give notice in the prescribed manner to the owner or occupant of the affected land and any other prescribed person of the Commission's determination.

(7) The Commission shall give notice in the prescribed manner of an order made under subsection (3) to any person named in or subject to the order.

47. (1) Notwithstanding any other provision of this Act, in case of emergency the Commission may, without conducting any proceedings, make any order that it considers necessary to protect the environment or the health and safety of persons or to maintain national security and compliance with Canada's international obligations.

(2) The Commission shall, as soon as practicable after making an order under subsection (1), give notice of it in the prescribed manner.

Offences and Punishment

48. Every person commits an offence who

a) alters, otherwise than pursuant to the regulations or a licence, or misuses any thing the purpose of which is to

i. protect the environment or the health or safety of persons from any risk associated with the development, production or use of nuclear energy or the possession or use of a nuclear substance, prescribed equipment or prescribed information, or

ii. maintain national security or implement international obligations to which Canada has agreed, at a nuclear facility or at a place where, or vehicle in which, a nuclear substance is located;

b) discloses prescribed information, except pursuant to the regulations;

c) fails to comply with any condition of a licence;

d) knowingly makes a false or misleading written or oral statement to the Commission, a designated officer or an inspector;

e) fails to comply with an order of the Commission, a designated officer or an inspector;

f) fails to assist or give information to an inspector when requested to do so, or otherwise interferes with the performance of an inspector's duties;

g) takes disciplinary action against a person who assists or gives information to an inspector, a designated officer or the Commission in the performance of the person's functions or duties under this Act;

h) except in the prescribed manner and circumstances, terminates, or varies the terms and conditions of, employment of a nuclear energy worker who has received or is committed to a dose of radiation in excess of the prescribed limits;
i) falsifies a record kept pursuant to this Act or the regulations or to a condition of a licence;
j) fails to comply with an order made under any of sections 58 to 62; or

k) fails to comply with this Act or any regulation made pursuant to this Act.

49. Notwithstanding the occurrence of a legal strike or lockout, every person commits an offence who

a) while in charge of a nuclear facility, fails to ensure that there is present in that facility at all times the staff required, under the licence for that facility, to maintain that facility in a safe condition; or

b) does not report for duty at a nuclear facility or who, while on duty at a nuclear facility, withdraws their services, except where the person is not required to report or is relieved in accordance with a procedure set out in the licence for that facility.

50. Every person commits an offence who, except as authorized by this Act, possesses a nuclear substance, prescribed equipment or prescribed information that is capable of being used to produce a nuclear weapon or a nuclear explosive device.

51. (1) Every person who contravenes section 36 is guilty of an offence punishable on summary conviction and liable to a fine not exceeding $5,000 or to imprisonment for a term not exceeding six months or to both.

(2) Every person who commits an offence under section 50 is guilty of an indictable offence and liable to imprisonment for a term not exceeding ten years.

(3) Every person who commits an offence other than an offence in respect of which subsection (1) or (2) applies

a) is guilty of an indictable offence and liable to a fine not exceeding $1,000,000 or to imprisonment for a term not exceeding five years or to both; or

b) is guilty of an offence punishable on summary conviction and liable to a fine not exceeding $500,000 or to imprisonment for a term not exceeding eighteen months or to both.

51. A person shall not be found to have contravened any provision of this Act, other than section 50, if it is established that the person exercised all due diligence to prevent its commission.

52. Where an offence under this Act is committed or continued on more than one day, it shall be deemed to be a separate offence for each day on which it is committed or continued.

53. Proceedings by way of summary conviction in respect of an offence under this Act may be instituted not later than two years after the time when the subject-matter of the proceedings arose or the Commission became aware of the subject-matter of the proceedings.

54. Subsection 389(5) of the *Canada Shipping Act* does not apply in respect of a nuclear substance, prescribed equipment, a nuclear facility or a nuclear-powered vehicle.

55. (1) Subject to this section, a certificate purporting to be signed by an analyst, stating that the analyst has analysed or tested a substance or product and stating the result of the analysis or test, or a copy or extract of a certificate certified as such by an inspector or designated officer is admissible in evidence in any prosecution for an offence under this Act without proof of the signature or official character of the analyst, inspector or designated officer and is proof of the statements contained in the certificate.

(2) Any party against whom a certificate, copy or extract referred to in subsection (1) is produced may, with leave of the court, require the attendance of the analyst, inspector or designated officer, as the case may be, for the purposes of cross-examination.

(3) No certificate, copy or extract shall be received in evidence pursuant to subsection (1) unless the party intending to produce it has given to the party against whom it is intended to be produced reasonable notice of that intention, together with a copy of the certificate.

56. Every licensee who resides or carries on business in Canada and commits, outside Canada, an act or omission that would, if committed in Canada, be an offence under paragraph 48(c) or under paragraph 48(i) in relation to its licence, is deemed to have committed that act or omission in Canada.

57. A prosecution for an offence under this Act may be instituted, heard and determined in the place where the offence was committed, the subject-matter of the prosecution arose, the accused is resident or the accused is carrying on business.

58. (1) Where an offender has pleaded guilty to or been found guilty of an offence under this Act, the court may, instead of convicting the offender, order that the offender be discharged absolutely or on conditions that have any or all of the effects described in paragraphs 60(1)(a) to (j).

(2) Where an offender contravenes an order made under subsection (1) or is convicted of any other offence under this Act that is committed after the order under subsection (1) was made, the prosecutor may apply to the court to revoke the discharge, convict the offender of the offence to which the discharge relates and impose any sentence that could have been imposed if the offender had been convicted at the time the order was made.

59. (1) Where an offender is convicted of an offence under this Act, the court may suspend the passing of sentence and may order that the accused comply with any condition having any or all of the effects described in paragraphs 60(1)(a) to (j).

(2) Where the offender contravenes an order made under subsection (1) or is convicted of any other offence under this Act that is committed after the order under subsection (1) was made, the prosecutor may apply to the court to impose any sentence that could have been imposed if the passing of sentence had not been suspended.

60. (1) Where an offender has been convicted of an offence under this Act, in addition to any other punishment that may be imposed under this Act, the court may make an order having any or all of the following effects:

a) prohibiting the offender from committing any act or engaging in any activity that may, in the opinion of the court, result in the continuation or repetition of the offence;

b) directing the offender to take any measure that the court considers appropriate to protect the environment or the health or safety of persons from harm resulting from the act or omission that constituted the offence, or to remedy such harm;

c) directing the offender to publish, in the prescribed manner and at the offender's own expense, the facts relating to the conviction;

d) directing the offender to notify, in the prescribed manner and at the offender's own expense, any person who is affected by the offender's conduct, of the facts relating to the conviction;

e) directing the offender to post a bond or pay an amount of money into court that the court considers appropriate to ensure compliance with any order, prohibition, direction or requirement provided for in this subsection;

f) directing the offender to submit to the Commission, on application to the court by the Commission made within three years after the date of conviction, such information with respect to the activities of the offender as the court considers appropriate in the circumstances;

g) directing the offender to compensate the Commission, in whole or in part, for the cost of any remedial or preventive measure taken by or caused to be taken on behalf of the Commission as a result of the act or omission that constituted the offence;

h) directing the offender to perform community service, subject to such reasonable conditions as may be imposed by the court on the recommendation of the Commission;

i) directing the offender to pay an amount for the purposes of conducting research into the use and disposal of any nuclear substance, prescribed equipment or nuclear facility in respect of which the offence was committed; or

j) requiring the offender to comply with such other conditions as the court considers appropriate in the circumstances for securing the offender's good conduct and for preventing the offender from repeating the same offence or committing any other offence under this Act.

(2) An order made under subsection (1), 58(1) or 59(1) shall come into force on the day on which the order is made or on such other day as the court may determine and shall not continue in force for more than three years after that day.

61. Where a person has been convicted of an offence under this Act and the court is satisfied that, as a result of the commission of the offence, monetary benefits accrued to the person, the court may order the person to pay, notwithstanding the maximum amount of any fine that may otherwise be imposed under this Act, an additional fine in an amount equal to the court's estimation of the amount of the monetary benefits.

62. (1) Where an offender has been convicted of an offence under this Act, in addition to any sentence imposed, the court may, at the time sentence is imposed and on the application of any person who has suffered loss of, or damage to, property, as a result of the commission of the offence, order the offender to pay to that person, within such period as the court considers reasonable, an amount of compensation for the loss or damage.

(2) Where an amount that is ordered to be paid under subsection (1) is not paid within the period specified, the applicant may, by filing the order in the superior court of the province in which the trial was held, enter the amount ordered to be paid as a judgment, and such a judgment is enforceable against the offender in the same manner as if it were a judgment rendered against the offender in that court in civil proceedings.

63. (1) Where a court has made an order under section 58, 59 or 60 in relation to an offender, the court may, on application by the offender or the Attorney General of Canada, require the offender to appear before the court and, after hearing the offender and the Attorney General, may vary the order in one or any combination of the following ways that is applicable and, in the opinion of the court, is rendered desirable by a change in the circumstances of the offender since the order was made, namely,

a) make changes in the order or the conditions specified in the order or extend the period for which the order is to remain in force for such period, not exceeding one year, as the court considers desirable; or

b) decrease the period for which the order is to remain in force or relieve the offender, either absolutely or partially or for such period as the court considers desirable, of compliance with any condition that is specified in the order.

(2) Before varying an order under subsection (1), the court may direct that notice be given to any persons that the court considers to be interested in the order and may hear any or all of those persons.

(3) Where an application made under subsection (1) in respect of an offender has been heard by a court, no other application may be made with respect to the order except with leave of the court.

64. Nothing in section 58, 59, 60, 62 or 63 shall be construed as restricting

a) any right, obligation or liability of any person arising under the *Nuclear Liability Act*; or

b) the jurisdiction of a Nuclear Damage Claims Commission established under the *Nuclear Liability Act*.

65. (1) Where an offender is required by an order made under section 58, 59 or 60 to comply with a condition having the effect described in paragraph 60(1)(c) and the offender fails to comply with the

condition, the Commission may publish the facts in the manner referred to in that paragraph and may recover the costs of publication from the offender.

(2) Where the Commission incurs publication costs under subsection (1) or an offender is required by an order made under section 58, 59 or 60 to comply with a condition having the effect described in paragraph 60(1)(g), the costs and any interest thereon constitute a debt due to Her Majesty in right of Canada and may be recovered as such in any court of competent jurisdiction or in any manner provided for by law.

General

66. Every member, every officer and employee of the Commission and every person acting on behalf or under the direction of the Commission shall, before acting as such, take before a justice of the peace or a commissioner for taking affidavits the following oath or affirmation of fidelity and secrecy:

> I, ..., do solemnly swear (*or* affirm) that I will faithfully, truly and to the best of my judgment, skill and ability execute and perform the duties required of me as a member (*or* officer *or* employee *or* person acting on behalf or under the direction, *as the case may be*), of the Canadian Nuclear Safety Commission.
>
> I further solemnly swear (*or* affirm) that I will not communicate or allow to be communicated to any person not legally entitled thereto any information relating to the affairs of the Commission nor will I allow any such person to inspect or have access to any books or documents belonging to or in the possession of the Commission and relating to its business.

67. Subject to this Act and the regulations, the *Financial Administration Act* applies in respect of the Commission.

68. The Commission may expend, administer, use or dispose of any money or other property acquired by gift, bequest, donation and the like, subject to the terms, if any, on which the money or other property was given, bequeathed, donated or otherwise made available to the Commission.

69. A decision or order made under this Act, other than an order made under section 19, is not a statutory instrument for the purposes of the *Statutory Instruments Act*.

70. The amount of any fee imposed on a person under this Act and any interest thereon is a debt due to Her Majesty in right of Canada and may be recovered as such from the person on whom it was imposed in any court of competent jurisdiction.

71. Any work or undertaking constructed for the development, production or use of nuclear energy or for the mining, production, refinement, conversion, enrichment, processing, reprocessing, possession or use of a nuclear substance or for the production, possession or use of prescribed equipment or prescribed information is declared to be a work or undertaking for the general advantage of Canada.

72. The Commission shall, within four months after the end of each fiscal year, submit to the Minister a report of the activities of the Commission under this Act for that fiscal year, and the Minister shall cause the report to be laid before each House of Parliament on any of the first fifteen days on which that House is sitting after receiving it.

Transitional Provisions

73. The definitions in this section apply in this section and sections 74 to 80.

"Board" means the Atomic Energy Control Board established by section 3 of the *Atomic Energy Control Act*, as that section read immediately before the commencement day.

"commencement day" means the day on which this Act comes into force.

74. The Board is hereby dissolved.

75. The person who holds the office of President of the Board immediately before the commencement day continues in office as the President of the Commission for the remainder of the term for which that person was appointed President.

76. Each person who holds office as a member of the Board immediately before the commencement day continues in office as a member of the Commission for the remainder of the term for which the person was appointed.

77. (1) All rights and property of Her Majesty in right of Canada that are under the administration and control of the Board and all obligations and liabilities of the Board are hereby transferred to the Commission.

(2) Every reference to the Board in a deed, contract or other document executed by the Board in its own name shall, unless the context otherwise requires, be read as a reference to the Commission.

(3) The Minister may do and perform all acts and things necessary for or incidental to closing out the affairs of the Board.

78. (1) Any action, suit or other legal proceeding in respect of an obligation or liability incurred by the Board, or in the closing out of the affairs of the Board, may be brought against the Commission in any court that would have had jurisdiction if the action, suit or proceeding had been brought against the Board.

(2) Any action, suit or other legal proceeding to which the Board is party pending in any court immediately before the commencement day may, on that day, be continued by or against the Commission in the like manner and to the same extent as it could have been continued by or against the Board.

(3) Proceedings pending before the Board immediately before the commencement day shall be taken up and continued before the Commission under and in accordance with this Act.

79. (1) Every person who, immediately before the commencement day, was an officer or employee of the Board becomes, on that day, an officer or employee, as the case may be, of the Commission.

(2) Every person to whom subsection (1) applies shall be deemed to have been appointed in accordance with subsection 16(1).

(3) For greater certainty, nothing in subsection (1) shall be construed as entitling any person to severance pay.

(4) A person to whom subsection (1) applies shall be deemed, while an officer or employee of the Board, to have been employed in the Public Service for the purpose of determining the person's entitlement to leave or any other employment benefit.

80. A licence that is issued pursuant to regulations made under paragraph 9(b) **of the *Atomic Energy Control Act* and that is in force immediately before the commencement day is deemed to have been issued under section 24 of this Act and to be in force for the remainder of the period for which it was issued under the *Atomic Energy Control Act* and any fees paid or payable under the *AECB Cost Recovery Fees Regulations*, *1994* in respect of such a licence are deemed to be paid or payable, as the case may be, under this Act.**

81. A certificate, approval, endorsement, authorization, designation, permit or specification issued pursuant to the *Atomic Energy Control Act* or any regulation made under that Act is deemed to have been issued pursuant to regulations made under this Act and to be in force for the remainder of the period for which it was issued under that Act or those regulations.

82. A nuclear installation designated by the Atomic Energy Control Board for the purposes of the *Nuclear Liability Act* is deemed to have been designated for those purposes by the Canadian Nuclear Safety Commission.

Consequential Amendments

Access to Information Act

83. Schedule I to the *Access to Information Act* is amended by striking out the following under the heading "Other Government Institutions":

Atomic Energy Control Board
Commission de contrôle de l'énergie atomique

84. Schedule I to the Act is amended by adding the following in alphabetical order under the heading "Other Government Institutions":

Canadian Nuclear Safety Commission
Commmission canadienne de sûreté nucléaire

85. Schedule II to the Act is amended by deleting the reference to

Atomic Energy Control Act
Loi sur le contrôle de l'énergie atomique

and the corresponding reference to section 9.

86. Schedule II to the Act is amended by adding the following in alphabetical order:

Nuclear Safety and Control Act
Loi sur la sûreté et la réglementation nucléaires

and by adding a corresponding reference to paragraphs 44(1)(d) and 48(b).

Atomic Energy Control Act

87. The long title to the *Atomic Energy Control Act* is replaced by the following:

An Act relating to the development and utilization of nuclear energy

88. The preamble to the Act is repealed.

89. Section 1 of the Act is replaced by the following:

1. This Act may be cited as the *Nuclear Energy Act*.

90. (1) The definitions "atomic energy", "Board", "member", "prescribed substances" and "President" in section 2 of the Act are repealed.

(2) Section 2 of the Act is amended by adding the following in alphabetical order:

"nuclear energy" has the meaning assigned to that expression by section 2 of the *Nuclear Safety and Control Act*;

"nuclear substance" has the meaning assigned to that expression by section 2 of the *Nuclear Safety and Control Act*.

91. The heading before section 3 and sections 3 to 9 of the Act are repealed.

92. Paragraphs 10(1)(c) and (d) of the Act are replaced by the following:

c) with the approval of the Governor in Council, acquire or cause to be acquired, by purchase, lease, requisition or expropriation, nuclear substances and any mines, deposits or claims of nuclear substances and patent rights relating to nuclear energy and any works or property for production or preparation for production of, or for research or investigations with respect to, nuclear energy; and

d) with the approval of the Governor in Council, license or otherwise make available or sell or otherwise dispose of discoveries and inventions relating to, and improvements in processes, apparatus or machines used in connection with, nuclear energy and patent rights acquired under this Act and collect royalties and fees on and payments for those licences, discoveries, inventions, improvements and patent rights.

93. **(1) Subsection 11(1) of the Act is replaced by the following:**

11. (1) The shares of the capital stock of a company, except the shares that are necessary to qualify persons other than the Minister as directors, shall be owned or held by the Minister, or by another company, in trust for Her Majesty in right of Canada.

(2) Subsection 11(3) of the Act is repealed.

94. Sections 12 to 17 of the Act are replaced by the following:

14. (1) Whenever any property has been requisitioned or expropriated under this Act and the Minister and the owner of the property have not, within such period as the Minister of Justice considers reasonable, agreed on the compensation to be made for the property, the claim for compensation shall be referred by the Minister of Justice to the Federal Court.

(2) Subsection (1) does not apply in respect of land described in subsections 10(2) and (3).

15. All expenses under this Act shall be paid out of moneys appropriated by Parliament for the purpose or received by a company through the conduct of its operations or by bequest, donation or otherwise.

95. Paragraph 18(*c*) of the Act is replaced by the following:

c) for the production, refining or treatment of nuclear substances,

96. Subsection 19(1) of the Act is repealed.

97. Sections 20 and 21 of the Act are repealed.

98. Schedule I to the Act is repealed.

99. The Act is amended by replacing the expression "atomic energy" with the expression "nuclear energy" in the following provisions:

a) paragraphs 10(*a*) and (*b*); and

b) paragraphs 18(*a*) and (*b*).

Canadian Transportation Accident Investigation and Safety Board Act

100. The schedule to the *Canadian Transportation Accident Investigation and Safety Board Act* is amended by striking out the following:

Atomic Energy Control Board
Commission de contrôle de l'énergie atomique

101. The schedule to the Act is amended by adding the following in alphabetical order:

Canadian Nuclear Safety Commission
Commission canadienne de sûreté nucléaire

Financial Administration Act

102. Schedule II to the *Financial Administration Act* is amended by striking out the following:

Atomic Energy Control Board
Commission de contrôle de l'énergie atomique

103. **Schedule II to the Act is amended by adding the following in alphabetical order:**

Canadian Nuclear Safety Commission
Commission canadienne de sûreté nucléaire

Hazardous Products Act

104. Paragraph 3(1)(*d*) of the *Hazardous Products Act* is replaced by the following:

d) nuclear substance, within the meaning of the *Nuclear Safety and Control Act*, that is radioactive.

105. Paragraph 12(*d*) of the Act is replaced by the following:

d) nuclear substance, within the meaning of the Nuclear Safety and Control Act, that is radioactive;

Canada Labour Code

106. Section 123.1 of the Act is replaced by the following:

123.1 The Governor in Council may, by order, exclude, in whole or in part, from the application of this Part or any specified provision of this Part employment on or in connection with any work or undertaking that is regulated pursuant to the *Nuclear Safety and Control Act*.

Municipal Grants Act

107. Schedule III to the *Municipal Grants Act* is amended by striking out the following:

Atomic Energy Control Board
Commission de contrôle de l'énergie atomique

108. Schedule III to the Act is amended by adding the following in alphabetical order:

Canadian Nuclear Safety Commission
Commission canadienne de sûreté nucléaire

Nuclear Liability Act

109. (1) The portion of the definition "nuclear installation" in section 2 of the *Nuclear Liability Act* before paragraph (*a*) is replaced by the following:

"nuclear installation" means a structure, establishment or place, or two or more structures, establishments or places at a single location, coming within any of the following descriptions and designated as a nuclear installation for the purposes of this Act by the Canadian Nuclear Safety Commission, namely,

(2) The definition "operator" in section 2 of the Act is replaced by the following:

"operator" means the holder of a subsisting licence issued pursuant to the *Nuclear Safety and Control Act* for the operation of a nuclear installation or, in relation to any nuclear installation for the operation of which there is no subsisting licence, the recipient of the licence last issued pursuant to the *Nuclear Safety and Control Act* for the operation of that nuclear installation.

110. Paragraph 15(1)(*a*) of the Act is replaced by the following:

a) basic insurance for such term and for such amount not exceeding seventy-five million dollars as may be prescribed with respect to that nuclear installation by the Canadian Nuclear Safety Commission, with the approval of the Treasury Board, and

Patent Act

111. Section 22 of the *Patent Act* and the heading before it are replaced by the following:

Patents Relating to Nuclear Energy

22. Any application for a patent for an invention that, in the opinion of the Commissioner, relates to the production, application or use of nuclear energy shall, before it is dealt with by an examiner appointed pursuant to section 6 or is open to inspection by the public under section 10, be communicated by the Commissioner to the Canadian Nuclear Safety Commission.

Privacy Act

112. The schedule to the *Privacy Act* is amended by striking out the following under the heading "*Other Government Institutions*":

Atomic Energy Control Board
Commission de contrôle de l'énergie atomique

113. The schedule to the Act is amended by adding the following in alphabetical order under the heading "*Other Government Institutions*":

Canadian Nuclear Safety Commission
Commission canadienne de sûreté nucléaire

Public Sector Compensation Act

114. Schedule I to the *Public Sector Compensation Act* is amended by striking out the following:

Atomic Energy Control Board
Commission de contrôle de l'énergie atomique

115. Schedule I to the Act is amended by adding the following in alphabetical order:

Canadian Nuclear Safety Commission

Commission canadienne de sûreté nucléaire

Public Servants Inventions Act

116. Subsection 8(2) of the *Public Servants Inventions Act* is replaced by the following:

(2) No interest in an invention coming within section 20 or 21 of the *Patent Act* shall be waived, abandoned or transferred under this section without the approval of the Minister of National Defence, and no interest in an invention coming within section 22 of that Act shall be waived, abandoned or transferred under this section without the approval of the Canadian Nuclear Safety Commission.

Public Service Staff Relations Act

117. Part II of Schedule I to the *Public Service Staff Relations Act* is amended by striking out the following:

Atomic Energy Control Board
Commission de contrôle de l'énergie atomique

118. Part II of Schedule I to the Act is amended by adding the following in alphabetical order:

Canadian Nuclear Safety Commission
Commission canadienne de sûreté nucléaire

Public Service Superannuation Act

119. Part I of Schedule I to the *Public Service Superannuation Act* is amended by striking out the following:

Atomic Energy Control Board
Commission de contrôle de l'énergie atomique

120. Part I of Schedule I to the Act is amended by adding the following in alphabetical order:

Canadian Nuclear Safety Commission
Commission canadienne de sûreté nucléaire

Radiation Emitting Devices Act

121. Paragraph 3(*a*) of the *Radiation Emitting Devices Act* is replaced by the following:

a) a radiation emitting device that is designed primarily for the production of nuclear energy within the meaning of the *Nuclear Safety and Control Act*; or

Transportation of Dangerous Goods Act, 1992

122. Paragraph (*b*) of the definition "accidental release" in section 2 of the *Transportation of Dangerous Goods Act, 1992* is replaced by the following:

b) emission of ionizing radiation that exceeds a level or limit established under the Nuclear Safety and Control Act;

123. Class 7 of the schedule to the Act is replaced by the following:

Class 7 – Nuclear substances, within the meaning of the *Nuclear Safety and Control Act*, that are radioactive.

Conditional Amendments

124. On the later of the day on which subsection 672.64(1) of the *Criminal Code*, as enacted by section 4 of *An Act to amend the Criminal Code (mental disorder) and to amend the National Defence Act and the Young Offenders Act in consequence thereof*, chapter 43 of the Statutes of Canada, 1991, comes into force and the day on which this Act comes into force,

a) item 67 of the schedule to Part XX.1 of the *Criminal Code* and the heading before it are repealed; and

b) the schedule to Part XX.1 of the *Criminal Code* is amended by adding the following after item 90:

NUCLEAR SAFETY AND CONTROL ACT

90.1 Paragraphs 48(*a*) and (*b*) and section 50 – offence

125. (1) If Bill C-3, introduced in the second session of the thirty-fifth Parliament and entitled *An Act to amend the Canada Labour Code (nuclear undertakings) and to make a related amendment to another Act*, is assented to, then, on the later of the coming into force of that Act and the coming into force of this Act:

(a) section 121.1 of the *Canada Labour Code* is replaced by the following:

121.1 The Governor in Council may by regulation direct that this Part applies in respect of any employment, or any class or classes of employment, on or in connection with a work or undertaking set out in the regulation that is, or is part of, a corporation that is an agent of Her Majesty in right of a province and whose activities are regulated, in whole or in part, pursuant to the *Nuclear Safety and Control Act*.

(b) subsection 121.2(1) of the *Canada Labour Code* is replaced by the following:

121.2 (1) The Governor in Council may by regulation exclude, in whole or in part, from the application of any of the provisions of this Part any employment, or any class or classes of employment, on or in connection with a work or undertaking set out in the regulation whose activities are regulated, in whole or in part, pursuant to the *Nuclear Safety and Control Act*.

(c) section 158 of the *Canada Labour Code* is replaced by the following:

158. The Governor in Council may by regulation direct that this Part applies in respect of any employment, or any class or classes of employment, on or in connection with a work or undertaking set out in the regulation that is, or is part of, a corporation that is an agent of Her Majesty in right of a province and whose activities are regulated, in whole or in part, pursuant to the *Nuclear Safety and Control Act*.

(d) subsections 159(1) and (2) of the *Canada Labour Code* are replaced by the following:

159. (1) The Governor in Council may by regulation exclude, in whole or in part, from the application of any of the provisions of this Part any employment, or any class or classes of employment, on or in connection with a work or undertaking set out in the regulation whose activities are regulated, in whole or in part, pursuant to the *Nuclear Safety and Control Act*.

(2) On the recommendation of the Minister after consultation with the Canadian Nuclear Safety Commission, the Governor in Council may make regulations relating to occupational safety and health in relation to employment that is subject to a regulation made pursuant to subsection (1).

(e) section 265 of the *Canada Labour Code* is replaced by the following:

265. The Governor in Council may by regulation direct that this Part applies in respect of any employment, or any class or classes of employment, on or in connection with a work or undertaking set out in the regulation that is, or is part of, a corporation that is an agent of Her Majesty in right of a province and whose activities are regulated, in whole or in part, pursuant to the *Nuclear Safety and Control Act*.

(f) subsection 266(1) of the *Canada Labour Code* is replaced by the following:

266. (1) The Governor in Council may by regulation exclude, in whole or in part, from the application of any of the provisions of this Part any employment, or any class or classes of employment, on or in connection with a work or undertaking set out in the regulation whose activities are regulated, in whole or in part, pursuant to the *Nuclear Safety and Control Act*.

(g) section 8.1 of the *Non-smokers' Health Act* is replaced by the following:

8.1 The Governor in Council may by regulation direct that this Act applies in respect of any employment, or any class or classes of employment, on or in connection with a work or undertaking set out in the regulation that is, or is part of, a corporation that is an agent of Her Majesty in right of a province and whose activities are regulated, in whole or in part, pursuant to the *Nuclear Safety and Control Act*.

(h) subsection 8.2(1) of the *Non-smokers' Health Act* is replaced by the following:

8.2 (1) The Governor in Council may by regulation exclude, in whole or in part, from the application of any or all of the provisions of this Act any employment, or any class or classes of employment, on or in connection with a work or undertaking set out in the regulation whose activities are regulated, in whole or in part, pursuant to the *Nuclear Safety and Control Act*.

(2) If Bill C-3, introduced in the second session of the thirty-fifth Parliament and entitled *An Act to amend the Canada Labour Code (nuclear undertakings) and to make a related amendment to another Act*, is assented to, and that Act comes into force before this Act, then section 106 of this Act is repealed.

126. If a bill entitled *An Act respecting regulations and other documents, including the review, registration, publication and parliamentary scrutiny of regulations and other documents, and to make consequential and related amendments to other Acts* is introduced in the second session of the thirty-fifth Parliament and assented to, then, on the later of the day on which section 1 of that Act comes into force and the day on which this Act comes into force, section 69 of this Act is replaced by the following:

69. A decision or order made under this Act, other than an order made under section 19, is not a regulation for the purposes of the *Regulations Act*.

Coming into Force

127. This Act comes into force on a day to be fixed by order of the Governor in Council.

HUNGARY

ACT CXVI OF 1996 ON ATOMIC ENERGY*

(adopted by the Parliament of Hungary on 10 December 1996)

Whereas the peaceful use of atomic energy promotes the living conditions of humanity in numerous fields of industry, agriculture, health care, and scientific research;

Taking into consideration, however, that the improper application of atomic energy may harm the health of humans and of fauna and flora, and damage the natural environment;

In order to ensure that the risk caused by the use of atomic energy is no greater than the socially-accepted risks associated with other activities and to ensure adherence to safety requirements by appropriate national regulations which are in agreement with international regulations;

The Parliament of Hungary hereby passes the following Act on the protection of the public and the environment against the detrimental effects of ionising radiation, on the regulation of the application of atomic energy and the associated licensing process, and on the fundamental tasks and obligations of regulatory authorities and the users of atomic energy in this field.

Chapter I
GENERAL PROVISIONS

The Scope of the Act

Section 1

(1) This Act shall apply to the peaceful use of atomic energy, the associated rights and obligations, as well as the protection of humans and the living and non-living environment against the detrimental effects of ionising radiation of natural and artificial origin.

(2) This Act shall not apply to activities related to radioactive materials, as well as equipment which – due to the character and extent of ionising radiation that can be created – do not qualify as hazardous to human life and health, as well as to the animate and inanimate environment.

* Official translation as published in the "Hungarian Rules of Law in Force" No. VIII/11 of 1 June 1997.

Definitions

Section 2

For the purposes of this Act, the following definitions shall apply:

a) ***the application of atomic energy:***

aa) activities with radioactive materials and nuclear materials;

ab) activities with the facilities and equipment generating ionising radiation or supporting the application under aa);

b) ***user of atomic energy:*** any party undertaking activities defined in Paragraph *a)*;

c) ***radioactive material:*** any material occurring in nature or artificially produced, one or more components of which releases ionising radiation, as well as any preparation containing such material(s);

d) ***nuclear material:*** all those radioactive materials which are or can be made capable of self-sustaining nuclear chain reactions, as well as the compounds thereof or the material containing such element or its compound, especially uranium, thorium, plutonium, and any material that contains one or more of the previous materials, except for ores and waste ore falling within the scope of mining and ore processing;

e) ***ionising radiation:*** the radiation consisting of directly or indirectly ionising particles, or photons capable of ionising;

f) ***nuclear chain reaction:*** a series of nuclear fission reactions which is sustained by neutrons released in the course of the fission process;

g) ***nuclear facility:*** a nuclear power plant, nuclear district heating plant, research and training nuclear reactor and all other facilities defined in Paragraph I, Article 97 of the agreement concluded between the Peoples' Republic of Hungary and the International Atomic Energy Agency for the application of safeguards in connection with the treaty on the non-proliferation of nuclear weapons, promulgated in Law-Decree 9 of 1972;

h) ***nuclear system and equipment:*** systems and equipment of nuclear facilities having an impact on nuclear safety;

i) ***nuclear reactor:*** equipment which is suitable for producing a controlled nuclear chain reaction;

j) ***equipment generating ionising radiation:*** equipment which is suitable for generating and releasing ionising radiation through the use of external energy or radioactive materials;

k) ***nuclear fuel:*** nuclear reactor fuel containing nuclear material;

l) ***spent fuel:*** the nuclear fuel utilised in a nuclear reactor, which, due to its recyclability – outside the nuclear reactor – does not qualify as waste;

m) ***radioactive waste****:* radioactive materials which will no longer be used and which, based on their radiation protection characteristics, cannot be treated as ordinary waste;

n) ***radioactive waste disposal facility:*** facilities serving for the final disposal of radioactive waste;

o) ***interim storage facility for radioactive waste:*** facilities serving for the temporary storage of radioactive waste;

p) ***nuclear power plant:*** an energy conversion facility which generates electricity through the use of nuclear chain reaction;

q) ***nuclear district heating plant:*** an energy conversion facility supplying heat through the use of nuclear chain reaction;

r) ***abnormal event:*** an incident occurring in a facility or equipment serving the application of atomic energy or arising in the course of an activity with a radioactive (nuclear) material – for any reason whatsoever – which may unfavourably affect safety and will or may result in an unplanned human exposure to radiation of, as well as an unplanned release of radioactive materials into the environment;

s) ***nuclear emergency situation:*** a situation caused by an abnormal event where measures are or may be required to be taken to prevent or mitigate the consequences for the general public;

t) ***licensee:*** a user of atomic energy possessing a regulatory licence and pursuing an activity requiring a licence;

u) ***nuclear damage:*** the loss of human life, all damage afflicted to the physical fitness and health of humans, all material damage, the costs of repairing to a reasonable extent the damages to the environment arising concurrently, and the costs related to all reasonable and required actions carried out for the mitigation or restoration of damages provided they were caused by nuclear fuel, a radioactive product, waste in a nuclear facility or by an abnormal event in the facility or during transport of radioactive material originating from, transported from or shipped to a nuclear facility;

v) ***nuclear accident:*** all abnormal events that cause nuclear damage;

w) ***SDR:*** Special Drawing Rights – the international accounting unit as determined by the International Monetary Fund (IMF);

x) ***lowest level reasonably achievable:*** the lowest value which is defined taking into account scientific, technical, economic and social conditions and is in agreement with international expectations.

Basic Principles

Section 3

The Republic of Hungary promotes the peaceful and safe use of atomic energy through co-operation undertaken in the framework of international agreements as well.

Section 4

(1) Atomic energy may only be used in such a way that it does not damage human life, the health and living conditions of present and future generations, the environment and material assets beyond the socially-acceptable level of risk which is necessarily accepted in the course of other economic activities as well.

(2) In the use of atomic energy, safety has priority over all other aspects.

(3) In the use of atomic energy, it shall be ensured that:

a) no uncontrolled and unregulated nuclear chain reaction can be generated;

b) employees engaged in the application of atomic energy, the general public, the environment and material property are not damaged to an extent unacceptable from the perspective of safety, exceeding the individual and social benefit of atomic energy, as a result of ionising radiation or for a different reason;

c) the annual radiation dose of employees and the public taking all sources into account shall not be higher than the maximum dose defined by the relevant safety regulations, in light of the most recent, certified achievements of science and the recommendations of international and domestic expert organisations; the radiation dose must always be reduced to the lowest level reasonably achievable, and the maximum volume, concentration, and method of release – determined in accordance with physical and chemical or other characteristics – of radioactive materials released into the environment shall be regulated accordingly;

d) the risk of an abnormal event occurring is minimised, the development of such events can be prevented, the consequences thereof can be responded to in a planned manner, and the detrimental effect of any radioactive materials or ionising radiation released can be reduced to the lowest level reasonably achievable.

(4) The licensee of a nuclear facility and radioactive waste disposal facility shall inform the general public about all abnormal events.

(5) In the interest of safety, the possibilities and constraints of human performance capabilities must be taken into account during the full life time of nuclear facilities.

(6) Users of atomic energy shall ensure that the generation of radioactive waste through their activity is held to the lowest level practically possible.

(7) In the application of atomic energy, provisions shall be made for the safe disposal of radioactive waste and spent fuel in accordance with the most recent, certified results of science, international

expectations, as well as experience, in such a way that no unacceptable burden is passed on to future generations.

(8) The safe application of atomic energy, including nuclear emergency response, and the solution of associated research and development tasks shall be promoted by developing science and technology, by co-ordinated organisation of research activities, by the application of the achievements of domestic and international scientific research, as well as by the training and advanced training of experts.

(9) Costs of research and development activities necessary for the enhancement of the safety of a nuclear facility shall be covered by the licensee.

(10) The basic technical activities serving the regulatory control of the safe use of atomic energy shall be funded from the central budget.

(11) Fundamental scientific, technical knowledge and other information – including the risks – related to the application of atomic energy shall be educated and disseminated to the public through public news services and through public education.

Section 5

(1) The safety requirements for the application of atomic energy must be reviewed and updated regularly, taking into account the achievements of science and international experience.

(2) Atomic energy may be used only in such ways identified by legal regulations and subject to regular control by the authorities. The conditions for the safe application of atomic energy shall be determined by the regulatory authorities concerned, taking into consideration the achievements in legislation, science and technology on an ongoing basis. These authorities shall be independent of the public administration organisations having an interest in promoting and developing the use of atomic energy.

Chapter II
GENERAL RULES OF APPLYING ATOMIC ENERGY

Regulation and Control

Section 6

(1) The Government shall be responsible for the control and supervision of the safe application of atomic energy.

(2) The Government shall provide for the execution of the governmental tasks described in this Act through the Hungarian Atomic Energy Commission (hereinafter HAEC) and the Hungarian Atomic Energy Authority (hereinafter HAEA), as well as the Ministers concerned.

Section 7

(1) The Government's preliminary approval in principle is required to acquire the ownership of and to transfer use of an existing nuclear facility under any legal title.

(2) The Parliament's preliminary approval in principle is required to initiate activities of preparing for the establishment of a new nuclear facility or radioactive waste disposal facility and to add a further unit containing a nuclear reactor to an existing nuclear power plant.

Section 8

(1) In matters related to the peaceful use of atomic energy, HAEC is a commission responsible for preparing decisions and carrying out co-ordination, making decisions in issues defined under special legal regulations, as well as undertaking supervisory tasks. The members of HAEC are the senior officials of the ministries and central public administration organisations performing regulatory tasks pursuant to the Act in the field of the application of atomic energy. The members of HAEC are appointed and dismissed by the Ministers and the directors of the central public administration organisations concerned, with the agreement of the President of HAEC. The Prime Minister shall appoint and dismiss the President of HAEC from among the members of the Government.

(2) HAEC shall:

a) in its decision-preparing responsibility, take a position on the principle issues of government proposals and programmes involving the application of atomic energy, on issues of national and international significance related to the regulatory system serving the safe application of atomic energy, nuclear safety and radiation protection; monitor the general trends of international development in the field of application of atomic energy and based on this make proposals for the domestic measures required;

b) in its co-ordinating responsibility, co-ordinate the activities related to the safe application of atomic energy which fall within the scope of authority of ministries, HAEA and other central public administration organisations defined by the Act;

c) in its control responsibility, monitor the enforcement of legal regulations related to the application of atomic energy and the exercise of regulatory authorisations; and, based on the findings of its inspections, initiate actions and make proposals for amendment and enactment of legislation, if necessary.

(3) HAEC will submit to the Government its positions and proposals falling within the competence of the Parliament and the Government.

(4) In the field of the peaceful use of atomic energy, HAEA is a central public administration organisation with autonomous tasks and regulatory authorisation under the control of the Government, providing preliminary review of legislation and regulatory rules related to the use of atomic energy. The Director General and the Deputies will be appointed and dismissed by the Prime Minister.

(5) In order the ensure the scientific basis for the governmental, regulatory and nuclear emergency preparedness measures, a Scientific Board shall support the work of HAEC and HAEA.

(6) The Government shall exercise supervision over HAEA through the President of HAEC. The control and supervision of HAEA shall ensure the primary enforcement of the aspects of nuclear safety.

(7) The President of HAEC shall present an annual report, including the preparatory activities contained in Subsection (2) of Section 7, to the Parliament on the safety of the application of atomic energy.

Section 9

(1) Through regular controls, analyses and on-site inspections, the regulatory authority shall verify whether the technical conditions and operation of the facilities and equipment serving the use of atomic energy meet the safety requirements defined based on the acceptable level of risk and the provisions set forth in the regulatory licences issued by the authority.

(2) The safety of nuclear facilities, adherence to safety requirements and the level of risk shall be fully analysed and evaluated and the results shall be made public by the licensee and the regulatory authority, prior to the establishment and commissioning of such facilities and throughout the total operating period of such facilities at regular intervals, taking into consideration operational experience and new information on safety.

The Tasks of Users of Atomic Energy

Section 10

(1) Users of atomic energy are responsible for the safe application of atomic energy and compliance with safety requirements.

(2) The licensee – in its scope of activity – is obliged to provide the technical, technological, financial and personnel conditions required for the safe use of atomic energy and for maintaining and developing safety, and furthermore to monitor continuously the radiation conditions in accordance with the most recent certified results of science, international expectations, as well as experience. The general public shall be informed regularly – at least on a monthly basis – about results of monitoring the environmental radiation conditions.

(3) The licensee is obliged to undertake continuous activities to upgrade safety, taking into consideration its operational experience and new knowledge regarding safety.

(4) In order to regularly provide information to the population of the communities in the vicinity of the facilities, the licensee of a nuclear power plant as well as that of a radioactive waste disposal facility shall promote the establishment of a public control and information association and can grant assistance to its activities.

Section 11

(1) In the scope of using atomic energy, only such persons shall be employed who have the education and specialised qualifications set forth in special legal regulations and who meet the required conditions of employment specified in other legislation, as well as the specified health requirements.

(2) Only those institutions, organisations, and other companies qualifying as economic organisations under Section 685, Paragraph c) of the Civil Code which possess appropriate quality assurance systems can take part in activities related to nuclear facilities, nuclear systems and equipment.

Chapter III
REGULATORY LICENSING, INSPECTION AND SUPERVISION

The General Regime of Licensing

Section 12

(1) With respect to regulatory procedures relating to the activities falling within the field of atomic energy applications, unless regulated otherwise by this Act, the provisions of Act IV of 1957 on the General Rules of State Administration Procedures shall apply.

(2) The case processing administration period in the first instance for nuclear safety licensing procedures pursuant to Paragraph *a)* of Subsection (2) of Section 17, can be extended up to six months.

Section 13

Provisions set forth in special legislation shall apply with respect to public hearings on the use of atomic energy.

Section 14

(1) A licence may be granted for a defined or undefined period of time, as well as subject to certain conditions. The licence granted for a defined period may be extended when so requested.

(2) A licence shall become void, if:

a) the period identified in the licence expires or the conditions defined in the licence are not fulfilled;

b) nuclear equipment or nuclear facilities are – within the period licensed – continuously out of operation, beyond a period determined in the licence.

(3) The authority may withdraw a licence or limit the validity period of the licence if the authority has determined a change in the safety conditions and the level of risk which served as a basis for issuing the licence.

4) HAEA may withdraw the licence or limit the period of validity of the licence if modifications of the nuclear facility or the nuclear system and equipment, affecting nuclear safety, have been carried out in deviation from the licence for modification or without a licence.

Section 15

(1) The licensing authority shall regularly monitor compliance with the stipulations of the licence, as well as with safety regulations considering the acceptable level of risk and the safety of the use of atomic energy, and shall take or initiate prompt measures in order to eliminate any irregularities observed.

(2) The authority shall keep records on the licences and on the results of inspections.

(3) The HAEA may oblige the licensee to pay a fine for violating a legal regulation, safety regulation, for failing to comply with an obligatory standard or with the provisions set forth in an individual regulatory licence issued based on the above.

(4) Special legal regulations shall prescribe the fines and the use of the sum generated from the fines levied.

(5) No fine can be imposed beyond 6 months from the date the authority learns about the negligence or breach of duty, or beyond two years from the date when the licensee should have complied with its obligation defined in this Act.

Section 16

(1) Central records shall be kept on nuclear materials, radioactive materials and preparations, including radioactive waste as well, and the data of such records can be used also for statistical purposes.

(2) The rules on keeping records of nuclear materials, radioactive materials, and preparations are laid down in separate legal regulations.

(3) In addition to the central records, own accounting and operating records (documentation) shall be kept by all users of atomic energy that perform activities, defined in separate legal regulations, with radioactive or nuclear materials falling under the scope of the Act.

HAEA's Scope of Authority, and the Participation of Other Special Authorities in the Licensing Procedure of Nuclear Facilities

Section 17

(1) The main duty of HAEA is to co-ordinate or accomplish the regulatory tasks, as well as the related information activity, in connection with the safe application of atomic energy, and especially with the safety of nuclear materials and facilities, as well as nuclear emergency preparedness.

(2) The following activities fall into the scope of HAEA:

a) nuclear safety licensing required for the siting, construction, enlargement, commissioning, operation, modification, putting out of operation, decommissioning of nuclear facilities;
b) nuclear safety inspection of nuclear facilities;

c) regulatory licensing and controlling of structures connected to nuclear facilities;

d) with regard to nuclear equipment, nuclear safety and technical radiation protection licensing and inspection of activities related to the design, manufacture, installation (fitting in), commissioning, operation, modification (repair), imports from abroad, putting out of operation and decommissioning;

e) monitoring of the existence of a quality assurance system specified in Subsection (2) of Section 11 or having such systems inspected by an institution designated by HAEA;

f) maintaining of central records and control of nuclear materials, in accordance with the specifications laid down in international agreements;

g) maintaining central records of radioactive materials and preparations;

h) licensing of nuclear exports and imports prior to the undertaking of such activities;

i) licensing of the transport of radioactive materials in accordance with the provisions of legal regulations for the transport of dangerous goods;

j) approval and inspection of the packaging of radioactive materials;

k) evaluation and co-ordination of research and development activities related to the safe use of atomic energy, as well as, with the consideration of Subsection (10) of Section 4, financing activities serving as technical support of regulatory inspections;

l) co-ordination of international co-operation related to the application of atomic energy, preparations for and organisation of the execution of inter-state and inter-governmental agreements in this area, and arranging the co-operation with the International Atomic Energy Agency.

(3) In HAEA's licensing process pursuant to Paragraphs a), c) and d) of Subsection (2), all other relevant public administration bodies participate as a special authority in their scope of responsibility and authority specified in separate legal regulations.

(4) The authority can designate other institutions as well to carry out the examinations to identify the conditions of licences.

(5) The HAEA is entitled to conduct inspections at any user of atomic energy, in its scope of authority.

Section 18

In regulatory matters involving the nuclear safety of a nuclear facility, in the event HAEA and another authority entitled to licensing or inspections have a conflict concerning the scope of authority, HAEA is entitled and obliged to proceed until such legal dispute is settled.

Section 19

(1) If any approval by a special authority constituting the basis for a HAEA licence becomes void, the relevant special authority may initiate the withdrawal of the licence granted as per Paragraphs a), c) and d) of Subsection (2) of Section 17. HAEA shall make a decision considering the gravity of the matter within 30 days from receiving the initiative.

(2) In the HAEA licensing procedure as per Paragraphs a), c) and d) of Subsection (2) of Section 17,

a) the Minister of Interior shall enforce the considerations relating to public and domestic order, fire protection, security, as well as civil defence and nuclear emergency response, through organisations appointed in a separate legal regulation;

b) the Minister of Agriculture shall enforce the considerations related to food, plant and animal hygiene, as well as soil protection, through an organisation appointed in a separate legal regulation;

c) the Minister of Industry, Trade and Tourism shall enforce the considerations related to geology, through an organisation appointed in a separate legal regulation;

d) the Minister of Transport, Communication and Water Management shall enforce the considerations related to water utilisation, water table protection, and water damage prevention, through an organisation appointed in a separate legal regulation;

e) the Minister of Environment Protection and Regional Development shall enforce the considerations related to environment protection, nature conservation and water quality protection, through an organisation appointed in a separate legal regulation;

f) the Minister of Public Welfare shall enforce the health and radiation protection considerations related to ionising radiation, through an organisation appointed in a separate legal regulation;

g) the building authority responsible for the area shall enforce the general considerations related to regional planning and building;

h) the President of the Hungarian Mining Authority shall enforce mining technological, mining technical and mining safety considerations.

(3) In HAEA's licensing procedure as per Paragraphs *a), c)* and *d*) of Subsection (2) of Section 17, the applicant shall attach the other regulatory licences and approvals as prescribed in legal regulations to the licence application.

The Scope of Authority of the Minister of Public Welfare and the Participation of Special Authorities in the Licensing Procedure Regulated by the Minister of Public Welfare

Section 20

(1) The Minister of Public Welfare, through an organisation appointed in a separate legal regulation, with the exception of the provisions set forth in Subsection (2) of Section 26, shall carry out:

a) licensing and monitoring of the acquisition of ownership, producing, manufacturing, possessing, storing, using, utilising, transforming and distributing of radioactive materials;

b) licensing and monitoring of the construction, commissioning, operation, modification, repair and decommissioning of non-nuclear facilities which serve the activities listed in Paragraph *a)*;

c) licensing and monitoring of the acquisition and transfer of ownership, conferring the use under any legal title, establishing, producing, operating, modifying and decommissioning of facilities and equipment generating ionising radiation;

d) licensing and monitoring of the siting, construction, commissioning, operating, modifying and closing down radioactive waste disposal facilities;

e) supervision of the organisation and operation of the radiation protection service operated in facilities serving the application of atomic energy;

f) inspection of compliance with the requirements of radio hygiene, working conditions, occupational aptitude and employment, effective for the employees in the use of atomic energy;

g) central collection, processing, recording and evaluation of data relating to the national radiation situation in order to protect the population from radiation and to contribute to the support of decision making in a nuclear emergency;

h) public health and radio hygiene tasks related to radioactive materials and equipment emitting ionising radiation and inspecting that the radiation protection norms for workplaces and for the environment, as well as the requirements for the employees engaged in the field of applying atomic energy are complied with.

(2) In the licensing procedure as per Paragraphs *a)* through *d)* of Subsection (1) of this Section, all other public administration organisations participate as a special authority, in their scopes of authority and responsibility identified by separate legal regulations.

Section 21

In the licensing procedure as per Section 20:

a) the Minister of Interior shall enforce the considerations relating to public and domestic order, fire protection, security, as well as civil defence, through organisations appointed in a separate legal regulation;

b) the Minister of Agriculture shall enforce the considerations related to food quality, plant and animal hygiene, as well as soil protection, through an organisation appointed in a separate legal regulation;

c) the Minister of Industry, Trade and Tourism shall enforce the considerations related to geology, through an organisation appointed in a separate legal regulation;

d) the Minister of Environment Protection and Regional Development shall enforce the considerations related to environment protection, nature conservation and water quality protection, through an organisation appointed in a separate legal regulation;

e) the Minister of Transport, Communication and Water Management shall enforce the considerations related to traffic, transport, as well as water utilisation and protection of water bases, through an organisation appointed in a separate legal regulation;

f) the building authority competent for the area shall enforce the considerations related to regional planning and building;

g) the President of the Hungarian Mining Authority shall enforce mining technological, mining technical and mining safety considerations.

The Scope of Regulatory Authority of Other Public Administration Organisations within the Fields of Atomic Energy Application

Section 22

Through an organisation identified in separate legal regulations, the Minister of Interior shall carry out the tasks of security, fire protection, physical protection, civil defence and nuclear emergency response, serving the provision of public and domestic order, associated with the use of atomic energy.

Section 23

As determined in separate legal regulations, the Minister of Agriculture shall provide for the inspection of the radioactivity of soil, the flora and fauna, of the products of vegetable and animal origin, and for its expert assessment, as well as for performing the tasks in connection with tests and issuing certificates required for the international distribution of foodstuffs.

Section 24

(1) As determined in separate legal regulations, the Minister of Industry, Trade and Tourism shall provide for the inspection of the radioactivity of raw materials used for the production of building materials or imported from abroad as well as of the building materials distributed in trade, and of other products.

(2) In the licensing procedure regulated by Act III of 1974 on Foreign Trade, and in its executive orders, a previous licence pursuant to Paragraph *h)* of Subsection (2) of Section 17 is required to license nuclear export and import.

Section 25

As determined in separate legal regulations, the Minister of Environment Protection and Regional Development shall provide for the inspection of the radioactive contamination of air, land and water environment.

Section 26

(1) As determined in separate legal regulations, the Minister of Defence – within the defence branch – shall provide for:

a) the monitoring of the handling of radioactive materials, as well as of the construction, operation and decommissioning of facilities and equipment of military technology falling under the scope of this Act;

b) the special (training, nuclear emergency preparedness, war-related) radio hygiene control of the defence branch;

(2) With respect to the organisations and institutions of the Hungarian Army (hereafter HA), the Medical Officer's Service of HA shall perform the tasks related to Paragraphs a) through c), e) through f), and h) of Subsection (1) of Section 20.

Section 27

As determined in separate legal regulations, the President of the National Measurement Authority shall perform the regulatory tasks related to measuring instruments in connection with the use of atomic energy.

Section 28

The Minister of Culture and Public Education shall:

a) provide for the integration into the National Master Curriculum, determined by a separate legal regulation, of the obligation to educate on the fundamental scientific, technical and radiation protection knowledge in association with the application of atomic energy;

b) provide for the regulation of higher and postgraduate education, and for creating their conditions in the field of the application of atomic energy in co-operation with the professionally relevant institutions of higher education, with the involvement of the Ministers concerned, within the framework of legal regulations applying to higher education.

Section 29

(1) The organisations specified in Sections 17 through 27 of the Act may entrust an institution to perform inspection which has the necessary personnel and material conditions, or a person who has appropriate special qualifications, respectively.

(2) The institution or person entrusted with the inspection shall have the same rights as the organisation eligible for inspections, except for the authorisation to take measures.

Guarding and Protection

Section 30

(1) Guarding of certain nuclear facilities, nuclear materials, equipment producing radioactive materials, as well as of facilities for the handling, interim storage or final disposal of radioactive waste, shall be ensured by the licensee, as required in separate legal regulations, through armed security guards.

(2) With respect to the protection of facilities and equipment, pursuant to Subsection (1) defined by a separate legal regulation, the national security services shall perform their tasks under separate legislative empowerment.

(3) In the course of performing their tasks, the police, as determined by a separate legal regulation, shall monitor compliance with regulations relevant to public security and domestic order, with special regard to the nuclear facilities, to the use, utilisation and registration of radioactive and nuclear materials and preparations, and their transport within the territory of the Republic of Hungary and across the borders of the country, their guarding, the protective equipment as well as the final disposal of radioactive materials and waste, and the records applying thereto.

(4) According to separate legal regulations, the police shall issue an approval, as a special authority, for nuclear facilities and the facilities serving for the final disposal of radioactive waste.

(5) According to separate legal regulations, the police shall issue a licence for transporting fresh and spent nuclear fuel in the territory of the Republic of Hungary, as well as across the borders.
(6) In the event of a nuclear emergency situation, or – if necessary – of an abnormal event, the police shall perform the tasks related to maintaining order delegated to their authority.

Section 31

(1) The user of atomic energy is obliged to prevent unauthorised persons from gaining access to the radioactive or nuclear materials in its possession, and to the facility and equipment under its control serving the use of atomic energy, and shall ensure that such materials are not removed from secure guarding and used for impermissible purposes.

(2) If a user of atomic energy learns that radioactive or nuclear material, or equipment generating ionisation radiation has been or could be transferred into the possession of unauthorised persons, or if it notices any other irregularities, it shall report this without delay to the police and the national security services.

Section 32

An organisation designated by the Government shall provide for the storage of any radioactive or nuclear materials found or confiscated.

Separate Regulations Applying to Nuclear Power Plants

Section 33

In addition to the nuclear safety regulatory licences to be issued pursuant to this Act, the licences of the Hungarian Energy Office issued pursuant to Act XLVIII of 1994 on the Production, Transport and Supply of Electric Energy are also required for the construction and lawful operation of a nuclear power plant.

Rights and Obligations Related to Third Party Real Estate Properties; Exclusion Zone

Section 34

(1) The surroundings of the nuclear facility or radioactive waste disposal facility – including the subsurface section and the air space above it – may be designated an exclusion zone for the safety of the facility and its surroundings, as well as the population living there.

(2) In the exclusion zone, a ban on forming lots or on building, as well as the restriction of mining, land and water usage rights and other usage restrictions may be prescribed.

(3) The requirements of determining the exclusion zone and of bans and restrictions set forth in Subsection (2), as well as the detailed rules of compensation shall be established by the Government in a decree.

Section 35

(1) Within the exclusion zone, the ban on forming plots and on building, as well as the usage restrictions, except for the restrictions of using air space, shall be prescribed by the building authority concerned; the restrictions on mining rights by the Hungarian Mining Authority, the restrictions on water usage shall be prescribed by the water affairs authority, respectively. The fact of the establishment of an exclusion zone, as well as the bans and restrictions prescribed for real estate properties shall be recorded in the real estate property files (land register).

(2) If the ban or restriction prescribed in the exclusion zone terminates or substantially hinders the regular function of the real estate property, and furthermore, if this is necessitated for the safe use of the facility serving the application of atomic energy and to be installed in the exclusion zone, the area concerned may be expropriated in accordance with the general rules applying to expropriation.

Section 36

(1) In the course of designating the exclusion zone and when prescribing restrictions on use, the stipulations of legal regulations applying to the protection of agricultural lands shall also be taken into consideration.

(2) In the exclusion zone, any restrictions on using air space, on the basis of the conditions stated by the authority licensing the construction, shall be determined by the air control authority defined in a separate legal regulation.

Section 37

Any damages caused by the maintaining of bans and restrictions prescribed in the exclusion zone, by the construction of a nuclear facility or radioactive waste disposal facility, as well as by activities carried out in association with these facilities within the exclusion zone shall be compensated.

Storage and Disposal of Radioactive Waste and Spent Nuclear Fuel

Section 38

(1) A licence for the application of atomic energy shall be granted only if the safe storage, i.e. interim storage or final disposal, of the radioactive waste and spent fuel generated can be assured in accordance with the most recent certified results of science, international expectations, as well as experience.

(2) The interim storage and final disposal of radioactive waste and spent fuel shall be considered safe if:

a) the protection of human health and the environment is ensured throughout the entire duration of these activities;

b) the impact on human health and the environment is not higher beyond the country borders than that accepted within the country.

Section 39

The interim storage of radioactive waste and spent fuel shall be licensed for a definite period of time only.

Section 40

As the solution of such matters is in the national interest, the performance of tasks related to the final disposal of radioactive waste, as well as to the interim storage and final disposal of spent fuel, and to the decommissioning of a nuclear facility shall be the responsibility of an organisation designated by the Government.

Section 41

The licensee, or in the case of budgetary organisations, the central budget shall be liable to cover the costs of the final disposal of radioactive waste, as well as the interim storage and final disposal of spent fuel, and of the decommissioning of a nuclear facility.

Chapter IV
MEASURES FOR THE PREVENTION OF ABNORMAL EVENTS AND THE ELIMINATION OF THEIR CONSEQUENCES

Section 42

The user of atomic energy is obliged to take appropriate measures immediately if an abnormal event occurs in the course of its activities, and the level of ionising radiation or the extent of radioactive contamination affecting the employees or the population, or the volume of radioactive materials released into the environment is or may be higher than the level permitted by the authorities.

Section 43

(1) The termination of an abnormal event, the investigation of its causes, and the execution of measures necessary to prevent its repeated occurrence are primarily the tasks of the user of atomic energy.

(2) In order to prevent the occurrence of a nuclear emergency situation, to respond to or limit the consequences of an event that has occurred, as well as to restore the prescribed, regular circumstances, the user of atomic energy is obliged to:

a) elaborate a plan for emergency preparedness and response and have it approved by the relevant authorities;

b) establish the personal, material and organisational conditions for efficient emergency response and to regularly verify the satisfaction of these conditions from time to time;

c) ensure the conditions required for external assistance necessary for emergency response (nature, extent and method of such assistance) in agreement with the relevant authorities and organisations.

Section 44

The execution of measures necessary for the response to an abnormal event which exceed the capabilities of the user of atomic energy is the responsibility of the institutions identified in the emergency preparedness and response plan, and in a nuclear emergency situation it is the task of authorities and organisations responsible for emergency response and identified in separate legal regulations.

Section 45

(1) The user of atomic energy is obliged to report, in accordance with regulatory requirements, all abnormal events and any accident resulting in personal injury without delay to the mayor with jurisdiction over the area, the county or Budapest office of the State Public Health and Medical Officer's Service (hereinafter Medical Officer's Service) with jurisdiction over the area, the Medical Officer's Service of HA in the case of units and institutions of the Hungarian Army, the police and HAEA, and furthermore if the environment is contaminated, to the environmental protection inspectorate and the county (or Budapest) animal health and foodstuff inspection station, in the case of agricultural land becoming contaminated, to the county (or Budapest) plant health and soil protection

station, in the case of water becoming contaminated to the water affairs administration, as well as for information, to the regional and central management organisations designated on the basis of separate legal regulations for nuclear emergency response.

(2) If the abnormal event causes air contamination as well, the user of atomic energy shall also inform the Hungarian Meteorological Service in accordance with Subsection (1).

(3) In the case of nuclear facilities, reporting obligations pertaining to abnormal events – in addition to the provisions in Subsection (1) – shall be determined by HAEA.

(4) The authorities shall advise the other concerned authorities of abnormal events if they were not reported by the user of atomic energy.

Section 46

In a nuclear emergency situation, the reporting obligation is regulated by the emergency preparedness and response plan.

Section 47

(1) In order to prevent the proliferation of radioactive contamination and to avoid radiation injury, the responsible county (Budapest) institute of the Medical Officer's Service, or the Medical Officer's Service of HA:

a) may subject a person to medical observation if he/she may directly contaminate his/her environment as a result of his/her radioactive contamination;

b) may order the placement of persons into safe conditions, and the decontamination of the area, real estate property, buildings and other structures, as well as material assets and may restrict or ban their use (utilisation) and distribution for a specified or unspecified period;

c) may order the destruction of contaminated material assets, and in the case of livestock their emergency slaughter or killing;

d) may initiate the ordering of renovating, restoring, modifying, or demolishing of buildings and other structures with the building authority, and those of water facilities with the water affairs authority.

(2) In applying Paragraphs *b)* and *c)* of Subsection (1) the county (Budapest) institute of the Medical Officer's Service shall proceed in agreement with the county (Budapest) animal health and foodstuff inspection station regarding foodstuff, tobacco products, agricultural crop and products as well as livestock.

(3) In the case of a risk which poses a severe threat to health and the human environment, the resolution made on the basis of Subsection (1) shall be executed regardless of an appeal.

Chapter V
LIABILITY FOR DAMAGES AND COMPENSATION OF DAMAGES RELATED TO THE APPLICATION OF ATOMIC ENERGY

Section 48

(1) The licensee of a nuclear facility shall be liable for all nuclear damage defined pursuant to this Act. The licensee may be exempted from liability exclusively in cases defined by this Act.

(2) In the case of international carriage, the location where liability is transferred shall be set forth in the contract.

Section 49

(1) No exemption from the liability determined in Section 48 shall be granted unless the nuclear damage is the consequence of a nuclear accident directly triggered by an unavoidable external cause outside the scope of activity of the facility (armed conflict, war, civil war, armed uprising or a grave natural disaster of an extraordinary character).

(2) The licensee shall be exempted in part or in whole from the liability determined in Section 48 if it can prove that the damage suffered by the injured party occurred in part or in whole as a result of his gross negligence, or is the consequence of such a wilful and unavoidable act or omission of the injured party which was expressly aimed at creating the damage.

Section 50

It will not be qualified as nuclear damage, and the licensee shall be liable for it in accordance with the Civil Code, if the damage:

a) was caused to the condition of the nuclear facility or to any property on the site of that facility, which is used or intended to be used in connection with that facility;

b) was caused to the means of transport upon which the given nuclear material was placed at the time of the nuclear accident.

Section 51

Except as otherwise stipulated in this Act, the limitation of or exemption from the liability for nuclear damage is null and void.

Section 52

(1) The absolute liability of the licensee of a nuclear power plant, nuclear district heating plant and a facility producing, storing or processing nuclear fuel shall not exceed SDR 100 million on each occasion of a nuclear accident arising in the facility, and SDR 5 million on the occasion of each nuclear accident arising in other nuclear facilities and in nuclear accidents arising during the transport or storage of nuclear fuel.

(2) The nuclear damage in excess of the amount defined in Subsection (1) shall be compensated by the State of Hungary; however, the total amount devoted to compensation shall not be higher than SDR 300 million even in this case.

(3) The compensation shall be effected in official Hungarian currency, based on the official exchange of limit amounts expressed in SDR set forth in Subsections (1) and (2).

Section 53

(1) If the damage has been caused by a nuclear accident as defined by this Act and another event jointly, and the damage caused by the other event cannot be separated from the nuclear damage with absolute certainty, the damage caused by the other event is also qualified as a nuclear damage. In the case, however, if the nuclear damage was caused by a nuclear accident and by the release of ionising radiation not falling within the scope of this Section, the person responsible for this release shall be obliged to provide compensation as per Section 345 of the Civil Code.

(2) If more than one licensee takes joint and several responsibility for the nuclear damage, the upper limit of the absolute liability of any of the licensees shall not exceed the amount applicable to them on the basis of Section 52.

(3) If the abnormal event arises in the course of carriage of nuclear materials either in a means of transport or while storing them during their carriage in a facility, and there is more than one licensee responsible for the nuclear damage caused, the total upper limit of absolute liability may not be higher than the highest amount to be paid by one of the licensees on the basis of Section 52 of this Act.

(4) Two or more nuclear facilities operated at the same site by the licensee – from the aspect of applying compensation rules of this Act – are qualified as one nuclear facility.

Section 54

(1) The licensee is obliged to provide for insurance or other financial security up to the amount of compensation as per Subsection (1) of Section 52. In the case of a budgetary institution, the sources of funding shall be secured by the central budget.

(2) No insurer or financial guarantor shall suspend or cancel the insurance or financial security without giving notice in writing, at least two months in advance, of the suspension or cancellation to HAEA.

(3) If the insurance or financial security relates to the carriage of nuclear materials, the insurance or financial security may not be cancelled or suspended during the period of carriage.

Section 55

(1) Claims for compensation in the case of nuclear damage may only be brought against the licensee or the party which grants the financial coverage on behalf of the licensee.

(2) In the case of nuclear damage, the licensee has the right of recourse if:

a) this right has been expressly provided for in a written contract;

b) the nuclear damage is the result of a wilful destructive action or negligence, against a natural person acting or omitting to act with such intention.

Section 56

(1) The amount of absolute liability defined in Section 52 does not include the interest and costs determined by a court in relation with the compensation for the nuclear damage.

(2) If it is probable that the damage caused by the nuclear accident will exceed the amount defined in Section 52 then on the basis of the Government's decision, until further action, only a specified portion of the amount of compensation may be used to satisfy the injured parties.

(3) If the amount available for compensation is not enough to satisfy all injured parties in full, the amount of compensation due to all of them is proportionately reduced.

Section 57

(1) Injured parties may claim their right to compensation within a three-year limitation period. The statutory limitation commences on the date when the injured party learned or could have learned about the occurrence of the damage and the identity of the licensee responsible therefor.

(2) The licensee shall bear liability for nuclear damage defined in this Act for ten years from the date of the occurrence of a nuclear accident.

(3) If the nuclear damage was caused by an abnormal event brought about by a nuclear material which nuclear material was stolen, lost, jettisoned or abandoned at the time of the abnormal event, the deadline stipulated in Subsection (2) shall be counted from the date of the abnormal event, but it shall not be longer than twenty years from the date of occurrence of the events listed.

(4) No claim for compensation shall be enforced after the expiration of the deadlines specified in Subsections (2) and (3).

Section 58

This Act does not affect the liability, pursuant to the Civil Code, of

a) natural persons who caused such nuclear damage by their act or omission aimed at causing damage, for which the licensee is not responsible according to Subsection (2) of Section 49 and Section 50 of this Act;

b) the licensee in cases not falling within the scope of this Act, for which the licensee is not responsible according to Section 50 of this Act.

Section 59

No compensation on the basis of this Act is due to any party that has received full compensation for the same nuclear damage, under any other title.

Section 60

(1) The liability and compensation rules of this Act related to the application of atomic energy must be used in cases when as a result of a nuclear accident related to a nuclear facility operating within the territory of the Republic of Hungary, the nuclear damage arises in the territory of the Republic of Hungary, or in the territory of a foreign state or other areas where the licensee is obliged to compensate on the basis of an international agreement.

(2) This Act does not rule out the application of the provisions of this Act in other cases in addition to those mentioned in Subsection (1), on the basis of reciprocity.

Section 61

The provisions of this Act shall be applied without any discrimination based upon nationality, domicile, or residence.

Chapter VI
THE CENTRAL NUCLEAR FINANCIAL FUND

Section 62

(1) The Central Nuclear Financial Fund (hereinafter the Fund) is a separate state fund pursuant to Act XXXVIII of 1992 on Public Finance exclusively earmarked for financing the construction and operation of disposal facilities for the final disposal of radioactive waste, as well as for the interim storage and final disposal of spent fuel, and the decommissioning (demolishing) of nuclear facilities.

(2) The member of the Government exercising supervision over HAEA shall dispose of the Fund. The manager of the Fund is HAEA.

Section 63

(1) The licensees are obliged to cover the costs of the final disposal of radioactive waste, as well as of the interim storage and final disposal of spent fuel, and of the decommissioning (demolishing) of nuclear facilities by contributing to the Fund.

(2) In the case of nuclear facilities, the amount of payment shall be determined in a way that it fully covers all the costs arising as a result of the final disposal of radioactive waste and of the interim storage and final disposal of spent fuel generated during the total operating period of the facility and at the time of decommissioning, as well as all the costs related to the decommissioning of the nuclear facility.

(3) The amount of payments is determined by the law on the annual budget on the basis of the cost estimate prepared by the organisation identified pursuant to Section 40 taking into consideration the obligations under Subsection (2) and reviewed by the HAEA and – in relation to a nuclear power plant – by the Hungarian Energy Office.

(4) The payments made by the licensees may be accounted for within the category of other costs. In the case of a nuclear power plant, these should be taken into account when determining the price of electric energy.

(5) Payments made pursuant to the provisions under Subsections (1) and (2) constitute the source of income of the Fund.

Section 64

(1) The provisions on the separate state financial funds of Act XXXVIII of 1992 on Public Finance, amended several times, shall be applied to the financial management of the Fund, with the deviations included in this Act.

(2) The Government is authorised, in order to ensure that the Fund maintains its value, to allocate a sum calculated on the average assets of the Fund in the previous year using the average base interest rate of the central bank in the previous year, to be debited to the central budget, in the course of planning the budget bill.

(3) The sum described in Subsection (2) shall be made available to the Fund by January 31 of every year.

(4) The assets of the Fund shall be kept separated in the unified treasury account.

(5) The manager of the Fund shall use the accumulated assets through the organisation identified in Section 40 exclusively for the purposes defined in Subsection (1) of Section 62.

Chapter VII
CLOSING PROVISIONS

Miscellaneous Regulations and Enacting Provisions

Section 65

(1) The Municipal Court of Budapest has exclusive jurisdiction to judge compensation claims submitted on the basis of this Act.

(2) The power of this Act does not affect the rights and obligations related to international co-operation in the field of applying atomic energy, originating from treaties accepted by the Republic of Hungary.

Section 66

(1) This Act, with the exception of Sections 62 through 64, shall enter into force on the first day of the sixth month following its promulgation. Paragraphs 62 through 64 shall enter into force on 1 January 1998.

(2) Simultaneously with this Act becoming effective:

a) Act I of 1980 on Atomic Energy, amending Law-Decree 15 of 1987, Decree 12/1980 (IV. 5.) MT on the enforcement of the Act; amending Decree 54/1987 (X. 24.) MT; Decree 75/1988 (X. 31.) MT; and Government Decree 104/1990 (XII. 15.) become null and void;

b) Subsection (6) of Section 3 of Act IV of 1957 on the General Regulations of the State Administration Procedures shall be replaced by the following provision:

> "(6) This Act shall be used in defence, foreign trade administration, industrial rights protection and social insurance matters, as well as in matters defined in acts on prohibiting unfair market practices and the restriction of competition, defining prices, insurance companies and insurance activity, credit institutions and financial enterprises; in tax, revenue, and customs administration matters, as well as in matters relating to activities in the application of atomic energy unless there are regulations ruling otherwise".

c) Section 4 in Law-Decree 9 of 1972 on the promulgation of the agreement signed in Vienna on March 6, 1972, between the People's Republic of Hungary and the International Atomic Energy Agency for the application of safeguards in connection with the treaty on the non-proliferation of nuclear weapons will be substituted by the following provision:

> " Section 4. The enforcement of this Law Decree is ensured by the President of the Hungarian Atomic Energy Commission – in co-operation with the Minister of Defence in view of Article 14 of the Agreement".

Authorising Provisions

Section 67

The Government is empowered to regulate by decree:

a) the scope of authority and responsibility of HAEC and HAEA, as well as the system of forums of authorities acting in connection with the application of atomic energy;

b) the set of those radioactive materials and equipment generating ionising radiation, the application of which – as a result of the character and extent of ionising radiation generated by them – is not qualified as hazardous to human life and health, and to the human environment, and therefore is not qualified as falling within the scope of the Act on Atomic Energy;

c) the special conditions for the acquisition of ownership of materials and equipment belonging to the application of atomic energy, and the regime of reporting their possession and operation;

d) with respect to nuclear facilities:

da) the contents of safety reports;

db) the nuclear safety requirements related to siting, construction, enlargement, commissioning, operation, modifications, termination of operation and decommissioning;

dc) the nuclear safety requirements related to the design, manufacture, installation (fitting in), importing from abroad, commissioning, operation, modifications (repair), putting out of operation and decommissioning of nuclear equipment;

dd) the requirements imposed on the quality assurance systems of organisations performing the design, construction, building, manufacture, commissioning, operation and decommissioning;

de) the employment requirements of employees;

df) the rules of regulatory activities of nuclear safety and technical radiation protection;

dg) the regime of regulatory procedures for building and of inspections of structures in connection with facilities, as well as the nuclear safety requirements related to construction and building engineering;

e) tasks and obligations of atomic energy users and the relevant authorities, and the concerned sectoral and regional organisations related to both the preparedness and planning for a nuclear emergency situation, and the response to the emergency situation, as well as informing the general public on a true and timely basis;

f) the establishment of an organisation designated for the final disposal of radioactive waste and spent nuclear fuel, as well as for the decommissioning of a nuclear facility, and the financial resources of its activities;

g) the characteristics, conditions and amount of insurance or other financial security related to nuclear liability;

h) the standards to be applied on a compulsory basis in the field of atomic energy applications;

i) the rates of penalties stipulated in Section 15 of the Act, and the manner of using the proceeds from the penalties imposed;

j) the provisions in connection with the exclusion zone and compensation pursuant to Section 34 and expropriation pursuant to Section 35 of the Act;

k) the regime of storage and handling of radioactive or nuclear materials found or confiscated;

l) the regulations of nuclear exports and imports in accordance with the international control systems.

Section 68

(1) The Minister supervising HAEA is authorised to determine in a decree in agreement with the Ministers concerned by this Act:

a) the regulations for the accounting and control of nuclear materials in accordance with the requirements identified in international agreements;

b) the regulations of registering radioactive materials and preparations;

c) the regime of procedures of licensing and controlling the packaging of radioactive materials;

d) the fees to be paid for utilising administration services in association with the registration of nuclear and radioactive materials and, furthermore, the fees to be paid for the regulatory activities of HAEA and, within that, the fees for nuclear safety regulatory activities;

e) the conditions of paying charges for the service of institutes and institutions utilised for the regulatory activities of HAEA;

f) the rules of operation and the order of procedures of the Central Nuclear Financial Fund.

(2) The Minister of Public Welfare is authorised to determine in a decree:

a) the maximum dose limits related to the radiation dose of employees engaged in the field of atomic energy applications and those of the population's radiation dose, the order of inspecting the external and internal radiation dose of persons, and the intervention levels to be taken into consideration in the plans of emergency preparedness and response, as well as the dose limits related to the radiation dose of persons involved in eliminating the consequences of a nuclear accident (catastrophe);

b) the radiation protection qualification of equipment and devices used in the field of applying atomic energy;

c) the requirements of radio hygiene, working conditions and occupational aptitude for employees engaged in the field of applying atomic energy, and the order of radiation protection training of employees engaged in the field of atomic energy applications;

d) the radiation protection requirements of the means of road transport;

e) in agreement with the Minister supervising HAEA, the radiation protection regulations related to the application of atomic energy, and the detailed specifications in connection with the tasks and operations of radiation protection services;

f) in agreement with the Ministers concerned, the regulations related to the monitoring of the national radiation situation and radioactive material concentrations, as well as the regime of central data acquisition, processing, registering and evaluation of the results of monitoring;

g) the acceptable level of the concentration of radon and radon daughter elements in residential and public buildings, as well as in agreement with the Minister of Industry, Trade and

Tourism and the Minister of Environment Protection and Regional Development, the limitation – for radiation protection purposes – of using raw materials applied for the production of building materials and furthermore that of building materials to be distributed by trade, as well as the usage of building sites;

h) in agreement with the Minister of Industry, Trade and Tourism, the rules of complying with and controlling of the requirements related to the radioactivity of products and raw materials originating from abroad and distributed by trade;

i) the rules of using radioactive materials in consumer goods;

j) the rules of sterilising therapeutic instruments and sanitary articles by ionising radiation;

k) the licensing procedure of possessing, producing, manufacturing, distributing, storing, using and modifying of radioactive materials;

l) the licensing procedures and regime of control of constructing, commissioning, operating, modifying, repairing, decommissioning and removing of facilities or equipment serving for the activities listed in Paragraph *k)*;

m) the licensing procedures and regime of control necessary for establishing, producing, operating, modifying and decommissioning facilities and equipment generating ionising radiation;

n) the rules of organising and maintaining the radio hygiene stand-by service;

o) the rules of therapeutic treatment of persons injured or suspected of being injured by radiation;

p) the radio hygiene regulations of the interim storage and final disposal of radioactive waste;

q) in agreement with the Minister of Industry, Trade and Tourism, the radio hygiene requirements related to the mining and geological environment;

(3) The Minister of Environment Protection and Regional Development is empowered to determine in a decree, in agreement with the Minister supervising HAEA, the Minister of Transport, Communication and Water Management, as well as the Minister of Public Welfare:

a) the maximum quantity of radioactive materials – depending on the physical and chemical characteristics – allowed to be released to the atmosphere and into water in the course of using atomic energy, and other conditions of release, and furthermore, the regulations concerning the inspection of the radioactive contamination of the air and water environment;

b) the special rules of protecting waters and water containing formations against radioactive contamination and heat pollution, which rules relate to environment protection and go beyond general legal regulations.

(4) The Minister of Transport, Communication and Water Management is authorised to determine in a decree the requirements related to the transport and packaging of nuclear and radioactive materials in

agreement with the Minister of Interior, the Minister of Environment Protection and Regional Development, the Minister of Public Welfare, as well as the Minister supervising HAEA.

(5) The Minister affected by the nature of activity is authorised to regulate, in agreement with the Minister supervising HAEA, the specialised vocational training and advanced training of employees, and the authorised parties eligible to pursue activities related to the use of atomic energy.

(6) The Minister of Industry, Trade and Tourism is authorised to determine in a decree the set of geological requirements to be taken into consideration on forming an opinion about the suitability of the selected site for a nuclear facility, or facilities for disposing radioactive waste and to be observed in their technical design, and the Hungarian Geological Service will decide on this basis concerning the issue of special regulatory approval.

(7) The Minister of Interior is authorised in order to protect public security and the internal order to define in a decree, in agreement with the Minister supervising HAEA:

a) the tasks of the police related to the use of atomic energy, the criteria of special regulatory approval required for the issue of regulatory licences, as well as the special safety requirements applying to employees engaged in the field of atomic energy applications and the inspection regime of their prevailing in the long term;

b) the special method of undertaking guarding and protection with respect to nuclear materials and facilities.

(8) The Minister of Interior is authorised to determine in a decree, in agreement with the Minister of Transport, Communication and Water Management, as well as the Minister supervising HAEA, the tasks of police control and coverage of transporting radioactive and nuclear materials.

(9) The Minister of Industry, Trade and Tourism is authorised to determine in a decree the requirements for mining engineering and mining safety with respect to selecting and operating mining areas, as well as of other subterranean areas for the disposal of radioactive waste.

(10) The Minister of Defence is authorised to determine in a decree:

a) the regulations of this sector with respect to the handling and control of radioactive materials, as well as the rules of constructing and decommissioning facilities and military technology equipment falling within the scope of this Act;

b) the special (training, nuclear emergency preparedness, and war related) radio hygiene regulations of this sector.

LITHUANIA

LAW ON NUCLEAR ENERGY*

(14 November 1996)

Chapter I
GENERAL PROVISIONS

Article 1 – Objectives of the Law

1. This Law shall regulate public relations arising during the use of nuclear energy for generation of electricity and heat. It shall provide a legal basis for the activities of natural and legal persons in the sphere of nuclear energy. The objective of the Law shall be to ensure nuclear safety when nuclear energy is used to meet peaceful needs, and to prevent the development of nuclear arms by illegally diverting nuclear materials (including nuclear fuel and nuclear waste). The provisions of this Law are in conformity with the obligations of the Republic of Lithuania under the Nuclear Safety Convention and ensure protection of man and the environment from the harmful effects of radiation.

2. This Law shall establish:

1) the basis for the management of nuclear energy;

2) the principles of state regulation of nuclear safety and radiation protection in the sphere of nuclear energy;

3) basic conditions for licensing in the sphere of nuclear energy;

4) special conditions for nuclear facility design and construction;

5) basic conditions for operating nuclear facilities;

6) basic conditions for export and import of nuclear materials and equipment;

7) basic conditions for transportation and storage of nuclear and radioactive materials used in the sphere of nuclear energy;

8) basic requirements for the physical protection of nuclear facilities;

9) basic requirements for the prevention and management of nuclear and radiological accidents;

* Unofficial translation of the Law kindly provided by the Lithuanian authorities.

10) the principles of liability in the sphere of nuclear energy;

11) the basic economic and financial conditions for activities in the sphere of nuclear energy; and

12) the specific features of labour relations in the sphere of nuclear energy.

Article 2 – Basic Concepts Generally Used in the Law

Nuclear plant – a complex of equipment and buildings intended for generation of electricity and heat by using nuclear fuel.

Nuclear accident – failure in the control and management of the chain reaction of nuclear fission in the core of the reactor; formation of a critical mass during the loading, reloading, transportation and storage of nuclear fuel; disruptions of heat exchange resulting in the damage to nuclear elements and/or exposure of the personnel to radiation exceeding the prescribed levels.

Nuclear energy – a branch of energy where nuclear energy is used for generation of electricity and heat.

Nuclear safety – the capability of a nuclear facility to limit, within the prescribed requirements, the effect of radiation on human beings and the environment both during the course of its normal operation and during nuclear accidents.

Nuclear damage – death or injury of a human being, loss or damage to property, a harmful effect on the environment due to radiation related to the operation of a nuclear facility or a nuclear (radiation) accident.

Nuclear facility – a nuclear power plant, a nuclear reactor, a repository for nuclear material and radioactive waste, and their processing facility.

Operation of a nuclear facility – a variety of activities aimed at realising the purposes set for the facility, including generation of energy, loading of fuel, commissioning of the reactor, its shut-down, testing, technical maintenance, repair, inspection and other operations related to its activity.

The operating organisation of a nuclear facility – an economic entity possessing a licence and material and financial resources for the operation of a nuclear facility, and responsible for its safety.

Physical protection of a nuclear facility – an aggregate of organisational, legal and technical measures aimed at protecting nuclear equipment and nuclear as well as radioactive material from their illegal possession or seizure and from an unauthorised entry of persons into the territory of a nuclear facility.

Reconstruction of a nuclear facility – major engineering modification of the facility (expansion, replacement of supporting structures, application of new technologies or mounting of a new type reactor etc.) which may affect the safety of the nuclear facility.

Decommissioning of a nuclear facility – implementation of legal, organisational and technical measures with the aim of managing a nuclear facility after a decision has been adopted that the facility shall be permanently taken out of operation.

Nuclear materials – plutonium, uranium (natural, enriched with isotopes of uranium-235 or uranium-233 and depleted) and thorium found in the form of a metal alloy, chemical compound or concentrate or in a mixture with other materials.

Nuclear commodities – nuclear materials, non–nuclear materials, nuclear equipment and technology used in the sphere of nuclear energy, also dual–use items, i.e. materials that can be used in the sphere of both nuclear and non–nuclear activities.

Nuclear equipment – constituent parts (components) of a technical construction that can be used in nuclear technology.

Nuclear incident – any malfunction (failure), violation of operational conditions and limits that might have caused a nuclear accident.

Nuclear installation – any technical device (a mechanism, a machine etc.) in which nuclear materials may be formed or may be processed, used or stored.

Nuclear fuel – nuclear materials used for generating nuclear energy.

Nuclear reactor – an installation in which a controlled spontaneous nuclear fission chain reaction may take place.

Accounting of nuclear materials – an activity aimed at establishing the amount of nuclear materials and recording continuously changes of the amount.

Repository of nuclear materials – an installation or a structure for storage of nuclear materials.

Source of ionising radiation – an installation, equipment or a radioactive material emitting ionising radiation within the prescribed limits.

Permit – a written authorisation of a competent public authority to perform specified work.

Licence – an official document issued by a public authority authorising the applicant to perform specified activities in the field of nuclear energy in conformity with the prescribed conditions and requirements.

Radiation accident – failure in the functioning of a nuclear facility which causes a harmful effect on people and/or the environment due to an increased radiation.

Radiation protection – a sum of legal. technical, technological, construction and hygienic norms, rules and measures guaranteeing the protection of people and the environment from nuclear damage.

Radioactive wastes – spent nuclear fuel and other radioactive materials the further technological use whereof is either not advisable or impossible.

Radioactive materials – materials whose spontaneous radioactivity exceeds the prescribed level.

Radioactive waste storage – a stationary facility (structure) intended for a temporary or permanent storage of radioactive wastes.

Radioactive waste management – activities related to collection, sorting, treatment, transportation, storage and disposal of radioactive wastes.

Sanitary protection zone – a special territory or a site of radioactive contamination where the irradiation level may exceed the prescribed norms under the normal operational conditions of a nuclear facility.

Monitoring zone – a special territory where, without exceeding the prescribed norms, an impact of a nuclear facility on the environment is possible due to radioactive effluents or emission.

Article 3 – Legal Principles of Activities in the Sphere of Nuclear Energy

1. Nuclear activities in the Republic of Lithuania shall be permitted only subject to a licence issued by a public authority. If nuclear activities are conducted without a licence or in contravention of the laws of the Republic of Lithuania they shall be held illegal and shall entail legal responsibility as provided by the laws of the Republic of Lithuania.

2. An organisation operating a nuclear facility shall be responsible for conducting nuclear activities in compliance with the provisions of this Law and other statutory acts of the Republic of Lithuania.

3. A competent authority issuing licences for a specified activity in the sphere of nuclear energy must develop a system of requirements guaranteeing:

1) nuclear safety;

2) non-proliferation of nuclear weapons; and

3) only a lawful use of nuclear materials and waste management.

Article 4 – Guarantees of Nuclear Safety

1. Nuclear safety in the Republic of Lithuania shall be guaranteed by the State.

2. The safe operation of nuclear facilities shall be the responsibility of the operating organisations of those facilities.

3. Standards and rules of nuclear safety and radiation protection approved by the Government or by the public authorities authorised by it shall be mandatory for all public and local authorities, for enterprises, institutions, organisations, their associations, for the officials and other persons whose activities are related to the operation of nuclear facilities, to the use and management of nuclear and

radioactive materials therein. Safety guarantees in nuclear energy shall be based on the requirements of the laws and regulations of the Republic of Lithuania, on the requirements of the international treaties to which the Republic of Lithuania is a party, also on the recommendations of the IAEA and other international organisations and institutions.

Article 5 – Ownership of Nuclear Facilities

1. Nuclear facilities in the Republic of Lithuania shall be owned by the State.

2. Nuclear and radioactive materials may belong by the right of ownership to an enterprise established in accordance with the laws of the Republic of Lithuania where the articles of association of the enterprise have a provision about a corresponding economic activity.

3. Nuclear fuel shall be owned solely by state enterprises of the Republic of Lithuania.

Chapter II
MANAGEMENT OF NUCLEAR ENERGY

Article 6 – Competence of the Seimas of the Republic of Lithuania

In exercising state powers in the sphere of nuclear energy the Seimas of the Republic of Lithuania shall:

1) formulate state policy in the sphere of nuclear energy;

2) solve the principal issues of development of nuclear energy in Lithuania; and,

3) on the proposal of the Government, adopt a law on the construction of a new nuclear plant and its site or on the mounting of a new nuclear reactor, also on the decommissioning of a nuclear facility. The law establishes the principal requirements for a nuclear plant or a nuclear reactor also for the zones of sanitary protection and monitoring.

Article 7 – State Management of Nuclear Energy

State management of nuclear energy shall be effected, in accordance with their respective competence, by:

1) the Government of the Republic of Lithuania;

2) the Ministry of Energy of the Republic of Lithuania; and

3) local authorities in the territories under their jurisdiction which are within the sanitary protection or monitoring zones of a nuclear facility.

Article 8 – Competence of the Government of the Republic of Lithuania

1. The Government of the Republic of Lithuania shall:

1) in the manner prescribed by law, adopt decisions on the construction of specified nuclear facilities;

2) form a commission for the commissioning of a nuclear facility;

3) prepare the nuclear safety and radiation protection regulatory system and procedures mechanism;

4) establish nuclear energy control and supervision institutions and approve their statutes;

5) approve statutory acts regulating the acquisition, storage, transport and disposal of nuclear and radioactive materials and submit them to the ministries referred to Articles 14, 15, 16 and the Government institutions for approval in cases listed in the above articles;

6) establish the procedure of licensing for nuclear activities;

7) establish the specific conditions and requirements for the zones of sanitary protection and monitoring and trends for their development; and

8) co-ordinate the activities of ministries and other public authorities in drafting nuclear accident prevention and management plans;

2. In making a decision on the construction of a specific nuclear facility, the Government of the Republic of Lithuania shall take into consideration:

1) economic and social needs;

2) the basic characteristics of the use of natural resources and their impact on the environment;

3) nuclear safety and radiation protection guarantees; and

4) the opinion expressed by the local authorities on whose territory the intended facility will be sited.

Article 9 – Competence of the Ministry of Energy

The Ministry of Energy shall:

1) perform the functions of the founder of operating organisations of nuclear facilities;

2) implement state policy in the sphere of nuclear energy;

3) organise bilateral and multilateral international co-operation in the sphere of nuclear energy;

4) organise nuclear accident prevention, accident management, investigation and elimination of the consequences of the accident in the nuclear facilities under its control;

5) within the scope of its competence, represent the Republic of Lithuania in international nuclear energy organisations and conferences;

6) organise the drafting of a special scheme for the choice of the site of a new nuclear power plant and other state nuclear facilities, exploring several alternative sites;

7) after the approval of a detailed site plan, proceed in an established manner with the legal formalities of the acquisition for the public needs of the site for the construction of a nuclear power plant or other state nuclear facilities;

8) organise the development of the nuclear energy infrastructure in the Republic of Lithuania; establish institutions of engineering, science and technology (together with the Ministry of Education and Science) to meet the needs of the operating organisations of nuclear facilities; and

9) perform the functions established by this Law and those assigned by the Government.

Article 10 – Competence of Local Authorities

Local authorities in the territories under their jurisdiction which are within the sanitary protection or monitoring zones of a nuclear facility, within the framework of their competence, shall:

1) take part in controlling the activities of nuclear power plants, nuclear reactors and other nuclear energy installations for which sanitary protection and monitoring zones have been established;

2) control the compliance with the landscape and architectural requirements of a nuclear facility, also with the sanitary, hygienic and nature protection requirements of a nuclear facility and its territory;

3) take part in decision making about the construction of nuclear facilities in their territory, the reconstruction of the facilities or their decommissioning;

4) obtain information from the operating organisation of the facility about the failure, shut-down, release of radioactive materials and other incidents;

5) prepare the population protection plans and implement them in the event of nuclear accidents; and

6) inform the population about the radiological situation in the area where nuclear plants and other nuclear facilities are sited and about the radiation protection measures which are being implemented.

Chapter III
STATE REGULATION OF NUCLEAR SAFETY, RADIATION PROTECTION, ACCOUNTING AND CONTROL OF NUCLEAR MATERIALS

Article 11 – Objectives of Regulation

1. The principal objectives of state regulation of nuclear energy safety shall be:

   1) to establish the conditions and criteria for the safe use of nuclear energy;

   2) to control and supervise the procedure of observance of these conditions and criteria; and

   3) to establish sanctions for persons who violate the requirements for nuclear safety, radiation protection, accounting and control of nuclear materials.

2. The activities in the sphere of nuclear energy, energy facilities and the sources of ionising radiation shall be controlled by state regulatory authorities.

Article 12 – Control and Supervision Bodies

The functions of control and supervision of the safety of nuclear facilities and the supervision of accounting of nuclear materials shall be performed by the State Atomic Energy Safety Inspectorate of the Republic of Lithuania (VATESI). The supervision and control of nuclear facilities shall also be carried out, within the framework of their respective competence, by other public authorities referred to in this Law, as well as by local authorities in the territories of their jurisdiction.

Article 13 – Principles of the Activities of State Control and Supervision Bodies

1. State control and supervision bodies shall act in accordance with the laws, subordinate legislation, the norms and rules of the Republic of Lithuania, regulating the procedure of operations in the sphere of nuclear energy. In accordance with the procedure and time limits established in statutory acts, the bodies exercising state control and supervision shall inspect the state of nuclear safety, radiation protection and physical protection of nuclear facilities, and, within the framework of their competence, shall take all necessary measures for the elimination of the identified defects.

2. Decisions taken by officers of state control and supervision bodies within the framework of their competence shall be binding on all natural and legal entities and shall be implemented strictly within the established time limits and in accordance with the prescribed procedure.

Article 14 – Competence of the State Atomic Energy Safety Inspectorate

1. In implementing state regulation of nuclear safety, radiation protection and accounting and control of nuclear materials in the sphere of nuclear energy, VATESI shall:

1) together with the Ministry of Construction and Urban Development approve technical regulations for the design and construction of nuclear facilities, and for maintenance of the structures;

2) approve standards and rules of operation of nuclear facilities, standards and rules of storage and disposal of radioactive materials used in nuclear energy and establish the procedure for their drafting;

3) control the compliance with the requirements stipulated in licences and safety regulations;

4) draft the state regulatory system for the accounting for and control of nuclear materials and ensure its viability;

5) establish the procedures of accounting for and control of nuclear materials in the Republic of Lithuania and monitor compliance with them during the import, export, re-export, transport, use, storage and disposal of nuclear materials;

6) issue licences to legal and natural entities for the design, construction, operation, safety appraisal of nuclear facilities and their systems, and other work related to safe operation of nuclear facilities;

7) inform the mass media about the radiation and safety situation in nuclear facilities;

8) prepare surveys on the safety of nuclear facilities and submit them to the Government, local authorities and other authorities concerned;

9) organise and support research into and expert analysis of nuclear safety and radiation protection, independently carry out the analysis of incidents and occurrences;

10) co-ordinate and control the preventive measures for the staff and the population in the event of a nuclear facility accident, monitor the state of accident preparedness of the facility;

11) impose sanctions established in statutory acts on violators of safety rules; and

12) organise bilateral and multilateral international co-operation in the sphere of nuclear safety and radiation protection.

2. In performing its functions VATESI shall act independently, in accordance with laws, its own statutes and other legal acts. To prevent a possible nuclear accident, VATESI may resort to any preventive measures within its competence, a temporary shut-down of a nuclear facility included.

Article 15 – Competence of the Ministry of Health

1. The Ministry of Health shall:

    1) prepare and approve standard acts and rules on the health of the personnel of nuclear facilities and the population residing in the monitored zones of the facility and control compliance thereof;

    2) undertake environmental health studies of radiation impact on people and their environment and establish health protection requirements;

    3) co-ordinate the siting for nuclear facilities and undertake state environmental health analysis of their construction;

    4) take part in the acceptance of the constructed or reconstructed nuclear facilities, issue the environmental health certificate for work with radioactive materials and other sources of ionising radiation;

    5) establish the standards for medical examination for the personnel working with radioactive materials and the sources of ionising radiation, the frequency of the examination, contraindications and control the compliance with the standards;

    6) undertake monitoring of the health of the nuclear facility personnel and the residents of the monitored zone of the facility;

    7) ensure the preparedness of medical institutions for the elimination of the consequences of an accident;

    8) establish the radiation protection norms for the population and control compliance with them;

    9) organise medical examination of the emergency response forces in charge of the control of a nuclear accident and of the population affected by radiation exposure and submit findings and proposals for the reduction of radiation exposure;

    10) determine occupational diseases affecting the personnel in the sphere of nuclear energy and study the causes of the diseases; and

    11) carry out public education on radiation protection.

Article 16 – Competence of the Ministry of Environmental Protection

The Ministry of Environmental Protection shall:

1) together with VATESI and the Ministry of Health establish the procedure for the import, export, transit, transportation and disposal of radioactive materials, waste included, in the Republic of Lithuania;

2) establish the limits of radioactive emissions into the environment and the permitted pollution norms, control their implementation, and establish the procedure of emission licensing;

3) jointly with the Ministry of Health establish radiation protection standards and control their implementation;

4) assess the impact on the environment;

5) co-ordinate the projects for siting, reconstruction and expansion of nuclear facilities and facilities related to their operation, and issue licences for the use of natural resources;

6) organise and co-ordinate state radioecological monitoring within the monitoring zone of a nuclear facility, and control radiological monitoring within the sanitary protection zone of the facility;

7) organise and co-ordinate scientific research of the impact of nuclear facilities on the environment;

8) prepare and approve methods of assessment of radiation damage to the environment and its compensation; and

9) periodically inform the public, national and local authorities about the radiation situation in the country and in the environment of nuclear facilities.

Article 17 – Competence of the Ministry of Social Security and Labour

1. The Technical Supervision Service at the Ministry of Social Security and Labour shall supervise the potentially dangerous technical installations with the exception of those under the control of VATESI;

2. The State Labour Inspectorate at the Ministry of Social Security and Labour shall control compliance with the requirements of labour, safety at work and related statutory acts.

Article 18 – Competence of the Ministry of Communications

The Ministry of Communications shall:

1) take part in drafting laws and secondary legislation regulating transportation of nuclear and radioactive materials;

2) participate in training and certification of the personnel involved in transportation of nuclear and radioactive materials; and

3) organise railway transport for the evacuation of the population from the danger zone in the event of a nuclear accident.

Article 19 – Competence of the Ministry of Construction and Urban Planning

The Ministry of Construction and Urban Planning shall:

1) together with VATESI approve technical regulations for the design and construction of nuclear facilities; and

2) take part in state supervision of the design and construction of nuclear facilities (structures) in accordance with the procedure established by the Government of the Republic of Lithuania.

Article 20 – Competence of the Ministry of National Defence

1. The Ministry of National Defence shall:

   1) take part in drafting and implementing co-ordinated interdepartmental anti-terrorist and anti-penetration protection plans of the nuclear power plant and other nuclear facilities; and

   2) ensure the security of transportation of nuclear and radioactive material cargoes across the territory of the country;

2. The Department of Civil Defence of the Ministry of National Defence shall:

   1) draw up a population radiation protection plan in the event of a nuclear accident which shall be a model for other institutions authorised in a prescribed manner in preparing their respective plans of nuclear accident prevention, accident management and elimination of accident consequences;

   2) within the framework of its competence implement the measures for the elimination of the accident and its consequences; and

   3) jointly, with other public authorities, organise training sessions of population protection in the event of nuclear accidents.

Article 21 – Competence of the Ministry of the Internal Affairs

The Ministry of the Internal Affairs shall:

1) ensure fire protection of the nuclear power plant and other nuclear facilities, conduct the state fire protection examination of their construction and reconstruction designs, co-ordinate the fire protection systems of those facilities;

2) set forth fire protection requirements for nuclear facilities, ensure compliance with them and apply sanctions laid down in statutory acts for violators of fire protection regulations;

3) promptly extinguish fires breaking out at nuclear facilities, participate in the management of a nuclear accident and its consequences, organise radiation monitoring of a contaminated area;

4) implement and ensure physical safety of a nuclear power plant;

5) draft, co-ordinate and implement interdepartmental anti-terrorist and anti-penetration action plans;

6) analyse and control the crime situation in the regions with nuclear facilities;

7) investigate the cases of theft and illegal possession of nuclear and radioactive materials, also of other dual-use items; and

8) provide assistance in ensuring the safety in transportation of nuclear and radioactive materials in the territory of the country.

Article 22 – Competence of the State Security Department

The State Security Department shall:

1) exercise prevention of subversive, sabotage and terrorist acts as well as other offences aimed at damaging the interests of state security at nuclear facilities, in their environment, and on transportation routes of nuclear and radioactive materials;

2) in keeping with the state security interests, undertake operations and inquiries to detect and investigate actions constituting a threat to nuclear facilities, nuclear installations, equipment and technologies;

3) decide upon the reliability of persons working at nuclear facilities or those who are appointed to transport nuclear and radioactive materials;

4) control the effectiveness of physical safety and emergency preparedness of the nuclear power plant and other nuclear facilities; and

5) take part in drafting and implementing the co-ordinated interdepartmental anti-terrorist and anti-penetration action plans of the nuclear power plant and other nuclear facilities.

Article 23 – Competence of the Governmental Emergencies Commission

The Governmental Emergencies Commission shall:

1) direct the activities of management of a nuclear accident and elimination of its consequences;

2) mobilise material and other resources necessary for the containment of a nuclear accident; and

3) perform other tasks and functions provided for in its statutes.

Article 24 – District Governor

The Governor of the district on the territory whereof the construction of a nuclear facility is planned or has already started, in exercising supervision and control of the facility, shall act within the limits of the powers delegated to him by the Law on the District Government, this Law and other laws and secondary legislation of the Republic of Lithuania.

Chapter IV
BASIC LICENSING CONDITIONS IN THE FIELD OF NUCLEAR ENERGY

Article 25 – Types of Activities Subject to Licensing

Without a licence issued by the Government of the Republic of Lithuania in a prescribed manner, it shall be prohibited:

1) to design, construct and reconstruct nuclear facilities, installations and equipment;

2) to operate nuclear facilities and repair their protection systems;

3) to engage in any activity that might have an effect on a safe operation of nuclear facilities;

4) to retire a nuclear facility from service;

5) to store and bury nuclear and radioactive materials and their waste;

6) to acquire, possess and transport nuclear materials;

7) to acquire, possess and transport radioactive materials; and

8) to export, import and carry in transit in the territory of Lithuania nuclear, radioactive and other materials used in the nuclear energy sector, nuclear equipment, and dual-use items that may be used in nuclear technologies.

Article 26 – Licensing Authorities

1. For the activities referred to in Article 25, subparagraph 1 licences shall be issued by VATESI with the approval of the Ministry of Health, the Ministry of Construction and Urban Development, and a local authority whose territory or its part is within the sanitary protection zone of a nuclear facility.

2. For the activities referred to in Article 25, subparagraphs 2-6 licences shall be issued by VATESI with the approval of the Ministry of Health and the Ministry of Environmental Protection.

3. For the activities referred to in Article 25, subparagraph 7, licences shall be issued by the Ministry of Environmental Protection with the approval of VATESI and the Ministry of Health.

4. For the activities referred to in Article 25, subparagraph 8, licences shall be issued by the Ministry of Economy with the approval of VATESI, the Ministry of Environmental Protection and the Ministry of Health.

Article 27 – General Provisions of the Activities of the Licensing Authorities

1. The authorities referred to in Article 26, issuing licences for a certain type of activity in the nuclear energy sector, are obliged to ensure that enterprises which have been issued licences shall guarantee:

1) adequate standards of nuclear safety for the licensed activity;

2) responsibility for nuclear safety;

3) a system of internal control that would ensure the use of only licensed nuclear materials and wastes and would guarantee the implementation of the provisions of the Treaty on the Non-Proliferation of Nuclear Weapons; and

4) high professional qualification standards of the workers responsible for the licensed activity.

2. Without prejudice to the general provisions of this Law and its separate parts, the licensing authority may establish additional requirements for the licensed activity.

Article 28 – Issue of Licences

1. The activities listed in Article 25 of this Law shall be licensed for a limited period in a manner established by the laws and other statutory acts of the Republic of Lithuania.

2. The licensing authority shall have the right to establish at a later date additional conditions and requirements for the safe operation of a facility, and in the event of their disregard, to suspend the licence and to prohibit any further operation of the facility until all the established shortcomings have been rectified. The licensing authority may at any time cancel the validity of the licence when it establishes that the nuclear safety conditions have been breached.

3. The procedure for applying new safety standards and rules at the operating facilities shall be established by the competent licensing public authority.

4. The refusal to issue a licence, its suspension, cancellation or prohibition of the activity of a facility may be appealed against in court.

Chapter V
SPECIAL CONDITIONS FOR THE DESIGN AND CONSTRUCTION OF NUCLEAR FACILITIES

Article 29 – Legal Prerequisites for the Design of Nuclear Facilities

1. A nuclear power plant or a nuclear reactor may be designed only subject to a resolution adopted by the Government of the Republic of Lithuania on the basis of the law on the construction of such a power plant or nuclear reactor.

2. Other nuclear facilities may be designed, and the nuclear power plant may be reconstructed subject to a resolution adopted by the Government of the Republic of Lithuania on the recommendation of the Ministry of Energy.

3. A concrete design of a nuclear facility shall be prepared subject to:

1) the drafting and approval of a special site selection scheme after consideration of several alternative construction sites in a manner prescribed by Law on Territorial Planning;

2) the approval of a detailed plan of the territory; and

3) taking over of the land intended for the construction site for public needs in a legally prescribed manner.

Article 30 – Design Co-ordination Procedure

The construction or reconstruction design of a nuclear facility shall be co-ordinated in a manner prescribed by the Government of the Republic of Lithuania with the following public authorities:

1) the Ministry of Environmental Protection;

2) the Ministry of Energy;

3) the Ministry of National Defence;

4) the Ministry of Social Security and Labour;

5) the Ministry of Construction and Urban Planning;

6) the Ministry of Health;

7) the Ministry of Internal Affairs;

8) the State Security Department;

9) State Atomic Energy Safety Inspectorate (VATESI); and

10) local authority whose territory or its part is within the sanitary protection zone of the facility.

Article 31 – Design Evaluation

1. Designs for the construction, reconstruction, upgrading, expansion, dismantling and decommissioning of nuclear facilities shall be subject to a comprehensive state evaluation. The evaluation shall be organised by the Ministry of Construction and Urban Planning upon receiving the design from the applicant.

2. The construction designs of nuclear power plants and nuclear reactors may be submitted for additional international evaluation organised by the applicant. The findings of the evaluation shall be incorporated into the state complex evaluation findings. The evaluation expenses shall be covered by the client.

3. Designs for nuclear power plants, nuclear reactors and repositories of nuclear fuel and radioactive materials (wastes included) together with the findings of the experts shall be submitted for the approval of the Government of the Republic of Lithuania which, if necessary, may request an additional evaluation.

Article 32 – State Control and Supervision of the Construction of Nuclear Facilities

1. A permit for the construction of a nuclear facility shall be issued in a prescribed manner by the administration of the district governor.

2. State control and supervision of the construction of nuclear facilities shall be exercised during all the major stages of work: design and construction, commissioning, operation and decommissioning.

3. During all the stages of work compliance with the conditions and requirements set forth in the nuclear safety, radiation protection and other statutory acts shall be controlled and supervised by the following authorities within the framework of their competence: the State Nuclear Energy Safety Inspectorate, the Ministry of Health, the Ministry of Environmental Protection, the Ministry of Construction and Urban Planning, the Ministry of Social Security and Labour, the Ministry of Internal Affairs, the State Security Department and the district governor.

Article 33 – Sanitary Protection and Monitoring Zones

1. Sanitary protection and monitoring zones shall be established around nuclear facilities. The size of the area shall depend on the purpose of the facility and the requirements of operation safety rules and standards. The boundaries of the sanitary and monitoring zones shall be fixed in the documentation of the facility construction design.

2. Prior to the commissioning of the facility, all the population shall be resettled from the sanitary protection zone in a manner established by the Government. Activities as well as construction of installations and buildings unrelated to the operation or service of the facility shall be prohibited therein. Land, woods and water bodies in the territory of the sanitary protection zone may be used only subject to an approval of the operating organisation of the facility and permits of the Ministry of Environmental Protection and the Ministry of Health.

3. The Ministry of Environmental Protection, the Ministry of Health and the operating organisation of the facility shall monitor radioactive pollution of the environment, conduct other research in the sanitary protection and monitoring zones.

4. In the sanitary protection and monitoring zones, measures for accident prevention and a programme for the decommissioning of the nuclear power plant shall be planned and implemented, and required conditions for information communication and evacuation shall be provided. In the manner established by the Government, advantages may be granted to the inhabitants living in these zones and support funds may be raised by the local administration of the territory which is in whole or in part within the monitoring zone of the nuclear facility.

5. The basic requirements for the sanitary protection and monitoring zones of a nuclear power plant or a nuclear reactor, and the conditions for their decommissioning, shall be stipulated by law.

Article 34 – Commissioning of the Facility

After the completion of construction or reconstruction, the commissioning of a nuclear facility shall be officially registered by an act signed by a special commission appointed by the Government which together with the other documents shall be the basis for obtaining a licence from VATESI for the operation of the facility.

Chapter VI
OPERATION OF NUCLEAR FACILITIES

Article 35 – Commencement of Operation

1. Operation of a nuclear power plant or any other nuclear facility may start only after issuance of the formal approval signed by the acceptance commission and of a licence issued by the State Nuclear Energy Safety Inspectorate.

2. During the testing of a nuclear reactor, VATESI with the approval of the Ministry of Environmental Protection and the Ministry of Health, shall issue separate licences for:

1) shipping of nuclear fuel to the site of the facility;

2) the first loading of nuclear fuel into the reactor; and

3) the first start of the reactor.

Article 36 – Basic Duties of the Operating Organisation of the Facility

1. A nuclear facility must be used only the purpose it has been intended.

2. The operating organisation of the nuclear facility shall be fully responsible for the adequate and safe operation of the facility in accordance with the requirements set in the laws and subordinate legislation of the Republic of Lithuania, in the norms and regulations of nuclear safety and radiation protection, also in the statutes of the operating organisation of the facility, the rules of labour discipline and organisation, and in the issued operation licence.

3. The operator of the facility is obliged :

1) to manage the accounting of nuclear materials belonging to the facility and exercise their control in accordance with the requirements laid down in the safeguards agreement between the Republic of Lithuania and the IAEA;

2) to analyse nuclear accidents and incidents in the manner prescribed by statutory acts;

3) to notify VATESI and other interested bodies about all the violations of conditions and requirements of operation safety and all failures of the facility safety systems and their components; and

4) to ensure preparedness for the elimination of the consequences of a radiological accident.

4. At the request of VATESI, the operating organisation of the facility is obliged to submit comprehensive information about the technical condition of the facility or its parts.

Article 37 – Decommissioning

1. The law on decommissioning of a nuclear power plant shall be implemented by the Government of the Republic of Lithuania and the subordinate public authorities.

2. Other nuclear facilities may be decommissioned by the decision of the Government. The procedure for their decommissioning shall be established by VATESI with the consent of the Ministry of Energy, the Ministry of Health, the Ministry of Environmental Protection and the Ministry of Social Security and Labour.

3. Temporary termination of the nuclear facility operation may be effected by the decision of the Government of the Republic of Lithuania, VATESI or the facility operator in a manner prescribed by VATESI.

Article 38 – Obligations of the Operating Organisation of the Nuclear Power Plant in Preparation for the Decommissioning

1. The operating organisation of the nuclear power plant intending to decommission the facility must submit to VATESI, five years in advance, a decommissioning plan, in conformity with law on the construction of the plant, and approved by the Ministry of Energy, the Ministry of Environmental Protection, the Ministry of Health, the Ministry of Social Security and Labour, the district governor and local authorities of the territory which, in whole or in part, is within the facility sanitary protection zone. The plan must provide for the dismantling of the equipment, its conservation, management of radioactive materials and the means for subsequent control and surveillance of the facility.

2. Not later than three years prior to the decommissioning, the operator of the nuclear power plant must obtain from VATESI a licence for the decommissioning.

3. The facility operator is responsible for any accident occurring during decommissioning and the harmful impact of radiation on people and the natural environment in the manner prescribed by the laws of the Republic of Lithuania.

4. The Government or an authorised body shall co-ordinate the activities related to the decommissioning of the nuclear power plant, form the necessary structures and mobilise the scientific and technical resources, and shall establish the means for accumulating funds necessary for the decommissioning.

Chapter VII
EXPORT AND IMPORT OF NUCLEAR AND RADIOACTIVE MATERIALS AND EQUIPMENT

Article 39 – Legal Basis for the Export and Import of Nuclear and Radioactive Materials and Equipment

1. The procedure for export, import and transit of nuclear and radioactive materials used in the nuclear energy sector shall be set by the Government of the Republic of Lithuania or an authorised body. The materials and equipment within this category may be exported, imported and transported in transit only in conformity with the laws of the Republic of Lithuania and the international obligations laid down in the 1970 Treaty on the Non-Proliferation of Nuclear Weapons and other international agreements and conventions to which the Republic of Lithuania is a party.

2. Special requirements may be prescribed by the Government of the Republic of Lithuania for the export and import of dual-use materials and equipment.

Article 40 – Restrictions on the Export of Nuclear Materials, Equipment and Technologies

It shall be prohibited to export nuclear materials, equipment and technologies to the countries which:

1) have not acceded to the 1970 Treaty on the Non-Proliferation of Nuclear Weapons and have not pledged themselves to apply the system of safeguards of nuclear materials approved by the IAEA;
2) do not guarantee physical protection of these materials and equipment; and

3) have not pledged themselves in the prescribed manner to prohibit the re-export of these materials, equipment and technologies to the countries referred to in subparagraphs 1 and 2 of this Article.

Article 41 – Radiation and Physical Protection of Nuclear and Radioactive Materials, Equipment and Technologies in the Process of Export and Import

1. Radiation and physical protection as well as the consequences of the accident in the process of export and import of nuclear and radioactive materials, equipment and technologies shall be the responsibility of:

1) in the process of import to Lithuania - the exporting country until the responsibility for their radiation and physical protection is assumed by the consignee of these materials and equipment in Lithuania; and

2) in the process of export from Lithuania - the exporter until the responsibility for their radiation protection and physical safety is assumed by the consignee in the importing country.

2. The procedure of delivery of nuclear and radioactive materials, equipment and technologies as well as the time and place of such a delivery shall be established in the purchase-sale contracts.

Article 42 – Prohibition on Import of Radioactive Wastes

It shall be prohibited to import radioactive wastes into the territory of the Republic of Lithuania.

Chapter VIII
TRANSPORTATION AND STORAGE OF NUCLEAR AND RADIOACTIVE MATERIALS

Article 43 – Basic Conditions for Transportation of Nuclear and Radioactive Materials

In the process of transportation of nuclear and radioactive materials, the procedure and requirements established by the laws and regulations of the Republic of Lithuania, the rules and standards of transportation and radiation protection, must be strictly complied with.

Article 44 – Licensing Conditions for Transportation of Nuclear and Radioactive Materials

1. In order to obtain a licence for transportation of nuclear materials, the carrier must file to VATESI:

1) a plan for transportation of nuclear materials covering their physical protection;

2) certificates confirming that the means of transport and the container for carrying these materials are in conformity with the requirements of safe transportation;

3) a document confirming that the persons conducting transportation operations are qualified in accordance with the safety requirements of transportation of nuclear and radioactive materials;

4) an insurance policy or any other document guaranteeing compensation for damage in the event of a nuclear or radiological accident; and

5) a document prescribing the actions of the cargo accompanying personnel in the event of an accident (accident form).

2. Licences for transportation of radioactive materials shall be issued by the Ministry of Environmental Protection in accordance with the requirements specified in paragraph 1.

Article 45 – Transit of Nuclear and Radioactive Materials

The procedure for transit of nuclear and radioactive materials in the territory of Lithuania shall be established by the international agreements to which the Republic of Lithuania is a party, the laws and regulations of the Republic of Lithuania as well as the rules for carrying hazardous materials in the territory of Lithuania drafted on the basis of the above legal acts and approved in a prescribed manner.

Article 46 – Storage of Nuclear and Radioactive Materials

The operating organisation of the facility must ensure that all the nuclear and radioactive materials belonging to it, wastes included, should be stored in specially designed containers and repositories which ensure nuclear safety and physical and radiological protection. The technical specifications of the

canisters and other containers, repositories, as well as material storing conditions must conform to the standards established for such facilities.

Article 47 – Disposal of Radioactive Waste

Radioactive waste may be disposed in the territory of Lithuania only by the decision of the Government of Lithuania in sites specially set aside for this purpose and in conformity with the procedure prescribed by the laws and regulations of the Republic of Lithuania, licences and international agreements to which the Republic of Lithuania is a party.

Chapter IX
PHYSICAL PROTECTION OF NUCLEAR FACILITIES

Article 48 – Objectives of Physical Protection

The objectives of physical protection of nuclear facilities, nuclear and radioactive materials shall be:

1) to protect the nuclear facility or nuclear materials from all kinds of deliberate actions which might directly or indirectly endanger human health and protection from radioactive irradiation, also to prevent the disruption of normal operation of nuclear facilities;

2) to prevent taking possession or theft of nuclear equipment and nuclear and radioactive materials; and

3) to carry out measures outlined in interdepartmental action plans for anti-terrorist and anti-penetration protection of the nuclear power plant and other nuclear facilities.

Article 49 – Protection Zones of the Nuclear Facility

1. To implement the objectives of physical protection of nuclear facilities, nuclear and radioactive materials, the Government of the Republic of Lithuania shall designate protection zones of the territory of nuclear facilities. Depending on the distance to the facilities and the importance of the facilities, special restrictions and requirements shall be imposed, special technical facilities shall be set to ensure these restrictions and requirements, and appropriate authorisation shall be granted to the responsible officers.

2. To ensure physical protection of the nuclear power plant five protection zones shall be designated: i) the restricted access zone; ii) the isolation zone; iii) the protected zone; iv) the inner zone; v) the high priority zone. The boundaries of these zones and protection conditions shall be established by the Government of the Republic of Lithuania.

Article 50 – Organisational and Legal Basis of Physical Protection

1. The operating organisation of the nuclear facility jointly with the Ministry of the Interior, in accordance with the legislation and other statutory documents of the Republic of Lithuania shall organise and ensure the physical protection of the nuclear facility it is operating and of nuclear and radioactive materials.

2. The implementation procedure of the requirements for physical protection of nuclear facilities and nuclear and radioactive materials shall be supervised by VATESI.

Article 51 – Preventive Measures for the Physical Protection of the Facility

1. To ensure the physical protection of the nuclear facility, it shall be prohibited for unauthorised people to enter the territory of the facility without a permit of the operating organisation of the facility (with the exception of the IAEA and VATESI inspectors (specialists) authorised to work or to visit nuclear facilities), to take photos or to film the equipment and installations therein. The unauthorised persons who penetrate the territory of the facility shall be subject to sanctions prescribed by law.

2. Vehicles and persons (the facility personnel included) in the territory of the facility or the sanitary protection zone may be searched and examined in a manner established by the Government of the Republic of Lithuania against possible possession of arms, ammunition, radioactive materials or other things that could be used for the purpose of sabotage, subversive, terrorist or any other criminal activities.

3. All types of aeroplanes and other aircraft shall be prohibited from flying over the nuclear power plant and its sanitary protection zone, with the exception of cases when flights are necessary for the operation of the power plant or for the management of a nuclear accident or incident.

Chapter X
PREVENTION OF NUCLEAR ACCIDENTS MANAGEMENT OF ACCIDENTS AND THEIR CONSEQUENCES

Article 52 – Classification of Nuclear Accidents

1. With the purpose of communicating information, all malfunctions of nuclear facilities and their safety systems shall be classified according to the International Nuclear Events Scale (INES) approved by the IAEA.

2. The causes and circumstances of every nuclear or radiological accident or a nuclear incident must be examined by a commission formed for this purpose.

Article 53 – Authorities Responsible for the Prevention of a Nuclear Accident and for Management of the Accident and Elimination of Its Consequences

1. Prevention of a nuclear accident and management of the accident and elimination of its consequences shall be the responsibility, within the scope of their competence, of the operator of the nuclear facility, the Government of the Republic of Lithuania and other public state authorities, also local authorities of the territory where nuclear facilities are sited or where there is a possibility of a harmful impact of a possible accident.

2. The Government of the Republic of Lithuania shall be responsible for the nuclear accident preparedness on a national scale.

Article 54 – Management of a Nuclear Accident

1. Management of a nuclear accident and elimination of its consequences shall be conducted in accordance with the plan of protection of the population of the Republic of Lithuania in the event of a nuclear accident, analogous plans of other departments and the facility personnel protection plan and instructions.

2. Bodies of all forms of ownership and forces which must take part in the management of a nuclear accident and its consequences shall act in accordance with their own plans for nuclear accident prevention and management of its consequences and shall implement the measures provided therein.

Article 55 – Activities of the Governmental Emergency Commission in the Event of a Nuclear Accident

In the event of a nuclear accident, the Governmental Emergency Commission, in accordance with the laws of the Republic of Lithuania and its own statutes as well as with the plan for the protection of the population of the Republic of Lithuania in the event of an accident at the nuclear power plant, shall perform the following functions:

1) organise the management of the accident and elimination of its consequences;

2) co-ordinate the activities of all the bodies and forces taking part in the management of the nuclear accident and elimination of its consequences;

3) periodically report to the President of the Republic, the Seimas and the Government about the progress of the management of the nuclear accident and elimination of its consequences;

4) implement the decisions adopted by the Government and instructions given in that situation;

5) organise evacuation of the population from the endangered area; and

6) notify the relevant organisations, mass media and the public about the progress of the management of the accident and elimination of its consequences, the danger of ionising radiation and instruct the population on protection radiation protection matters.

Article 56 – Competence of the Facility Operating Organisation in the Event of a Nuclear Accident

1. The basic rights, duties and functions of the nuclear facility operating organisation in the event of a nuclear accident shall be set out in the incorporation documents and the facility operation licence. The implementing measures shall be established and specified in the plan for nuclear accident prevention and for the management of the accident and elimination of its consequences drafted by the operating organisation of the facility and approved by VATESI. Among other things, the plan shall indicate:

1) the notification procedure of the Governmental Emergency Commission and other competent authorities about the occurrence of the nuclear accident and the progress of its management;
2) the organisational and technical measures for stopping or reducing emission of radioactive materials into the environment; and

3) procedure of co-ordination of actions with other institutions and services participating in the management of the accident and elimination of its consequences.

Article 57 – Notification of Foreign Countries about the Nuclear Accident

Information about a nuclear accident in the Republic of Lithuania or about the increased radiation shall be communicated to foreign countries and international organisations in the manner and scope as stipulated by the 1986 Convention on Early Notification of a Nuclear Accident and other international agreements to which the Republic of Lithuania is a party. Communication of this type of information abroad shall be in conformity with the International Nuclear Events Scale (INES).

Chapter XI
CIVIL LIABILITY IN THE SECTOR OF NUCLEAR ENERGY

Article 58 – Civil Liability of the Operating Organisation of the Facility

The operating organisation of the facility shall be liable for the damage caused by radioactive effluent discharges from the facility to natural and legal persons, their property or to the natural environment.

Article 59 – Appraisal of Damage

1. The scope of nuclear damage shall be appraised in accordance with the Civil Code of the Republic of Lithuania and the Vienna Convention on Civil Liability for Nuclear Damage of May 21, 1963 (hereinafter referred to as the Vienna Convention) and Law of the Republic of Lithuania adopted on its basis "On the Entry into Force of the Vienna Convention on Civil Liability for Nuclear Damage of May 21, 1963 and the Joint Protocol Relating to the Application of the Vienna Convention and the Paris Convention".

2. The scope of material liability of the operating organisation of the facility for nuclear damage shall be limited to the amount in litas equivalent to the minimum amount set in Article V of the Vienna Convention. It shall be calculated in accordance with the official litas and US dollar exchange rate on the day when the damage was inflicted.

3. Disputes arising on account of appraisal of the damage or the manner of compensation for it shall be settled in court.

Article 60 – Consequential Damages for the Harm Caused by the Nuclear Facility

If the nuclear damage caused by the nuclear facility is also accompanied by other losses the cause of the origin of which may not be clearly distinguished from the damage caused by the nuclear facility, they shall be compensated for pursuant to the principle laid down in Article 59 of this Law.

Article 61 – Guarantees of Compensation for Damage

1. The operating organisation of the nuclear facility must insure the facility it is operating or procure in some other way the funds necessary for the compensation of the nuclear damage.

2. If the insurance and other available means are not sufficient for the compensation of the damage, the payment of the balance shall be guaranteed by the Government pursuant to the obligations assumed by the Republic of Lithuania according to the Vienna Convention.

Article 62 – Social Guarantees for the Participants in the Management of a Nuclear Accident or the Elimination of Its Consequences

Persons who participated in the management of a nuclear accident or the elimination of its consequences and who suffered from radiation shall be eligible for social guarantees in accordance with the provisions of social guarantees laid down in the laws of the Republic of Lithuania.

Article 63 – Limitation of Actions

Damages for the harm caused by radiation from a nuclear facility or from the radioactive materials in the course of carriage may be recovered if an action is brought to court or arbitration within ten years from the date of the moment of harm.

Chapter XII
ECONOMIC AND FINANCIAL CONDITIONS FOR THE ACTIVITIES OF NUCLEAR FACILITIES

Article 64 – Financing the Activities

1. The operating organisation of a nuclear facility must have necessary material and financial resources for the purpose of performing its functions.

2. Implementation of the state regulatory objectives of nuclear energy safety and radiation protection and the activities of the control and supervision bodies shall be financed from the national budget.

3. The State shall support and finance the implementation of the science and technology research programmes in the sphere of nuclear safety and radiation protection.

Article 65 – The Decommissioning Fund

1. Pursuant to the Law on the Construction of a Nuclear Power Plant or a Nuclear Reactor, a decommissioning fund shall be set up.

2. The fund shall be made up of the deductions from the income received from the sale of the electricity generated by the nuclear plant. The amount and procedure of the deductions shall be established by the Government. These funds shall be included in the electricity production costs.

3. The decommissioning fund may be used only for the purpose of financing the measures laid down in the decommissioning programme of the power plant and (as necessary) for compensation for nuclear damage.

4. The regulations of the decommissioning fund shall be approved by the Government.

Article 66 – Assistance Fund

In a manner prescribed by the Government, an assistance fund shall be established for the local authorities the territory whereof, in its entirety or in part, is within the monitoring zone of the nuclear power plant. Every month the power plant shall make deductions to the fund for the local authorities.

Article 67 – Prices and Rates

The prices and rates of electricity generated at the nuclear power plant shall be set in a manner prescribed by the Law on Energy of the Republic of Lithuania. In setting the electricity rates, account shall be taken of the fuel, maintenance, development, and reconstruction expenses as well as the tax-related expenses and deductions for various funds prescribed by law.

Article 68 – Foreign Investment

The share of foreign capital investment in the nuclear facilities newly constructed or reconstructed shall be established by the Government of the Republic of Lithuania. The procedure for investment of foreign capital into the sector of nuclear energy of the Republic of Lithuania shall be regulated by the Law on the Construction of a Nuclear Power Plant or a Nuclear Reactor and the Law on Foreign Capital Investment in the Republic of Lithuania.

Chapter XIII
LABOUR RELATIONS IN THE SPHERE OF NUCLEAR ENERGY

Article 69 – Legal Basis of Labour Relations

Labour relations in nuclear facilities shall be regulated by labour legislation of the Republic of Lithuania, this Law, secondary legislation also labour regulations and disciplinary statutes applicable in nuclear facilities.

Article 70 – Employment Restrictions

1. Only citizens of the Republic of Lithuania may work as the management personnel of the operating organisation of a nuclear facility . The Director of the nuclear facility shall be appointed by a Government decree.

2. The Deputy Director for Safety of the operating organisation of the nuclear facility shall be appointed and dismissed by the Director of this organisation on the proposal of the State Security Department.

3. The following persons may not be employed to perform the work involving the operation of nuclear installations or handling nuclear and radioactive materials:

1) attested in a prescribed manner as alcohol, drug and toxic substances abusers;

2) suffering from diseases the list for which shall be approved by the Ministry of Health;

3) under the age of 18 years; and

4) foreign nationals and stateless persons who have no visas of the Republic of Lithuania or permits for permanent residence in Lithuania.

4. Persons who have convictions for wilful criminal offences may not be employed to operate nuclear installations and handle nuclear and radioactive materials.

5. The staff for nuclear facilities shall be employed only with the agreement of the State Security Department.
6. The staff for jobs involving the use and protection of information constituting a state secret of the Republic of Lithuania shall be employed in accordance with the Law on State Secrets of the Republic of Lithuania and their Protection.

Article 71 – Labour Relations of Foreign Nationals and Stateless Persons

1. Foreign nationals and stateless persons having a visa of the Republic of Lithuania or a permit for permanent residence in the Republic of Lithuania shall be employed in nuclear facilities subject to the approval of the Ministry of Energy of the Republic of Lithuania and according to the procedure established by the State Security Department.

2. Exceptions shall be allowed only in the event of management of nuclear accidents on the basis of a separate decree of the Government of the Republic of Lithuania and with the approval of the State Security Department.

Article 72 – Social Security

The nuclear facility staff whose work is related to a possible radiological impact on health and life (a list of such jobs shall be approved by the Ministry of Health and the Ministry of Social Security and Labour) may be eligible for supplementary health insurance and accident-at-work insurance from the funds set aside for this purpose by the operating organisation of the facility. The funds shall be included in the production costs of electricity.

Article 73 – Restrictions on Industrial Action

1. The staff of a nuclear facility shall be prohibited to go on a strike.

2. It shall be prohibited to hold rallies, demonstrations, protests and disobedience actions on the territory and the sanitary protection zone of the nuclear facility.

3. Persons who do not comply with the provisions of this Article shall be dealt with in accordance with the procedure prescribed by the laws of the Republic of Lithuania.

Chapter IV
INTERNATIONAL RELATIONS AND ENTRY INTO FORCE OF THE LAW

Article 74 – Principles of International Agreements

1. International agreements regulating relations in the sphere of nuclear energy in Lithuania shall be concluded in conformity with the principles and norms of international law and the laws of the Republic of Lithuania which prescribe the procedure for concluding international agreements.

2. During the drafting and concluding of international agreements relating to the production or use of nuclear energy, participation of authorised persons from the Ministry of Energy, and during the drafting and concluding of international agreements relating to nuclear safety and radiation protection, participation of authorised representatives of VATESI, shall be mandatory.

Article 75 – Conditions for Entry of Foreign Nuclear Ships into the Territorial Waters of the Republic of Lithuania

1. Foreign ships with nuclear engines or carrying a cargo of nuclear materials may enter the territorial sea of the Republic of Lithuania only after obtaining a permit of the Government of the Republic of Lithuania.

2. When issuing an entry permit the Government of the Republic of Lithuania lays down the conditions for the presence of a foreign nuclear ship or a ship carrying nuclear materials in the territorial waters or a port of the Republic of Lithuania.

Article 76 – Entry into Force

This Law shall enter into force on January 1, 1997.

I promulgate this Law passed by the Seimas of the Republic of Lithuania.

ALGIRDAS BRAZAUSKAS
PRESIDENT OF THE REPUBLIC